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Contents

Please note: only figures for the long and short oral abstracts are included in this supplement.

Long Oral Session 1 Editorial issues / Evidence summaries

Developing a policy on peer review for Cochrane Reviews

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Background: Peer review is a core part of the editorial workflow for Cochrane Reviews, representing an opportunity for scrutiny of methodology, interpretation and context before publication. All Cochrane Reviews are peer-reviewed, and Cochrane Review Groups manage the peer review process for their reviews. Development of an overarching peer review policy is part of Cochrane's integrated quality strategy. **Objectives:** To describe the development and implementation of new peer review policy for Cochrane Reviews, aiming to clarify when to peer review (including for updates) and who to use for peer review. The policy is for the use of editorial teams, authors, peer reviewers, and readers and other users of Cochrane Reviews. **Methods:** Following an exploratory workshop at the 2015 Cochrane Colloquium, an outline of the policy and supporting guidance was developed by the Cochrane Editorial Unit. We recruited a working group representing Cochrane Review Groups, authors, consumers, and Wiley, and the policy was developed further in collaboration with the group. We identified many different aspects that could be covered by the policy and/or supporting guidance, and in each case we considered whether policy should allow for diversity or set new standards. The policy will be distributed for consultation, finalised, agreed, and published in the Cochrane Editorial and Publishing Policy Resource. We will establish what guidance is needed to support implementation. **Results:** We identified the need for policy in a number of areas, including: anonymous or open peer review; number and expertise of peer reviewers; declarations of interest for peer reviewers; acknowledgement and credit; peer review turnaround time; communication with peer reviewers; peer review criteria and conduct; and peer review fraud. **Conclusions:** We identified the need for an overarching policy for the peer review of Cochrane Reviews, and we are developing a policy that meets the needs of diverse Cochrane editorial teams, review authors, peer reviewers, and users of Cochrane Reviews.

Categorizing conflicts of interest in healthcare research: a proposed framework

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Background: A conflict of interest arises from a relationship that could unduly affect an individual's judgment. The healthcare research community is becoming increasingly concerned with non-financial conflicts of interest, such as intellectual, professional, and institutional conflicts. **Objectives:** We propose a framework to categorize conflicts of interest and assess their extent. **Methods:** We developed an initial draft based on a review of the published literature regarding conflict of interest (COI) definitions, types, disclosure policies, management policies, and existing disclosure tools (e.g. International Committee of Medical Journal Editors disclosure form). We tested and refined the framework through methodological surveys addressing the reporting of COI in clinical systematic reviews and randomized controlled trials, and health policy and systems reviews and primary studies. **Results:** The framework categorizes COI as either individual or institutional, and as either financial or non-financial. It includes 10 categories: individual COIs, which include financial, professional, scholarly, advocatory, and personal; and institutional COIs, which include financial, professional, scholarly, advocatory, and cultural. The framework also includes subcategories of COI and is accompanied by specific definitions and instructions for the different categories and subcategories of COI. It includes guidance on how to assess the extent of financial COIs (e.g. source, duration, monetary value). **Conclusions:** Journals and organizations may find the proposed framework useful for disclosure of COIs. Researchers studying the field of conflict of interest could use the framework to classify and measure their extent and impact. This framework could also serve as the basis for management of COIs. Although such a detailed framework might increase the burden of reporting and managing COIs, it will help make judgments of individuals more transparent and less arbitrary. In the next step, we will refine the framework by incorporating input from experts in the field.

Developing plain language summaries for Cochrane DTA reviews

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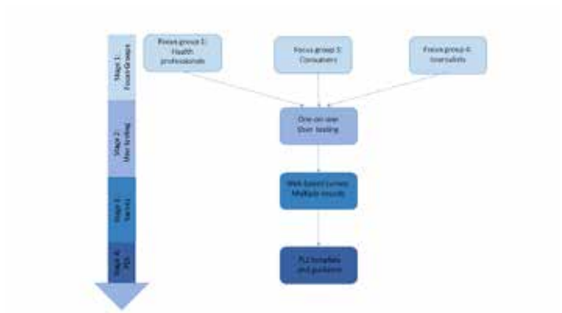
Background: A Plain language summary (PLS) is a stand-alone summary of a Cochrane Systematic Review and should provide rapid access to its content. A clear PLS is essential to ensure that systematic reviews are useful to users who are not familiar with the more technical content of the review. Explaining the results of a Diagnostic Test Accuracy (DTA) review in plain language is challenging. The review methodology and results are less familiar than reviews of interventions and the two dimensional nature of the measure of a test's accuracy (sensitivity and specificity) introduces further complexity. Additionally, DTA reviews are characterized by a large degree of heterogeneity in results across studies. The reason for this variation is not always clear and explaining this to readers is difficult. A further challenge is providing information about the downstream consequences of testing. Challenges in the interpretation of DTA reviews may be different for different target user groups, but this is something that has yet to be established. Ideally, a PLS should be accessible to all potential target audiences (patients, clinicians, policy makers). **Objectives:** To develop a template and guidance for PLS for Cochrane DTA reviews. Our specific objectives were to: 1. identify potential user groups of PLS for DTA reviews; 2. identify needs of different users of PLS and how they would prefer results of DTA reviews to be presented; 3.develop and define a PLS structure and guidance for DTA review authors that meets the needs of users. **Methods:** The project is following a four-stage approach: qualitative focus groups, one-on-one user testing, a web-based survey, and producing a template and guidance for PLS for DTA reviews based on the findings from the first three stages. The stages of the project are outlined in the Figure. **Results and conclusions:** We have completed the focus group stage of the project and are currently at the user testing stage. The presentation will provide an overview of the process used to develop the PLS and accompanying guidance, introduce the PLS and provide an insight into issues raised during the development of the PLS.



Visual summaries to increase accessibility and understanding of Cochrane Review evidence

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Background: Visual summaries of Cochrane Reviews have the potential to make reviews accessible to a wider audience and increase people's understanding of the evidence. Research has shown that people have difficulty understanding statistical information, and that health professionals are not exempt from these problems. These difficulties can be reduced by displaying information in a visual format. **Objectives:** - To design visual summaries of reviews in the Cochrane Pregnancy and Childbirth NIHR Programme Grant. - To make the reviews more accessible, by presenting the 'Summary of findings' table and Plain language summary as an infographic. - To use data visualisation to communicate the main findings of the reviews. **Methods:** The infographics we have designed are based on cognitive psychology theories of data visualisation, and on principles of graphic design. We plan to trial the infographics with consumers, to explore which aids understanding and accessibility of Cochrane Reviews. **Conclusions:** Infographics and data visualisation could make Cochrane Reviews more accessible. However the process of balancing simple communication and research complexity is challenging. It is impossible to include every detail of a review in an infographic, but removing too much detail can distort the message of the original review. We have produced and disseminated visual summaries of several Cochrane Reviews (Figs 1, 2 and 3). We would like to share them with you, discuss the process of developing them, and invite feedback.

Attachments: ECV at term printable.pdf, CS for twins printable.pdf, MP8 clinics for multiples printable.pdf

Long Oral Session 2 Overviews

Challenges of overviews of reviews and how to overcome them, informed by a public health overview

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Background: Overviews of reviews are a relatively new and innovative method of research synthesis, which can provide a 'friendly front end' to the evidence; thus readers do not have to 'wade through' or assimilate evidence from separate reviews on different interventions, such as for public health decision-making. **Objectives:** To report key challenges associated with conducting an overview of reviews on the effectiveness of interventions for caregiving practices and behaviours for optimal social and emotional development of infants and to propose some solutions. **Methods:** Case study of a complex public health overview and analysis of methodological challenges encountered. **Results:** The completed overview included 51 systematic reviews (including 11 Cochrane Reviews). Throughout the conduct of the overview, challenges overcome and key considerations related to: - criteria for inclusion of reviews: deciding on criteria for up-to-datedness of reviews; managing varying definitions and self-identification of reviews as 'systematic'; prioritizing reviews for inclusion with a question of broad scope; - assessment of methodological quality of reviews: using AMSTAR and/or ROBIS; - assessment of the quality of the evidence: applying GRADE to qualitatively and quantitatively pooled review results, including data with no/limited information to assess one or more of the five considerations (study limitations; inconsistency; indirectness; imprecision; publication bias); - data synthesis and presentation: reporting of single study findings from included reviews; identifying and managing duplication of included studies (and results) within reviews; managing diversity of outcomes, deciding which summary results to present, and how to organise the evidence (such by outcomes or interventions/comparisons). **Conclusions:** Though demonstrating potential to accelerate research synthesis for evidence-informed decision-making, overviews come with unique challenges. Further guidance (including Cochrane Handbook expansion and revision) based on methods research and experiential learning will facilitate improved quality and utility. Some suggestions for guidance will be made.

Evaluation of AMSTAR to assess methodological quality of systematic reviews in overviews of reviews

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Background: Overviews of reviews (overviews) compile information from multiple systematic reviews (SRs) to provide a single synthesis of relevant evidence for decision-making. It is recommended that authors assess and report the methodological quality of SRs in overviews--for example, using 'A MeaSurement Tool to Assess systematic Reviews' (AMSTAR). Currently, there is variation in whether and how overview authors assess and report SR quality, and limited guidance is available. **Objectives:** To examine methodological considerations involved in using AMSTAR to assess quality of SRs in overviews, and to examine the impact of using an AMSTAR threshold (quality 'cutoff') as an inclusion criterion. **Methods:** We selected a sample of seven overviews and searched for all SRs meeting each overview's inclusion criteria. Ninety-six SRs were included (30 Cochrane, 66 non-Cochrane). For each SR, two reviewers independently conducted AMSTAR assessments with consensus and discussed challenges encountered. We also extracted the main result and conclusion from each SR. **Results:** Mean AMSTAR scores (/11) were significantly higher for Cochrane compared to non-Cochrane SRs (9.6 vs 5.5; $P < 0.001$). Mean inter-rater reliability was high overall, but was significantly higher for Cochrane SRs compared to non-Cochrane SRs (AC1 statistic: 0.84 vs 0.69; $P = 0.002$). Four challenges (and solutions) were identified when assessing AMSTAR in the context of overviews. We found no evidence that AMSTAR scores were correlated with the results or conclusions of Cochrane or non-Cochrane SRs. **Conclusions:** High inter-rater reliability suggests that AMSTAR can be used successfully in overviews that include both Cochrane and non-Cochrane SRs, though minor modifications may be helpful. Cochrane SRs are often high quality and should be included in overviews, whereas non-

Cochrane SRs with low AMSTAR scores may be challenging to use in overviews. A minimum AMSTAR score may be a useful inclusion criterion for overviews and should not introduce bias into the overview process since AMSTAR scores are not correlated with results or conclusions of SRs.

Umbrella reviews: development and reporting of an approach to summarize systematic reviews

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[6] *Faculty of Nursing, Chiang Mai University, Thailand*

Background: With the increase in the number of systematic reviews available, a logical next step to provide the best evidence for decision makers in health care is the conduct of overviews of existing systematic reviews. **Objectives:** The aim of this paper is to describe the work of a methodological working group of the Joanna Briggs Institute to develop guidance for the conduct of an 'umbrella' review. **Methods:** The working group consisted of six participants who corresponded via teleconference, email and face to face meetings during a six month development period. Discussion and testing elements of methods for the conduct of an umbrella review were held over this period and culminated in a practical workshop. Workshop participants, review authors and methodologists provided further testing, critique and feedback on the proposed methodology. **Results:** Details are provided regarding the essential elements of an umbrella review, including presentation of the review question in a PICO (population, intervention, comparator, outcomes) format, nuances of the inclusion criteria and search strategy. Relevant details to extract from included reviews and how to best present the findings of both quantitative and qualitative systematic reviews in a user-friendly format are provided. Presentation of results includes an easy to use, informative, summary of evidence table. **Conclusions:** Umbrella reviews provide a ready means for decision makers in health care to gain a better and more rapid understanding of a broad topic area. The umbrella review methodology described here is the first to consider reviews that report evidence other than quantitative evidence.

Overview (de)generation: a review of reviews on the accuracy of brief cognitive assessments for identifying dementia in primary care

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Objectives: This presentation aims to show the challenges of a seemingly straightforward overview of test accuracy systematic review evidence for brief cognitive assessments for dementia identification in a primary care population. Description: Systematic reviews of existing health evidence such as those conducted by Cochrane are recognised as the international gold standard for high-quality trusted information. Whilst guidance on conducting an overview of reviews is covered in Chapter 22 of the Cochrane Handbook for Systematic Reviews of Interventions, there is no current Cochrane guidance available for authors conducting overviews of reviews of diagnostic test accuracy. We present our findings and consider the methodological challenges encountered in carrying out this overview. Specifically we will discuss: - What is the purpose of conducting an overview of systematic reviews? - How do Cochrane and non-Cochrane reviews differ, and should they be treated differently? - How should an author handle a change in review perspective (e.g. primary care focus when reviewing general setting reviews)? - How should an author handle low-quality and incomplete reporting within overviews? - What would a good overview of systematic reviews of diagnostic test accuracy look like? The authors aim to situate the evidence for overviews of systematic reviews of diagnostic test accuracy, and prompt discussion of key issues raised.

Long Oral Session 3 Diagnostic test accuracy reviews

Impact of asymmetry of summary ROC curves in meta-analyses comparing diagnostic test accuracy

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Background: Comparisons of the diagnostic accuracy of competing tests may be based on summary curves from hierarchical summary receiver operating characteristic (HSROC) meta-regression models. However, the degree of asymmetry (shape) of the curves may not be reliably estimated, especially when the number of studies is small. Furthermore, a common shape is often presumed for different tests evaluated in a comparative meta-analysis. **Objectives:** To assess the asymmetry of SROC curves and the effect on relative diagnostic accuracy when comparing tests. **Methods:** Systematic reviews and meta-analyses of test accuracy in the Database of Abstracts of Reviews of Effects published between 1994 and October 2012 were identified. Using the HSROC model, we first investigated the shape of the SROC curve in a meta-analysis for each test before performing comparative meta-analyses for each test comparison. The effect of assuming common asymmetry for SROC curves of different tests was explored by fitting different HSROC meta-regression models to each test comparison. We assessed asymmetry statistically by using likelihood ratio tests and also compared summary findings from the meta-analyses. **Results:** We included 57 reviews that evaluated the accuracy of two tests and provided sufficient data for meta-analyses. In meta-analyses of individual tests, the degree of asymmetry of SROC curves typically decreased as the number of included studies increased. Although there was statistical evidence ($P \leq 0.05$) of differences between tests in the asymmetry of SROC curves for 16 (34%) of the 47 test comparisons where models converged, differences in estimates of relative test performance and their precision between models were generally small. **Conclusions:** Evidence of asymmetry in meta-analyses with few studies is likely to be a chance finding. The assumption of common asymmetry can be appropriate when comparing the SROC curves of different tests, especially when there are few studies in the meta-analysis.

Time to publication among completed diagnostic accuracy studies: associated with reported accuracy estimates

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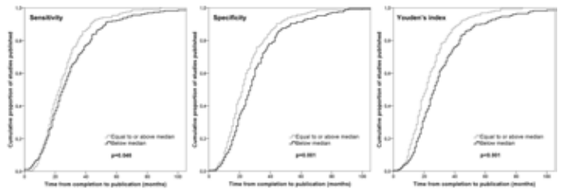
Background: Studies of therapeutic interventions with statistically significant results are published more rapidly than those without, which can lead to reporting bias. **Objectives:** We evaluated whether diagnostic accuracy (DA) studies that report higher accuracy estimates are also published more rapidly. **Methods:** We obtained all primary DA studies included in meta-analyses of MEDLINE-indexed systematic reviews published between September 2011 and January 2012. For each primary study, we extracted estimates of DA (sensitivity, specificity and Youden's index), the completion date of participant recruitment, and the publication date. We calculated time from completion to publication and assessed associations with reported accuracy estimates. **Results:** Forty-nine systematic reviews were identified, containing 92 meta-analyses and 924 unique primary studies, of which 756 could be included. Study completion dates were missing for 285 (38%) of these. Median time from completion to publication in the remaining 471 studies was 24 months (interquartile range (IQR) 16 to 35). Primary studies that reported lower estimates of sensitivity (Spearman's rho = -0.14; P = 0.003), specificity (rho = -0.17; P < 0.001), and Youden's index (rho = -0.22; P < 0.001) had significantly longer times to publication. When comparing time to publication in studies reporting accuracy estimates below versus above the median, the median number of months was 25 versus 23 for sensitivity (P = 0.046), 27 versus 22 for specificity (P = 0.001), and 27 versus 22 for Youden's index (P < 0.001; Fig). These differential time lags remained significant in multivariable Cox regression analyses with adjustment for other study characteristics, with hazard ratios of publication of 0.81 (95%CI 0.66 to 1.00) for studies reporting a sensitivity below the median, 0.70 (95%CI 0.57 to 0.87) for studies reporting a specificity below the median, and 0.63 (95%CI 0.51 to 0.79) for studies reporting a Youden's index below the median. **Conclusions:** Time to publication was significantly longer

for studies reporting lower accuracy estimates, suggesting that reporting bias may also occur in systematic reviews of DA studies.



Empirical assessment of univariate and bivariate meta-analyses for comparing the accuracy of diagnostic tests

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Background: Selection of medical tests is critical to health technology assessment. For comparing summary sensitivities and specificities (summary points) of competing tests, Cochrane recommends bivariate meta-regression models. However, fitting these complex models is sometimes challenging and simpler alternatives are needed in such situations. **Objectives:** To assess the performance of univariate and bivariate random-effects logistic meta-regression models for comparing diagnostic accuracy, and to examine the effect of different variance-covariance structures on each model. **Methods:** Systematic reviews and meta-analyses of test accuracy in the Database of Abstracts of Reviews of Effects published between 1994 and October 2012 were identified. Univariate and bivariate models with different variance-covariance specifications were fitted to meta-analytic datasets from the reviews. We compared summary estimates from the models in terms of differences in magnitude, precision, statistical significance and direction of effect (i.e. qualitative change in test ranking). **Results:** We included 57 reviews that evaluated the accuracy of two tests and provided data for comparative meta-analyses. Across 48 test comparisons where both univariate and bivariate models converged, differences in magnitude and precision of relative sensitivities and relative specificities were negligible. With univariate models as the reference, median (interquartile range) ratios of relative sensitivities and relative specificities were 1.00 (1.00 to 1.01) and 1.00 (1.00 to 1.00). In contrast, important differences such as changes in statistical significance and test rankings were often observed between findings from univariate or bivariate models with different variance-covariance structures. **Conclusions:** Simplifying bivariate meta-regression models to univariate models is likely to be a valid alternative when estimation problems are encountered in a comparative meta-analysis. However, joint inferences cannot be made about sensitivity and specificity. If data permits, assumptions about variance-covariance structures should be checked when fitting the models.

Systematic review and meta-analysis of external validation studies of multivariable diagnostic or prognostic models: a primer

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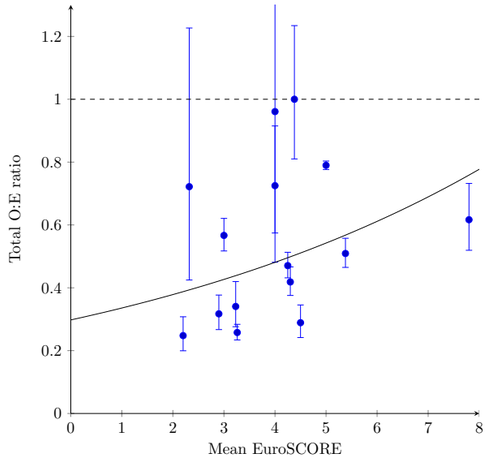
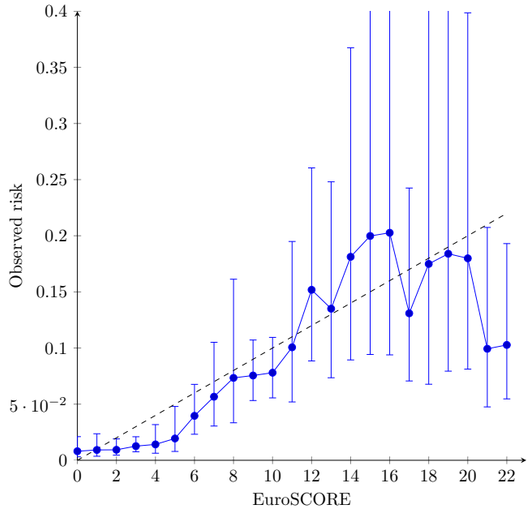
Background: External validation of prediction models is highly recommended and increasingly common in the literature. Review of such studies may help to identify whether an existing model is sufficiently accurate across different settings, and how it could be improved further. **Objectives:** The aim of this study was to: 1. provide guidance for systematically reviewing external validation studies of a prediction model; 2. discuss 'good practice' when summarizing validation study results, and 3. provide recommendations for interpreting meta-analysis estimates of model performance. Here we present several key steps: preparing the study protocol, formulating the search strategy, critical appraisal and risk of bias assessment, quantitative data extraction and preparation, meta-analysis, investigating heterogeneity across studies and reporting of results. **Methods:** We illustrate each step in an exemplar review where we summarize the discrimination and calibration performance of the EuroSCORE for predicting operative mortality in patients undergoing coronary artery bypass grafting. **Conclusions:** Systematic review and meta-analysis of external validation studies may help to interpret the potential applicability and generalizability of a prediction model.





Long Oral Session 4
Policy and implementation

How to write evidence synthesis reports for policy makers: a nine-step practical manual

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Background: A large quantity of evidence is available, however, it is dispersed in various databases, is of diverse quality, and is seldom synthesized and packaged in a way that responds to a specific policy question. Different methods exist for synthesizing evidence and packaging evidence for policy-makers. As evidence in policy-making comprises findings from research, but also other types of knowledge, a wide range of syntheses methods are needed to address policy concerns. To date, clear guidance on selecting an appropriate knowledge synthesis method is lacking. **Objectives:** We developed a practical manual for authors to establish control over the choice of methods and writing process of evidence synthesis reports targeting policy-makers. **Methods:** An expert/system- and intuitive-based pedagogical design method (Edmonds 1994, http://www.jstor.org/stable/30220096) was used leaning on expertise to utilize complex but existing knowledge, as well as on heuristics, past experiences (e.g. in the synthesis writing process), knowledge and intuition to guide the design. Users of the manual were considered central. The material consisted of 200 journal articles, textbooks, handbooks and unpublished between 2005-2015 searched in Google Scholar, that captures the major databases, and manually in the bibliographies. **Results:** We identified nine main steps in the synthesis writing process and four key questions to be answered to guide the selection of an appropriate synthesis method. These steps were identified in all kinds of synthesis processes, but how the steps were implemented in practice varied across the synthesis methods. Questions to be answered are: why is this of interest to policy-makers; what 'story' does the evidence tell; what choices does the evidence suggest to be most effective/appropriate/feasible/acceptable/etc.; and what are the implications for policymakers? **Conclusions:** There are many guidelines available for synthesizing and reporting the results of studies, which have increased the standardization of reporting study results and help to ensure that crucial information is available for translating the evidence into practice and policy.

Policy involvement in systematic reviews: motivation, support and procedures

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Background: Increasing policy involvement in systematic reviews is part of a wider social movement of more inclusive approaches to conducting research. **Objectives:** To investigate institutional mechanisms and editorial pathways for maximizing relevance of systematic reviews to policy makers. **Methods:** Insider research interviewing both policy makers and systematic reviewers about systematic

reviews and working together; and, in the course of our own work, reflecting on the drivers, processes and impacts of working with policy makers to commission policy-relevant reviews and supporting authors to produce them. **Results:** No specific review methodology was considered uniquely appropriate for policy-relevant systematic reviews. It was the mutual engagement across the research-policy interface that enhanced the policy relevance of reviews. We identified institutional mechanisms that bring the worlds of policy and research closer, to create more policy relevant systematic reviews. These clustered into four review production models to suit different policy situations. Lastly we revealed communication methods for collective analysis to shape policy-relevant review questions. **Conclusions:** Shaping review questions, and supporting others to do so, has parallels with qualitative analysis and non-directive counselling. Recognizing these parallels offers clear procedures for guiding the intellectual work required to get a review started.

Applying integrated knowledge translation framework for impactful systematic reviews: a case study about promoting rational drug use in Lebanon

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Background: Many reform efforts in health systems fall short because of failure to use research evidence optimally to inform policy. **Objectives:** Using an impact-oriented knowledge translation framework to link research to action, we describe the process of promoting rational drug use in Lebanon through developing policy-relevant systematic reviews (SRs) and applying knowledge translation (KT) tools to achieve impact. **Methods:** The process employs the following key steps: 1. generation of potential priority topics; 2. priority setting exercise with policymakers and stakeholders; 3. production of SRs; 4. development of a policy brief; 5. semi-structured interviews with key informants; 6. convening of a national policy dialogue; 7. evaluation of policy brief and dialogue; and 8. advocacy plan. **Results:** Fifty-two policymakers, stakeholders and researchers participated in a national priority setting exercise in which strengthening the pharmaceutical sector was confirmed as a top health policy priority. Participants were engaged in generating and prioritizing SR questions on the priority topic. Several SRs were subsequently conducted addressing the priority questions. The findings from SRs were translated into KT products, including an evidence brief for policy. The brief was revised based on semi-structured interviews with ten targeted informants. The brief will be disseminated in a national policy dialogue scheduled in early September 2016 with 24 national key stakeholders. The brief and dialogue will be evaluated using validated tools, and a post-dialogue survey will be conducted. The evaluation of the policy brief and dialogue will be used as inputs to develop an evidence-based advocacy plan. In this presentation, we will discuss and reflect on the process, results and lessons learned from using an impact-oriented knowledge translation framework to impact policy agenda. **Conclusions:** Applying an integrated KT framework that uses different KT tools and mechanisms is critical to allow the findings of systematic reviews to impact policy agendas and action.

Application of systematic review methodology to scope the development of a national nutrition policy

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Background: The improvement of population diets and reduction of obesity using a national nutrition policy requires evidence for the policy that is both relevant and trustworthy. This presentation describes methodology embedded within a scoping project. **Objective:** We sought to inform the development of a National Nutrition Policy through the application and adaption of Cochrane Systematic Review methodology in a transparent and reproducible manner in a systematic synthesis that combined Australia's current national dietary health issues with evidence from international policies. **Method:** Firstly we identified the diet-related health issues relevant to Australia (the target country). Secondly we sought the strategic content of existing policies of Organisation for Economic Co-operation and Development (OCED) countries and identified the most cost-effective strategies. Thirdly we synthesized recommendations through contextualization of the evidence. We also embedded the use of Cochrane methodology. This systematic approach included structured PICO-T (population, intervention, comparison, outcome, time) questions for all key primary questions, which then formed the structure of the search strategy. We developed data extraction tools by creating 'scaffolding'

mapped from the PICO –T questions to each element of the questions using a predefined process. We applied a seven-step over-arching process using PRISMA transparent search accounting, screening tools, standard quality assessment, and data extraction. Each PICO question was then restated in 'plain language'. **Results:** The application of a systematic review approach provided a methodological framework for the project. The use of PICO-T questions a priori provided a useful framework, avoided risk of bias associated with post hoc questions, and also provided a standard format which aided in the operation, analysis and report writing. **Conclusions:** Although potentially more time consuming at the onset, this approach offered greater transparency and reproducibility for the recommendations. Systematic review methodology can be potentially extended and adapted for scoping national policy development.

Long Oral Session 5
Bias

Improving the reliability of the Cochrane risk of bias tool for assessing the validity of clinical trials

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Background: The Cochrane 'Risk of bias tool (CRoB) is one of the most widely used tools for assessing the risk of bias (RoB) of clinical trials. However, there are no clear, detailed guidelines for its application and its poor inter-rater reliability (IRR) has been a wide concern. **Objectives:** To develop a framework (iCRoB) as a users' guide and to improve the IRR of the CRoB in its first 4 domains. **Methods:** 1. Develop a step-by-step structured pathway for assessing the RoB. 2. Identify and summarize possible scenarios that are used to describe a domain in clinical trials. 3. Merge the identified scenarios with those already provided in the CRoB. The bias assessment pathway and the new dictionary of scenarios in combination are the components from the iCRoB. 4. Conduct a randomized controlled study to compare IRR among individual raters and that across rater pairs between CRoB and iCRoB. **Results:** We designed a structured pathway for assessing bias systematically, which helps classify a study into one of five categories for each RoB domain. A total of 34, 36, 26 and 20 scenarios were generated for sequence generation, allocation concealment, blinding of participants and personnel, and blinding of outcome assessment, respectively. Trial results showed that the iCRoB had a higher IRR across rater pairs than the original CRoB for every domain. The weighted κ was 0.71 and 0.81 for sequence generation respectively for CRoB and iCRoB; 0.53 and 0.61 for allocation concealment respectively for CRoB and iCRoB; 0.56 for blinding of participants and personnel in CRoB, 0.68 for blinding of participants and 0.70 for blinding of personnel in iCRoB; and 0.19 and 0.43 for blinding of outcome assessment respectively for CRoB and iCRoB. **Conclusions:** We developed the iCRoB for making the judgement on RoB in reports of clinical trials. Our iCRoB showed a higher reliability than the current CRoB in all the domains examined. The iCRoB can be improved further by new contributions to the dictionary of scenarios and made easy by automating the bias assessment. Importantly, the iCRoB has created a possibility for automating the bias assessment.

Assessing the risk of bias associated with missing participant outcome data: applying decision thresholds for binary data

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Background: Little guidance for addressing missing participant outcome data in meta-analyses and practice guidelines is available. **Objectives:** To explore the use of decision thresholds to address risk of bias associated with missing binary outcome data. **Methods:** We applied the GRADE approach to missing data. We initially conducted a complete case analysis, and then conducted progressively more stringent sensitivity analyses imputing outcomes for those with missing outcomes in each study. **Results:** Rather than rating down using a threshold of no effect, one may choose a decision threshold representing the smallest difference patients would consider important.

Consider, for instance, probiotics for the prevention of Clostridium difficile infection (CDI) (Johnston 2012). In 13 of 20 included randomized trials, data on CDI were missing for 5% to 45% of participants across studies. For the control group, we assumed that the event rate in participants with missing data was the same as the event rate in participants who were successfully followed. For the probiotic group, we recalculated pooled treatment effects by assuming the following risk incidence (RI) in participants with missing data compared with those who were successfully followed: RILTFU/FU 1.5, 2.0, 3.0 and 5.0. Using a threshold of relative risk of 1.0, our results proved robust to even the most extreme assumption. However, patients are likely to decline treatment if the benefit of probiotics is sufficiently small (say 2%). Given a risk of CDI of 5.1% without probiotics, the absolute risk reduction of 3.6% (95% confidence interval (CI) 2.4% to 4.7%) in the complete case analysis, decreases to 2.8% (95% CI 1.6% to 4.1%) with a RILTFU/FU of 5.0. Given that the lower boundary of the 95% CI now crosses our threshold of 2%, one would rate down for risk of bias. **Conclusions:** Since choosing a decision threshold other than no effect involves a value judgment, this approach may be best applied in the context of practice guidelines. Johnston BC, et al. Probiotics for the prevention of Clostridium difficile-associated diarrhea: a systematic review and meta-analysis. Ann Intern Med. 2012;157(12):878-88.

Adjusting for bias in unblinded randomized controlled trials

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Background: It may not always be possible to blind participants of a randomized controlled trial (RCT) for treatment allocation. Knowledge of treatment allocation may lead to differences between treatment arms, and consequently observed differences in the outcome may not be attributable to the treatment, potentially biasing treatment effect estimates. Objective: To extend a novel method, originally introduced in genetic research, for instrumental variable meta-analysis adjusting for bias due to unblinding of trial participants. **Methods:** Using simulation studies, this novel method, Egger-IV, is introduced and compared to the performance of the 'as treated', 'intention-to-treat', and regular 'instrumental variable' estimators in various scenarios. Scenarios considered (time-varying) non-adherence, confounding, and between-study heterogeneity. The effect of treatment on a binary endpoint was quantified by means of a risk difference. **Results:** In all scenarios with unblinded treatment allocation, the Egger-IV method was the least biased estimator. However, precision was lacking, and, consequently, power usually was low. **Conclusion:** The Egger-IV estimator corrects for bias in meta-analyses of unblinded RCTs. Due to a lack of precision and power we suggest using this method mainly as a sensitivity analysis.

PROBAST: a risk of bias tool for prediction modelling studies

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Background: Quality assessment of included studies is a crucial step in any systematic review (SR). Review and synthesis of prediction modelling studies is a relatively new and evolving area and a tool that facilitates quality assessment for prognostic and diagnostic prediction modelling studies is needed. **Objectives:** To introduce PROBAST, a tool for assessing the risk of bias and applicability of prediction modelling studies in a SR. **Methods:** A Delphi process, involving 42 experts in the field of prediction research, was used until agreement on the content of the final tool was reached. Existing initiatives in the field of prediction research such as the REMARK and TRIPOD reporting guidelines formed part of the evidence base for the tool development. The scope of PROBAST was determined with consideration of existing tools, such as QUIPS and QUADAS 2 (quality assessment tool for diagnostic accuracy studies). **Results:** After six rounds of the Delphi procedure, a final tool was developed which utilises a domain-based structure supported by signalling questions similar to QUADAS 2. PROBAST assesses the risk of bias and applicability of prediction modelling studies. Bias occurs when shortcomings in the study design, conduct or analysis lead to systematically distorted estimates of predictive performance or an inadequate model to address the research question. Potential sources of bias in a prediction model study can be identified by comparing it to a hypothetical methodologically robust study. PROBAST comprises five domains (participant selection, outcome, predictors, sample size and flow, and analysis) and 23 signalling questions grouped within these domains. Applicability refers to the extent to which the prediction model matches the systematic review question, for example in terms of the population, predictors or outcomes of interest. PROBAST also includes a component to assess the applicability of the model being assessed to the review question. **Conclusions:** PROBAST can be used to assess the quality of prediction modelling studies included in a SR. The presentation will give an overview of the development process and introduce the final tool.

Long Oral Session 6
Review methods non-statistical

Developing a rapid response system within systematic review centers to address priority needs from policymakers

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Background: Policymakers expect to receive the right evidence at the right time in order to use it in their decision-making process. This necessitates the creation of rapid response systems to deliver well-packaged and relevant synthesis of the best available evidence in short periods of time. **Objective:** We describe our recently developed approach for rapid response services that spans the continuum from prioritizing questions and evidence synthesis to knowledge translation (KT). Method: Based on the experience of the Center for Systematic Reviews of Health Policy and System Research (SPARK) in conducting systematic reviews addressing policy needs, a review of the literature on conducting systematic reviews, and informal discussions with both methodologists and policymakers, we developed an integrated approach which spans from priority setting to evidence synthesis and knowledge translation. **Results:** The proposed approach begins with a preparatory phase to create demand for rapid response service. This is followed by three phases that apply to each rapid response service delivery: 1) engage policymakers and stakeholder at the service delivery interface as well as through formal and informal discussions to specify their questions; 2) search for relevant, up-to-date and good quality systematic reviews; if identify none, conduct rapid reviews; 3) develop rapid response products (e.g. 3-,10-,30-day turnaround products) and disseminate them through different channels and KT platforms. The approach is characterized by its comprehensiveness from prioritizing questions to advocacy and impact assessment, ongoing engagement of policymakers and stakeholders, and leveraging on published systematic reviews. Importantly, it differentiates between pathways for rapid reviews and pathways for systematic reviews. In this presentation, we will present the approach and share our initial experience with its implementation in terms of feasibility, challenges and lessons learned. **Conclusion:** The proposed approach will help promote timely response to pressing policy priorities by leveraging on existing systematic reviews, conducting rapid reviews, and producing KT products.

Evolution of rapid evidence review methods to support policy decisions

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Background: Policymakers face choices about how much evidence and certainty about that evidence is needed to support decisions that must be made within the constraints of limited budgets and timelines. Methodologic rigor and time are generally considered to be trade-offs, where one or the other is sacrificed to achieve policymakers' goals. **Objectives:** 1. To describe the evolution of rapid evidence review methods used to inform health coverage decisions in one US state; 2. To discuss the applicability of rapid review methods to support health policy decisions. **Methods:** Key informant interviews and process mapping. **Results:** The state has developed 50 coverage determinations since 2010. Rapid evidence reviews to support these decisions have evolved, undergoing three distinct phases. The initial phase (2010-2012) used the ADAPTE framework to produce clinical practice guidelines. Three adapted guidelines were produced and timelines ranged from 13 to 23 months per guideline. During the second phase (2012-2014) 33 coverage 'guidances' were produced using a set of core systematic review source documents only. Process mapping found that the time from topic announcement to approval averaged 44 weeks which was 18 weeks over projected. Common sources of delay were related to additional research requests and evidence identified during public comment. Methods evolved to address concerns about quality and timeliness of evidence reviews during third phase (2014-present). Current rapid review methods involve expanded scope definition work, comprehensive

searching for systematic reviews and additional studies, and addition of GRADE tables. Fourteen topics have used these revised rapid review methods with improvements in both timeliness and quality. **Conclusions:** Increasing rigor of rapid review methods has been necessary to support timely coverage decisions in one US state. Investing more time in the evidence review phase has saved time in the public comment and decision process such that both timeliness and quality have improved. Finding the right balance required some trial and error, and involved consultation with stakeholders and ongoing evaluation efforts.

Undertaking a mixed methods Cochrane Review of school-based asthma interventions: logic, learning and results

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Background: Schools have been identified as effective sites for the delivery of asthma self-management education, as they are environments commonly associated with the learning of new skills. However, 'school age' spans a wide spectrum of child developmental stages, and represents different pedagogical needs, as well as responses to self-management education. Understanding the effectiveness and implementation processes of school-based interventions and their interaction with context is essential to develop mechanistic theories of whether and why interventions work. **Objectives:** This review synthesises evidence from both effectiveness and implementation literature in order to produce meaningful evidence for the design of a future intervention. **Methods:** We use a logic model to conceptualise components of implementation and indicators of effectiveness simultaneously. We examine the results from process evaluation studies to understand the factors associated with successful interventions using Qualitative Comparative Analysis (QCA). Analyses of intervention effectiveness are undertaken using standard meta-analysis techniques. We bridge the gap between implementation and effectiveness using the evidence from QCA to conduct further subgroup analyses in our meta-analysis. **Results:** We structure the results of this presentation through focussing on four main areas of reflection around: 1) the utility of logic models in bridging diverse bodies of literature; 2) the challenges of identifying and engaging with process evaluation literature in systematic reviews; 3) the methods employed for integrating findings from QCA data into meta-analysis; and 4) the added value of the approach in providing evidence for the design of an asthma education trial. **Conclusions:** Mixed-methods reviews are a necessary development in order to address questions arising from decision-makers beyond 'what works'. The results of this review demonstrate the feasibility of the approach and methods employed, but also highlight areas lacking methodological guidance, particularly around the identification and appraisal of process evaluation literature.

Operationalizing Living Systematic Reviews: lessons from a large-scale pilot in traumatic brain injury

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Background: Momentum is building around Living Systematic Reviews (LSRs; up to date online summaries of healthcare research that are updated as new research becomes available), but the literature is currently more conceptual than practical. It is clear that LSRs have important implications for authors and publishers, but these are largely untested and little guidance exists. Since 2013, a multi-national team of researchers and clinicians has been piloting Living Systematic Reviews in traumatic brain injury (TBI) as part of a large TBI study (CENTER-TBI). **Objectives:** To describe our approach to the development and implementation of LSRs in TBI. **Methods:** We are employing a collaborative approach, working in partnership with researchers, clinicians, journal editors and publishers and other experts in a range of disciplines. Teams of reviewers, supported by expert advisory panels and review methodologists, are responsible for a suite of reviews on prioritized TBI topics. After initially publishing de novo systematic reviews, the first reviews transitioned into LSRs upon publication in October 2015. We expect up to 10 LSRs will be ongoing by project completion (2020). We elected to re-run searches every three months and have employed online review tools to facilitate collaboration and streamline review tasks. All review tasks are being explored to identify possibilities for automation. We have worked closely with the Editor and Publisher of the Journal of Neurotrauma to implement a mutually beneficial publishing arrangement, including frequent updates. **Results:** We will discuss our proposed solutions to the managing the implications of living updates on author workload and workflow, search frequency and information sources, how technology can help, decision tools for incorporating new studies and how, when and where to publish to minimize author workload but maximize visibility and use. This will include quantitative data from our machine learning pilot to reduce screening time and bibliometric monitoring of database yields over time.

Exploring methods of enhancing the generalizability of evidence from systematic reviews of public health interventions through secondary data analysis

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Background: The capacity of systematic reviewers to present global summaries of evidence is expanding, and public health decision-makers working locally are increasingly presented with the challenge of how to interpret global review evidence and assess its meaning in local contexts. **Objectives:** 1. Establish how systematic reviewers of public health interventions assess the generalizability of the evidence that they encounter and produce 2. Present methods for undertaking analyses of existing secondary data sources to assess and enhance the generalizability of review evidence. **Methods:** We reviewed some of the main tools used by systematic reviewers working in public health to assess the generalizability of evidence and found that current practice is limited. We will present a framework of how the epistemological foci of secondary (observational) data differ, but identify complementary ways in which the further analysis of existing secondary data can aid in the interpretation of meta-analyses. **Results:** We identify three main approaches. The first approach involves purposeful exploration before starting a review to ensure that the findings are relevant to an inference population; the second involves purposeful exploration after a review has been conducted, where we present a framework and examples of potential avenues of enquiry; the final approach involves recalibration of the results to weight studies differentially based on their similarity to conditions in an inference population. **Conclusions:** Generalizability as a concept has historically been deprioritized in trial literature and it has become standard practice for meta-analysts to synthesize evidence from conceptually discordant settings and populations. Analysis of existing surveys and routine datasets represents an important, but overlooked, vehicle for achieving a more nuanced understanding and treatment of context, necessary for decision-making.

Long Oral Session 7
Citation screening / CSRs

Semi-automating citation screening: a retrospective assessment of a hybrid machine learning/crowdsourced approach using one year's worth of human-generated data from the Embase crowdsourcing project

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Background: Previous work has already shown feasibility with regard to machine learning applications successfully classifying citations into prespecified categories, and has demonstrated reductions in human citation screening by 40% to 50%. **Objectives:** We assessed the potential role of a machine learning approach in helping the crowd to identify reports of randomised trials eligible for Cochrane's Central Register of Controlled Trials (CENTRAL). **Methods:** The Embase project used crowdsourcing to identify reports

of randomised trials from highly sensitive searches run in Embase. Using the citations fully assessed by the crowd from this project as a gold standard, we ran a number of simulations comparing machine performance alone or in various combinations with human assessment in order to understand the potential workload reductions and effects on recall and precision. **Results:** A total of 60,468 fully assessed citations were included in the analyses. Six analyses were performed. The first, a simple comparison of machine predictions compared to the gold standard. Area under the curve was 0.977; and the maximum point on this curve corresponded to a recall of 71.2 % and precision of 73.4%. We then explored use of the machine classifier in addition to human workers via simulation experiments. The most effective approach entailed replacing one human screener with a computer prediction when three or more screeners are used. This resulted in a recall of 98.5% while reducing workload substantially. In addition, when the decision was deferred entirely to the machine when sufficiently confident in the prediction, 95% recall was achieved with a correspondingly dramatic reduction in workload. **Conclusions:** The results of this important work have informed next steps towards implementation into the workflow for the Evidence Pipeline and Cochrane Crowd components of Project Transform. The identification of RCTs can be semi-automated and when applied appropriately within a crowd model can offer significant opportunities to reduce human effort without compromizing recall.

SWIFT-Active Screener: reducing literature screening effort through machine learning for systematic reviews

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Background: Researchers within government, industry and non-profit research organizations increasingly employ systematic reviews to analyse and integrate the evidence available in peer-reviewed publications. A critical and time-consuming step in this process is screening the available literature to select relevant articles for further review. **Objectives:** To evaluate the performance of SWIFT-ActiveScreener (ActiveScreener), a web-application that uses novel statistical and computational methods to prioritize articles for inclusion, while offering guidance on when additional screening will no longer yield additional relevant articles. **Methods:** We tested ActiveScreener on 20 diverse systematic reviews for which human reviewers have previously screened more than 115,000 titles and abstracts. **Results:** Compared to traditional screening, this method resulted in an average 54% reduction in screening burden, while still achieving 95% recall or higher; when tested on a subset of the 13 studies containing > 1000 articles, the reduction in screening burden improved to 71%. While these results are promising, machine-learning prioritization approaches can only be deployed confidently if users are sure that no relevant article will be missed in the process. Accordingly, ActiveScreener employs a novel algorithm to estimate recall while users work, thus providing a statistical basis for a decision about when to stop screening. Although this statistical confidence comes at a cost in terms of total number of articles screened, results indicate that, for large literature sets, the overall savings can still be large. **Conclusions:** In SWIFT-ActiveScreener, these unique methodological advancements are implemented as a user-friendly application that allows users to manage their review, track its progress and provide conflict resolution. Together, these tools will enable researchers to perform literature screening faster, more cheaply and in a more reproducible manner.

Interim guidance on the inclusion of Clinical Study Reports and other regulatory documents in Cochrane Reviews: progress report

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Background: Publication and other reporting biases may pose serious threats to the validity of systematic reviews. Over the last few years there has been growing support for a move towards greater transparency with improved access to regulatory submission documents including clinical study reports (CSRs) - which provide much more data than are included in published articles. Using CSRs and other regulatory documents, either together with or instead of more traditional sources, has the potential to change the future of Cochrane Reviews of pharmaceutical interventions. **Objectives:** To draft interim guidance to help Cochrane authors decide whether to include data from CSRs and other regulatory documents in Cochrane Reviews. **Methods:** Guidance will be based upon the research literature on reporting biases and their impact on evidence synthesis and on exploration of indicators or 'triggers' that might indicate when it is most important to access and use this type of data. In addition to the research literature, guidance will be informed by the results of a survey of review authors regarding their use of CSRs and other regulatory documents in their reviews. **Results:** We will provide an update on the progress of this Cochrane project, present a summary of the literature in this area along with a summary of the history and evolution of the data access movement. We will also present details of our planned survey of review authors and intend to identify barriers and facilitators to including data from regulatory material in Cochrane Reviews. **Conclusions:** After addressing the question of 'when' to include CSRs in Cochrane Reviews we need to address the next pressing question for authors of 'how' to include CSRs in Cochrane Reviews. Funding: This project is funded in part by a Cochrane Methods Innovation Fund award.

Updating systematic reviews with active learning

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Background: Conducting systematic reviews (SRs) is frequently a resource- and time-intensive process. Many SRs are outdated even before they are published. As new research continues to become available at a fast pace, SRs constantly need to be updated in order to stay relevant. We have recently demonstrated that machine learning methods like active learning (AL) can be extremely useful in reducing the screening burden for a new review; here, we demonstrate that for the purpose of updating an existing review, the savings can potentially be even greater. **Objectives:** To test if the original screening results for a systematic review can be used as a 'seed' to bootstrap AL when conducting a review update. **Methods:** We evaluated our AL method on three SRs that expert reviewers had previously screened. To simulate a review update scenario, each dataset was divided into studies occurring before and after a chosen publication date, with studies occurring after the cut-off date used to simulate a review update. We compared standard AL on the update dataset with AL supplemented by using the prior studies as a training seed to initialize the learning model. **Results:** When AL was used for the update, AL models seeded with screening results from the original review resulted in an additional 33% reduction in screening burden above the savings achieved when using AL without a seed. Furthermore, in all three cases, the recall obtained was 100%. **Conclusions:** Although the cost of updating an SR can be substantial, these results demonstrate that AL models can reduce the time and cost associated with that task without reducing the accuracy. In addition, having the screening results from the original review can be very advantageous when they are used as an initial training seed for active learning methods.

Long Oral Session 8 Meta-analysis methods

Planning future studies based on the precision of network meta-analysis results

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Background: Despite the increasing information overload and the great advances in the methodology of systematic reviews, evidence gaps do exist and impose barriers to well-informed decision making. In such cases, further studies need to be designed to boost existing evidence and narrow the evidence-practice gap. When there are multiple competing interventions for a healthcare problem, network meta-analysis (NMA) can be used to guide the design of new studies. **Objectives:** Our objective is to provide a general framework for using NMA evidence in planning future studies. **Methods:** The targeted parameter is the precision of the results obtained from NMA: the precision of the joint distribution of the estimated basic parameters of the model and the precision in the treatment ranking. We quantify the precision in the estimated effects by considering their variance-covariance matrix and estimate the precision in ranking by quantifying the dissimilarity of the density functions of summary effect estimates. Then, based on a desirable improvement in precision we calculate the required sample size for each possible study design and number of study arms and we present graphical tools that can help trialists select the optimal study design. **Results:** We used a published network of three interventions for the treatment of hepatocellular carcinoma to illustrate the suggested methodology. Although the three-arm design is the most efficient in terms of required sample size, choosing a two-arm design can also decrease

the uncertainty about the relative effects substantially, depending on the chosen comparison. **Conclusions:** The methodology presented can be used to inform the future research agenda by indicating which parts of existing networks need further investigation. Through this process, unnecessary waste of research that leads to human and monetary cost may be considerably reduced.

Performing meta-analyses in the case of very few studies

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Background: The DerSimonian-Laird method has been the standard for random-effects meta-analysis for several decades. However, unfavourable statistical properties, especially in the case of very few studies, have been highlighted and discussed critically for some time now. A Cochrane working group recommended the use of the Knapp-Hartung method as the new standard approach when there are very few studies - say two to five. However, the Knapp-Hartung method, which in contrast to the DerSimonian-Laird method accounts for the uncertainty in estimating the between-study heterogeneity, can result in very wide confidence intervals, even if all studies are statistically significant in the same direction. **Objectives:** To describe and discuss available approaches to perform meta-analyses in the case of very few studies. **Methods:** Besides classical approaches for fixed-effect and random-effects meta-analysis, a number of alternative approaches are available including generalized mixed-effects models and Bayesian methods incorporating weakly informative prior distributions for the between-study heterogeneity. The basic features of these approaches are summarized and the required conditions for practical applications are discussed. The methods are illustrated by a variety of examples. **Results:** The methods differ considerably in terms of their statistical properties, including coverage probabilities and lengths of confidence intervals for the combined effect. Furthermore, some methods require a better statistical understanding on the side of the practitioner than others. Some methods lend themselves more easily to sensitivity analyses than others. Currently, none of the available approaches can be considered to be a uniformly best method. Besides the classical approaches, the use of alternative methods such as generalized mixed-effects models seems to be useful. **Conclusions:** Although meta-analyses with very few studies are very common, performing meta-analyses in the case of very few studies remains challenging. Currently no clear guidance exists on how best to proceed in these challenging scenarios. Further research in this field is required.

A general framework for exploring the impact of suboptimal treatment choices to health outcomes in a real-world population

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Background: Network meta-analyses are increasingly used to synthesize evidence from randomized controlled trials (RCTs) and provide useful information about relative treatment benefits and harms. However, clinicians often make treatment decisions that disregard the evidence, and potentially prescribe less efficient or safe treatments to patients. **Objectives:** To utilize study-level and individual participant level data from RCTs and non-randomized studies (NRSs) in order to explore the impact of a specific policy regarding treatment choices to health outcomes in a real-world population of interest. **Methods:** We categorized patient characteristics as treatment predictors, prognostic factors and effect modifiers using expert opinion. We performed a network meta-regression using the RCTs to estimate the relative treatment effects and the ranking of all available treatments for a range of values of the effect modifiers. Using the NRSs we built a model that predicts treatment choices in a real-world clinical setting. We generated a sample of patients with the characteristics of the population of interest. For each simulated patient we predicted the disease progression using the prognostic factors and the effect modifiers under two scenarios: 1. evidence-based treatment choice: the patient receives the optimal treatment as determined using the RCTs; and 2. treatment choice as usual: the patient received treatment following the policies currently employed in real-world settings. We compared predictions across the two scenarios. **Results:** We applied our methods to 167 RCTs and one large observational study that compared antipsychotics for schizophrenia. Results showed that treatment choices in a real-world setting are not, to a large extent, evidence-based. Simulation showed that outcomes predicted in a real-world setting are significantly better when treatment choices are based on the randomized evidence. **Conclusions:** Our approach can be used to assess the added benefit for adopting an evidence-based approach to clinical decision-making in real-world clinical practice.

The albatross plot: a novel graphical tool for presenting results of diversely reported studies in a systematic review

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Background: Meta-analyses combine the results of multiple studies of a common question. Approaches based on effect size estimates from each study are generally regarded as the most informative. However, these methods can only be used if comparable effect sizes can be computed from each study, and this may not be the case because of variation in how the studies were done or because of limitations in how their results were reported. Other methods must then be used to summarise the results of these studies. One possibility is a simple vote counting method, where studies are divided by statistical significance and direction to give an overall indication of the number of studies showing an association. Preferable to vote counting, meta-analysis of P values can be undertaken using Fisher's or Stouffer's method. These methods have important limitations however, due to the well-known pitfalls of P values and in particular their dependence on sample size: without sample size, a given P value could have any magnitude of effect. **Development:** We propose a novel plot that requires only a P value, a total sample size and a direction of effect from each study. Notably, the plot allows an approximate examination of underlying effect sizes and the potential to identify sources of heterogeneity across studies. This is achieved by drawing contours showing the range of effect sizes that might lead to each P value for given sample sizes, under simple study designs. These contours enhance the interpretability of the albatross plots, so named because the contours resemble the eponymous bird's wings. Examples of albatross plots using real data are presented, and their production and utility are discussed.

Long Oral Session 9 Point-of-care tools

From systematic review to systematically-derived recommendation

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Background: Cochrane Reviews provide systematic reviews of the evidence, but do not directly provide the systematic effort to include clinical expertise and patient values to reach recommendations or guidance. Guidelines may provide systematic efforts to reach recommendations, but a single guideline may be akin to a single study and additional guidelines (with different groups of people addressing the same recommendations) may replicate the results or come to different recommendations. **Objectives:** This session will introduce the concept of a Systematically-Derived Recommendation (SDR), show examples where the approach taken in systematic reviews influences the results among recommendations, and provide considerations for improvements in Cochrane Reviews. **Methods:** A group of guideline developers, raters and users developed the SDR concept from Institute of Medicine and Guidelines International Network (G-I-N) standards and application to single recommendations. **Results:** An SDR is proposed as a new article type with methods and results following a format of systematic search and study selection, study quality appraisal, evidence summary, search for previously reported recommendations, recommendation panel selection, values and preferences, evidence-to-decision deliberation, and recommendation. **Conclusions:** SDRs provide an opportunity for Cochrane to extend efforts and support deeper into clinical practice guidelines and clinical decision support.

WikiRecs: rapid creation and dissemination of evidence summaries and trustworthy recommendations to point of care

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Background: Dissemination of best current evidence to clinicians and patients at the point of care is often ineffective, with systematic review organizations and guideline organizations facing major barriers. During the hiatus between publication of practice-changing evidence and dissemination of trustworthy evidence summaries and guideline recommendations, patients suffer from suboptimal care. **Objectives:** Faced with potentially practice-changing evidence, we aim to create and disseminate rapidly trustworthy recommendations, evidence summaries and decision aids in: 1. a novel and user-friendly single page synopsis format published in the BMJ (WikiRecs); 2. digitally structured multi-layered presentation formats available 'online anywhere, anytime on all devices' (www.magicapp.org); and 3. other dissemination channels (e.g. BMJ Best Practice). **Methods:** A collaborative network of clinicians, researchers and experts in systematic review and guideline development will, together with the BMJ, be responsible for the creation and publication of WikiRecs. The process starts with the rapid creation of a systematic review (within 60 days) - if needed - followed by creation of WikiRecs that will be submitted together with the review within the next 15 days and published in the journal through an expedited peer-review process within 90 days. **Results:** We will present three pilot WikiRecs (e.g. steroids in pneumonia) to demonstrate feasibility of our process and the proposed publication formats. **Conclusions:** New and more effective ways of synthesizing and disseminating evidence to point of care through trustworthy recommendations, evidence summaries and decision aids available in a high impact medical journal and Magicapp could largely impact future strategies for organizations charged with developing systematic reviews, guideline recommendations and decision aids.

Cochrane Clinical Answers: making the evidence matter

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Background: Healthcare professionals need point-of-care access to reliable and high-quality synthesized information from up-to-date research. Cochrane Reviews provide a valuable source of information, but can take a long time to read and have a large volume of data, much of which may not be relevant to the busy clinician. Cochrane Clinical Answers (CCAs) provide an accessible, clinically-focused summary of Cochrane Reviews to make them usable for this important audience. **Objectives:** To describe how the presentation of data in CCAs aids information dissemination. **Methods:** The CCA website was developed to mimic the way clinicians approach information gathering, bringing to the forefront the data that are most important to making a decision on the potential treatment benefits and harms of treatments. Since the CCA website was launched in 2013, we have evolved the data presentation in response to feedback from users, honing the data presented to respond best to their needs. **Results:** Each CCA addresses a question and provides a concise, outcome-focused synthesis of the results of a Cochrane Review, with an overarching take-home message. Full outcome data supporting the answer are a click away. The population, intervention, comparator and outcome (PICO) information, a narrative result, the quality of evidence or risk of bias summary, a link to the forest plot and absolute values are also provided to allow quick understanding and application of results. New developments involve using the CCA format for presenting results from overviews and network meta-analyses, as clinicians would benefit from reliable and accurate clinician-friendly summaries of these complex Cochrane Reviews. **Conclusions:** CCAs are a great tool to filter the vast amount of data from Cochrane Reviews and make it easier for healthcare professionals to apply high-quality evidence when managing patients.

How to use Cochrane summary of findings tables and individualized baseline risks to inform personalized care plans and population health

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Background: Personalized care plans are needed to optimize care for people who could benefit from multiple interventions. **Objectives:** Show the feasibility of precision care via estimation of potential to benefit by calculating absolute risk reductions in a population and rating the importance of outcomes together with the patient when making personalized care plans. **Methods:** 1. Interventions that could benefit patients (care gap) are identified via clinical decision support (CDS) rules analysing individual patient data. 2. Absolute baseline risks (BR) of outcomes are estimated with risk calculators or by applying representative baseline risks from studies. 3. Summary of findings (SOF) tables are used to present the relative risk reductions (RRR) by various interventions. 4. Absolute risk reductions (ARR) are calculated: ARR = RRR x BR for each intervention and outcome. 5. Representative rating of importance of outcomes (IO) is used. 6. The individual's potential to benefit (PTB) from each intervention is calculated: PTB = IO x ARR. 7. People are sorted by total PTB (sum of PTBs for different interventions) to find people who could benefit most and for whom a personalized care plan should be suggested. 8. People can individualize the IO ratings in a shared decision-making (SDM) process where decision aids based on the SOF tables can be used. 9. The interventions prioritized by the patients are included in personalized care plans. 10. Extracting interventions from care plans of all people helps to determine the need of interventions in the whole population. 11. When costs of interventions are known, the individualized cost-effectiveness (cost/PTB) of interventions can be used as a basis of coverage decisions and resource allocation in planning care provision for the population. **Results:** Structured SOF tables from Cochrane Reviews and recommendations in the form of CDS rules enable evidence-based personalized care for individuals and for populations. The implications for authoring of SOF tables are discussed. **Conclusions:** SDM, personalized medicine and population health can be combined by using SOF tables and CDS tools.

Table 1. Example of the calculation of potential to benefit (PTB) for one patient. In this format the table can be used for prioritization of interventions in the situation where no intervention has yet been selected to be implemented. If the same outcome (in this example death) can be influenced by two or more interventions, the ARR obtained from the second intervention is not any more as large after the first intervention has been implemented, because the first intervention will reduce the baseline risk (BR). The total potential to benefit (the sum of PTBs of different interventions, which is 3.16 in the table) would be smaller for a patient who has already stopped smoking, because the baseline risk would be reduced.

Diagnosis	Intervention	Outcome	Impor-tance (IO)	RRR (and time unit if applicable)	BR and time unit	ARR	NNT	PTB
Coronary disease	Smoking cessation counseling	Death	9	0.1	0.3/10 y	0.03	33	0.27
Coronary disease	Statin	Death	9	0.18	0.3/10 y	0.054	19	0.49
Knee osteoarthritis	Arthroplasty	Pain VAS < 4	5	0.6	0.8/1 y	0.48	2	2.4
Total								3.16

Long Oral Session 10 SR workflow tools and data linking

Data Abstraction Assistant (DAA): a new open-access tool being developed and tested in a randomized controlled trial

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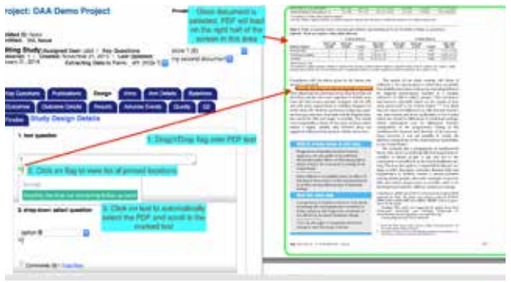
Background: Data abstraction, a critical systematic review step, is time-consuming and has been shown to be prone to errors. Software that can streamline and automate some aspects of the process might be useful. **Objective:** To develop an open-access tool, Data Abstraction Assistant (DAA), to help data abstractors locate and mark sources of information in articles during data abstraction. **Methods and Results:** Developers at Brown University (JJ, BS and CS) developed DAA using 'Ruby on Rails'. DAA takes advantage of several 'gems', reusable modular pieces of code to accomplish its task. DAA can be used with data systems such as Systematic Review Data Repository (SRDR). Abstractors can build a 'Document Store' by loading PDFs in DAA. Then, the abstractor can log into SRDR, and open any PDF from her/his Document Store. Multiple PDFs can be associated with the same form. The abstractor can view a PDF and the form simultaneously in a split screen (Figure; live demonstration possible). The abstractor also can switch between PDFs saved in the Document Store. The abstractor can flag any text/figure/table/box in the PDF to pin the location where relevant information resides, and can drag and drop text from a PDF into a text field in SRDR. Once the first abstractor completes data abstraction, a second abstractor can click on those flags, which navigates directly to the location where the pins are dropped, thus facilitating data adjudication. In March 2016, we began enrollment for a randomized cross-over trial to evaluate the comparative accuracy and efficiency of DAA-facilitated single data abstraction plus verification, traditional single data abstraction plus verification, and traditional dual independent data abstraction. The expected sample size is 24 pairs of abstractors, who will be randomized to abstract data from six articles, two under each approach. The Patient-Centered Outcomes Research Institute in the USA funds the DAA development and the trial (PI: TL).

Conclusions: We have developed DAA as a software tool to help improve the efficiency of data abstraction without comprising accuracy. We are conducting a randomized trial to empirically evaluate DAA.

Figure – Screenshot of a split screen showing an example data abstraction form in SRDR and an example study article in DAA. Flagged text in DAA is highlighted in yellow.



The digital and trustworthy evidence ecosystem: eHealth solutions for increased value and reduce waste in health care

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Background: Major advances in standards, systems and technological platforms for evidence synthesis and guideline production and dissemination will reduce waste and increase value in medical research, filter information overload and result in better decisions at the point of care. **Objectives:** To create a trustworthy and digital evidence ecosystem with people - doing primary research, systematic reviews, guidelines, computerized decision support systems and quality improvement - and innovative technological platforms interacting to create, disseminate and implement trustworthy research evidence in clinical practice. **Methods:** We have developed a conceptual framework for the Ecosystem based on a PICO (population, intervention, comparator, outcome) linked data-model for shared health data developed in collaboration with Cochrane and others, in adherence with updated and internationally accepted standards and systems for trustworthiness (GRADE). This data-model is implemented in a web-based authoring and publication platform (MAGICapp) to create, disseminate and update evidence summaries, decision aids and recommendations dynamically. We have integrated MAGICapp with other platforms (e.g. Covidence for systematic reviews) and will integrate with evidence feeds based on controlled terminology sets. We have included partners in Norway, Belgium and Finland ready to implement and evaluate the effects of the Ecosystem services and tools on patient-important outcomes and quality of care. **Results:** During this first project phase we have demonstrated success of our conceptual framework and integration of web-based technological platforms with digitally structured data, such as Covidence, Epistemonikos, RevMan Online and EBMeDS for decision support systems in the electronic health records. We will present our plans for implementation across three participating countries. **Conclusions:** The evidence ecosystem will, with Cochrane being a key partner, allow new and practice-changing evidence to result in documented improved care and reduced waste of resources by linking people, digitally structured data and emerging platforms at each step of development.

Cochrane Crowd: using citizen science to meet the challenge of information overload in evidence production

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On behalf of the Project Transform team

Background: Within Cochrane, we struggle to provide contributors with meaningful ways to get involved that suits both the organization and the contributor. Additionally, at a time when research output is expanding exponentially, citizen science, the process of engaging willing volunteers in scientific research activities, has an important role to play in helping to mange the information overload. **Objectives:** Cochrane Crowd, a part of Cochrane's Project Transform, is helping to solve these problems by offering contributors micro-tasks aimed at identifying and describing trials. **Methods:** Building on the work of Cochrane's Embase project, whereby over 2000 contributors helped to identify over 20,000 reports of randomized trials from Embase with excellent accuracy, we have developed a new micro-tasking platform called Cochrane Crowd: http://crowd.cochrane.org. The platform enables contributors to dive into needed tasks that help us capture and describe the evidence. **Results:** Cochrane Crowd was launched in February 2016. Initially opened to early adopters, in April 2016 it was opened up to anyone keen to contribute. Contributors can work offline, work on records in areas of interest to them, monitor their own performance and unlock new tasks as they progress. We will present data on the following: 1. Platform usage; 2. Experience of new contributors; 3. Crowd performance a. Quantity of tasks completed b. Accuracy of tasks completed **Conclusions:** This model of contribution is becoming an established part of Cochrane's effort to manage the deluge of information being produced in a way that offers willing contributors a way to get involved, learn, and play a crucial role in evidence curation.

Cochrane PICO ontology and linked data

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Background: Answering complex biomedical questions is possible if the knowledge encoded in documents is well identified and represented in a way so that machines can process it and find implicit relations across documents and over the larger Web of Data (WoD). Ontologies enable information to be inferred and entities identified; they make published information machine-processable and enable data interoperability. **Objectives:** We want to: 1. build our vocabulary; 2. define a participatory methodology for maintaining and developing the ontology; 3. set up the collaborative software infrastructure supporting the methodology; and, 4. establish the governance structure. **Methods:** We are adapting previously proposed methodologies. We have analysed topic lists from Cochrane groups, examined our corpus against existing biomedical ontologies, defined use cases, identified terminologies that represent our corpus, and brought them together into a single vocabulary. We are studying various ontology governance structures, we are also evaluating tools to facilitate the participation of a decentralized community, e.g. Cochrane Information Specialists, in the evolution and governance of the ontology. **Results:** The first version of our ontology makes it possible to identify and instantiate the PICO (population, intervention, comparison and outcomes) model. Our ontology brings together terms, metadata and properties from SNOMED, ATC, RxNorm and MedDRA. We have many thousands of terms properties and instances. Also, we have used our ontology for annotating approximately 300 documents. **Conclusions:** Developing ontologies in the biomedical domain is a multidisciplinary-participatory exercise. Although there are various efforts building and maintaining ontologies in a collaborative decentralized fashion, tools and methodologies are not yet fully mature as to be readily applicable to various scenarios.

Representing knowledge in Evidence Based Medicine is an emerging field, one in which Cochrane is playing a leading role.

Long Oral Session 11 Prioritization and research waste

What do funders do to minimize waste in research?

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Background: Previous research has shown that more needs to be done to increase value and reduce waste in biomedical research. This paper focuses on research funders because they can require changes to research proposals to reduce waste. **Objectives:** We explored: 1. how funders monitor and take steps to reduce waste in the research they support, including whether systematic reviews are used to inform future research; and 2. how they support methodological research (research on research). **Methods:** We selected 11 national research funding agencies with a mixture of wide and more focused agendas. These included funders in the UK, Australia, Canada, Germany, France, the Netherlands, Denmark and Norway. We searched for information on the agencies' websites in 2015 and contacted the agencies to verify the information we had obtained. **Results:** All funders except one (Danish funder) responded to our requests. The English National Institute for Health Research (NIHR) is the only research funding agency that requires applicants seeking funds for new primary research to refer to systematic reviews of existing research, making it clear why additional research is justified. Four funders require systematic reviews to show that new clinical trials are needed. A minority of funding agencies (6/11) require that full reports of the research they fund should be published. All funding agencies require registration of clinical trials before recruitment of patients. NIHR also requires registration of other study types, for

example, systematic reviews in the PROSPERO database. **Conclusions:** Our survey shows that information on processes used by research funding agencies to reduce waste and support methodological research and research infrastructure is generally not transparent or readily available, and that monitoring and management of waste has not yet been studied and addressed. Better governance processes, evaluation and monitoring mechanisms are required.

Now what? After a systematic review priority setting exercise: the Cochrane Consumers and Communication experience

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Background: Cochrane has explicit goals and targets involving the identification, production and publication of priority reviews. Not only should Cochrane groups engage in formal consultations to identify relevant and important questions for Cochrane Reviews, but the subsequent production and updating of these reviews must also be prioritized. Cochrane also has broader goals around advocating for evidence, making our evidence accessible and timely, and engaging with, and involving our stakeholders. These have far-reaching implications for Cochrane Groups once priority topics have been identified. In 2015/16 Cochrane Consumers and Communication (CCC) undertook a comprehensive priority setting project, resulting in five priority topics. Our experience of producing priority reviews: The production of priority reviews requires clear guidance to inform what a priority review will mean for authors and the editorial team. Our priority authors are strongly encouraged to co-create their reviews and dissemination plans with consumers and relevant others, and pursue strategic partnerships with policy makers. We will provide a high level of support to priority teams, including methods support, along with resources/advice about consumer involvement, and assistance planning knowledge translation activities. We are currently exploring how to structure and support a fast track editorial process and preparing an updating policy (including the feasibility of living reviews). Further work is planned, exploring how to respond to priorities best answered by review types (i.e. implementation reviews) or data sources (i.e. patient experience surveys) that are currently outside Cochrane's remit. **Conclusions:** The production of priority Cochrane Reviews requires Cochrane to revisit the way in which it engages with author teams and relevant stakeholders, and its editorial processes. Our experience suggests Review Groups may need to operate in different ways, and seek more active engagement with stakeholders throughout the evidence to practice pipeline to ensure these relevant and important topics translate into improvements in health.

Promotion and prioritization: Cochrane Tobacco Addiction Group's 20th anniversary project

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Background: The Cochrane Tobacco Addiction Group (CTAG) was founded in 1996. To mark our 20th anniversary, we are conducting a promotion and prioritization project (CTAG taps) funded by the National Institute for Health Research (NIHR) School for Primary Care Research. **Objectives:** To: 1. raise awareness of CTAG, and achievements so far; 2. identify areas where further research is needed in tobacco control from a wide, stakeholder perspective; 3. identify CTAG-specific research goals from a stakeholder perspective; 4. raise awareness of these goals. **Methods:** The project has a structured plan to establish priorities influenced by the approach of the James Lind Alliance. The first step is a two-phase online survey. The first phase was sent out to CTAG stakeholders, including healthcare workers, researchers and the public, asking for the questions they would still like to see answered by tobacco control research. This information (~700 questions from 300 participants) was collated and sent out to the same participants to be ranked. The end product will be a list of the most important questions that tobacco research needs to address. This will be disseminated widely via publication in an academic journal, social media and conferences. The final step in the prioritisation process will be a workshop (June 2016) led by independent facilitators, where stakeholders will be presented with the survey findings and discuss these in the context of CTAG specifically. The outcome will be a list of areas CTAG specifically needs to focus on and ways we may do this - i.e. new reviews, updates or changes to existing reviews. The aims and priorities of CTAG beyond 2016 will be disseminated to our author pool, other researchers and healthcare workers who may be interested in getting involved with our work or using it to inform other research and clinical practice. In addition, a key goal of the project is to promote CTAG's anniversary throughout the year. We have been doing this through social media such as blog posts and Twitter, as well as other methods. Focus: This talk will outline the methods of the CTAG taps project, progress, lessons learnt and findings so far.

Is further research really needed? Evidence from published comparative effectiveness reviews

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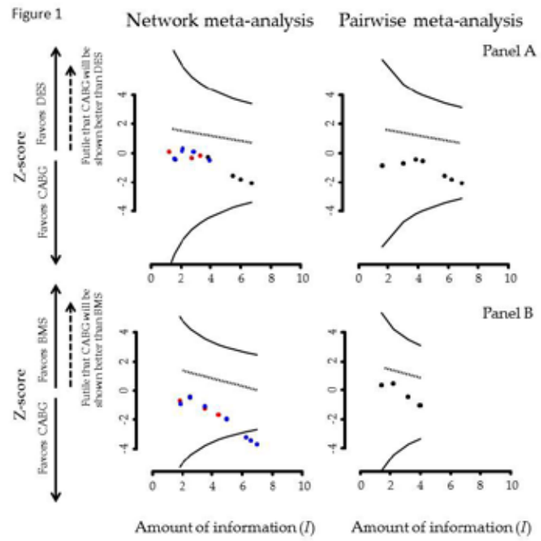
Background: Cochrane is moving towards prioritizing updates of systematic reviews based on the needs of healthcare and health policy decision makers. Despite the increasing interest in determining when and how to update systematic reviews, there is still no consensus on the appropriate methodology to be applied. Formal sequential methods have been developed for pairwise and network meta-analysis (NMA) to adjust for the type I error, which is inflated in a continuously updated, prospective cumulative meta-analysis. **Objectives:** We aim to examine to what extent published reviews provide strong evidence and firm conclusions upon treatment comparisons of interest and whether NMA achieves conclusiveness earlier than pairwise meta-analysis. **Methods:** We applied recently developed sequential NMA methodology to 30 recently published NMAs that compared pharmacological or surgical interventions. In each network, we focussed on a single treatment comparison, the choice of which was based on their importance with respect to guideline development and conclusions from official bodies. We evaluated the conclusiveness of the selected comparisons in the included networks using both direct and NMA sequential methodology and considered stopping both for efficacy and futility. **Results:** Most systematic reviews are inconclusive for the treatment comparison of interest, using either pairwise meta-analysis or NMA; such a situation is illustrated in panel A of Fig 1. Network effects yield more precise results and in certain cases, for instance in panel B of Fig 1, formal decisions of stopping would have been made using NMA, while direct evidence would remain inconclusive. The number of cases of conclusiveness achieved using indirect evidence and the hazard ratio for conclusiveness between direct and network evidence will be presented. **Conclusions:** Wasted research can be reduced significantly with the adoption of living cumulative NMAs, updated as new research becomes available. The use of sequential methods in such reviews may contribute to preventing the allocation of participants to treatments that have proved to be inferior.

Figure 1



Long Oral Session 12
Network and IPD meta analysis

Dealing with missing data in an individual participant data meta-analysis: one-¬stage versus two¬-stage methods

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Background: Individual participant data meta-analysis (IPD¬MA) is considered to be the gold standard in epidemiologic research. When IPD¬MA are affected by missing data, several strategies exist to obtain summary statistics. **Objectives:** To compare the possible strategies for conducting IPDMA in the presence of missing data. **Methods:** We first conducted a simulation study to compare various strategies for meta-analyzing study results (through one-stage or two-stage meta-analysis)

and dealing with missing values (through complete case analysis, within-study imputation, stratified imputation or hierarchical imputation). By doing this we evaluated the bias and coverage of pooled study results, as well as the bias of estimated between-study heterogeneity. We then illustrated the implementation of each strategy in an empirical example where we meta-analysed the predictive value of C-reactive protein in diagnosing community acquired pneumonia. Finally, we provide recommendations on the implementation of imputation and meta-analysis models in an IPDMA. **Results:** We found that stratified imputation was most problematic in terms of bias and coverage. Although complete case analysis and within-study imputation performed adequately, the best results were obtained by hierarchical imputation. When summarizing the study results, one-stage and two-stage meta-analysis methods performed roughly the same. Finally, we found that recent recommendations on the order of combining imputed datasets in a two-stage IPDMA were detrimental, and that the reverse ordering was more appropriate. **Conclusions:** We recommend hierarchical imputation followed by one-stage meta-analysis in an IPDMA with missing data, rather than analysing each dataset separately or including dummy variables to adjust for potential between-study heterogeneity. Two-stage meta-analysis with within-study imputation is a viable alternative when sharing of IPD is difficult, e.g. due to confidentiality agreements. Each of the imputed datasets should first be meta-analysed, and the resulting estimates should then be combined using Rubin's rule.

Network meta-analysis of complex interventions with high-dimensionality component schemes

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Background and objective: Methodological work on network meta-analysis in complex interventions has highlighted the ability of this method to examine the effectiveness of individual intervention components, as well as interactions with other components to estimate additive and multiplicative effects. However, intervention components rarely exist in isolation, and variables, including interactions, derived from an exhaustive component scheme may well exceed the number of variables appropriate for a meta-regression. Using insights from latent class modelling with distal outcomes, we combined latent class models with network meta-analysis to examine how empirically derived component classes (EDCCs) could be used to estimate the relative effectiveness of interventions. **Methods and results:** We systematically reviewed social learning theory-based parenting interventions for child conduct disorders and located 195 eligible trials. Two expert researchers in the field developed an exhaustive component scheme, and applied it with a third systematic reviewer against all trials. To develop the EDCCs, we estimated a latent class model for components in each trial arm using robust standard errors to account for non-independence of observations, and chose the best-fitting model as judged by scaled relative entropy. We subsequently took 20 draws from the probability distribution of the latent class for each arm. We entered each draw into a network meta-analysis model, and combined findings from each model using Rubin's rules. We then bootstrapped the combined estimates to rank the EDCCs using the surface under the cumulative ranking curve method. **Discussion:** We brought together two types of methods, latent class modelling and network meta-analysis, to examine how EDCCs are associated with differential intervention effectiveness. EDCCs account for the potential interactions between components in those classes, and provide an alternative approach to theoretically-derived intervention classes. Moreover, using EDCCs overcomes the 'small-n' problem in high-dimensionality component schemes and offers information on 'best bet' combinations of components.

Network meta-analysis using individual participant data: when do benefits arise?

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Background: Network meta-analysis (NMA) is a common approach for summarizing relative treatment effects from randomized trials with different treatment comparisons. Most NMAs are based on published aggregate data (AD) and have limited possibilities for investigation of the extent of network consistency and between-study heterogeneity. **Objectives:** Given that individual participant data (IPD) is considered to be the gold standard in evidence synthesis, we explored statistical methods for IPD-NMA and investigated their potential advantages and limitations compared to AD-NMA. We discuss several one-stage random-effects NMA models that account for within-trial imbalances, treatment effect modifiers, missing response data and longitudinal responses. We illustrate all models in a case study of 18 antidepressant trials with a continuous endpoint (the Hamilton Depression score). All trials suffered from drop-out, and missingness of longitudinal responses ranged from 21% to 41% after a six-week follow-up. **Results:** Our results indicate that NMAs based on IPD may lead to increased precision of estimated treatment effects. Furthermore, it can help to improve network consistency and explain between-study heterogeneity by adjusting for participant-level effect modifiers and adopting more advanced models for dealing with missing response data. **Conclusions:** We conclude that implementation of IPD-NMA should be considered when trials are affected by substantial drop-out, and when treatment effects are potentially influenced by participant-level covariates.

Relationship between collected and published outcomes: a case of IPD meta-analysis on the effect of diet and lifestyle in pregnancy

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Background: Systematic reviews and meta-analyses of randomized controlled trials (RCTs) are as strong as the quality of the included studies. Study quality can be impaired in numerous ways. The data might not be available, as the trial results were never published (publication bias). Reports from identified trials might present an incomplete information or provide it in a format not useful for meta-analysis (reporting bias). Access to individual participant data (IPD) might not be a panacea to all the problems in the meta-analysis. Nevertheless, meta-analysis using IPD has the potential to reduce the bias due to selective or incomplete outcome reporting considerably. **Objectives:** For the IPD meta-analysis on the effect of diet and physical activity-based interventions in pregnancy (i-WIP), we gained access to IPD from 36 RCTs. The aim of our work was to investigate the relationship between the outcome data published in the trials' report and the data contributed to the i-WIP IPD meta-analysis. **Methods:** We evaluated the availability of information for the main outcomes for the i-WIP IPD meta-analysis. In our work, we focused on the reporting of nine outcomes (five maternal and four fetal/neonatal) and compared it with the data available in the datasets from the relevant trial. The amount of information between two sources was compared formally. Result and discussion: Access to IPD allows a reduction in bias arising from limited outcome reporting in the aggregate meta-analysis. We will provide a detailed description of our findings and their consequences based on experience in the i-WIP IPD meta-analysis.

Long Oral Session 13 GRADE guidance (missing data, SOFs, NMAs)

GRADE guidance for assessing risk of bias associated with missing participant outcome data in meta-analysis

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Background: Detailed guidance for assessing the risk of bias associated with missing participant outcome data in meta-analyses has, until recently, been very limited. Available guidance has been available only at the individual study level and not at the body of evidence level. Objective: To present recently approved GRADE (Grading of Recommendations, Assessment, Development and Evaluation) guidance for assessing the risk of bias associated with missing data at the meta-analysis level. **Methods:** Systematic survey of existing methodological research, iterative discussions among the investigators, testing in systematic reviews, and feedback from the GRADE Working Group. **Results:** Approaches begin with a primary meta-analysis using a complete case analysis (i.e. excluding those with missing data) followed by sensitivity meta-analyses imputing, in each study, data for those with missing data, and then pooling across studies. For binary outcomes we suggest use of 'plausible worst case' in which review authors assume that those with missing data in treatment arms have proportionally higher event rates than those

followed successfully. For continuous outcomes, imputed mean values come from other studies within the systematic review, and the standard deviation from the median standard deviations of the control arms of all studies. For meta-analyses in which investigators have used different instruments to address the same construct, our approach involves choosing a reference measurement instrument and converting scores from different instruments to the units of the reference instrument. For all approaches, if the results of the primary meta-analysis are robust to the most extreme assumptions viewed as plausible, one does not rate down quality of evidence for risk of bias due to missing participant outcome data. If the results are not robust to plausible assumptions, one would rate down quality for risk of bias. **Conclusions:** This GRADE guidance provides structured and transparent methods for establishing the extent to which missing participant outcome data impacts risk of bias in meta-analyses of randomized trials for both binary and continuous outcomes.

GRADE guidance for addressing the risk of bias associated with missing participant outcome data in meta-analysis: a practical application

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Background: GRADE (Grading of Recommendations, Assessment, Development and Evaluations) recently approved guidance for addressing the risk of bias associated with missing participant outcome data in meta-analyses. Thus far, however, application to examples has been limited. **Methods:** We applied GRADE guidance to six systematic reviews published by our team and also re-assessed the risk of bias in six systematic reviews published by others; reviews included both dichotomous and continuous outcomes. The examples challenge the robustness of findings of statistically significant benefit; failure to establish benefit; statistically significant harm; and failure to establish statistically significant harm. We began with a primary meta-analysis using a complete case analysis, followed by sensitivity meta-analyses imputing, in each primary study, results for those with missing data. We then pooled across studies using the imputed data to determine the impact on the point of estimate and confidence interval. We applied progressively more stringent imputations. **Results:** We found some examples robust to even the most stringent imputations (in which case we would not rate down for risk of bias); situations in which statistical significance was lost (if present), or observed (if absent), only for the most stringent assumptions (in which case one would rate down for risk of bias if one considered these stringent assumptions plausible); and situations in which statistical significance was lost if present, or observed if absent, in even less stringent imputations (in which case one would surely rate down for risk of bias). We observed instances in which application of our approach would lead to a decision to rate down for risk of bias when authors of the original systematic review concluded that missing data did not pose an important risk of bias problem. **Conclusion:** This practical application of GRADE guidance documents the importance of the formal, structured evaluation of risk of bias due to missing data at the level of the meta-analysis.

Developing summary of findings tables in network meta-analysis: a user testing study

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Background: When multiple interventions have been used and compared for the same disease and outcomes, network meta-analysis (NMA) uses direct and indirect comparisons to provide an estimate of their relative effectiveness. The optimal presentation and interpretation of NMA results for users remains uncertain. **Objectives:** To develop NMA-'Summary of findings' (SoF) tables that display key aspects of NMA results. **Methods:** Through brainstorming and pilot testing, we have developed a format for NMA-SoF tables and are currently evaluating them through formal user-testing methodology. We are currently conducting the first of up to three rounds of interviews. One round consists of ten interviews, each with a user who is presented with the NMA-SoF table. A user was defined as someone who had used a meta-analysis or NMA at least once in the previous year to answer research or clinical questions related to patient health care. Users were recruited through networks linked to the GRADE Working Group by email. After each round, the NMA-SoF table will be modified based on data provided by the users. A refined version of the NMA-SoF table will be presented to a new set of users in a subsequent round. Fewer than three rounds may be necessary if all participants find a particular format or formats fully informative and appealing. **Results:** At the end of this study, we expect to have one or more formats of NMA-SoF table that summarize the NMA results which users find informative and usable. **Conclusions:** Effective presentation can increase the usability and help health professionals make better-informed decisions. Our work aims to meet an urgent need for optimal formats for NMA-SoFs.

Improvements in the GRADE approach to network meta-analysis

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Background: Rating the certainty (synonyms: quality, confidence) in evidence associated with the network estimate of each paired comparison within a network meta-analyses (NMA) presents challenges. The GRADE Working Group has addressed the issue, but when there are a large number of candidate therapies the approach can be onerous. A GRADE working group is now proposing refinements to the GRADE method that increase efficiency of its application. **Objectives:** To illustrate proposed refinements in GRADE's approach to rating certainty of evidence in an NMA. **Methods:** Refinement through discussion and iterative testing with application to a NMA of antidepressants. **Results:** As initially proposed, the approach involves four steps: 1. Present direct and indirect treatment estimates for each paired comparison. 2. Rate the certainty of each direct and indirect estimate. 3. Present the NMA estimate for each comparison. 4. Rate the certainty of each NMA estimate. A new insight is that one need not rate direct or indirect estimates using conventional GRADE guidance, but should rather assess aspects of direct comparisons to inform the certainty of the network estimates. What follows is that the judgment regarding precision is based only on the network estimate, and review of the head-to-head trials that inform direct and indirect comparisons need consider only the other four domains (risk of bias, inconsistency, indirectness, publication bias). Thus, the repeated assessment of precision previously suggested is no longer necessary, streamlining the rating process. Another insight enhancing efficiency follows from the guidance that certainty of the network estimate is based on the direct or indirect estimate in which one is more certain. Therefore, if one has a direct comparison in which one has not rated down for any of the four relevant domains, one need not consider the indirect estimate. **Conclusions:** Informed decision-making requires rating certainty in individual network estimates. When there are a large number of candidate therapies, the process can be onerous. New insights and associated guidance can streamline GRADE certainty in evidence ratings.

Short Oral Session 1
Quality of reporting

Comparison of conference abstracts and full-text articles of randomized controlled trials in the field of pain: reporting quality and agreement in results

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Background: According to current standards, systematic reviews should search for unpublished studies, i.e. grey literature. There is debate, however, about whether studies available only as conference abstracts ('abstracts') should be included at all in systematic reviews because it may be difficult to assess risk of bias and extract data accurately from the limited information available in abstracts. Additionally, discrepancies between conference abstracts and full publications of abstracts of the same randomized controlled trials (RCT) have been documented in various research fields. **Objectives:** 1) to quantify agreement between results of primary outcomes of RCTs reported in abstracts presented at the four most recent World Congresses on Pain (WCP) and their corresponding full publications; and 2) to use the CONSORT (Consolidated Standards of Reporting Trials) for Abstracts checklist to examine the completeness of reporting in those abstracts. **Methods:** Single screening with verification was conducted for all abstracts to determine which abstracts describe RCTs. Two independent authors identified corresponding full-text reports through October 2015 by electronic searches in PubMed, Google Scholar, and Embase, as well as by emailing authors. Data about the primary outcomes will be extracted from each abstract and full publication, including the outcome domains measured and numerical results reported. We will categorize any discordance (disagreement) between the primary outcome's results in the abstract and its corresponding publication as qualitative (difference in direction of effect estimate) or quantitative (no difference in direction of effect estimate). Two authors independently will evaluate all abstracts against all 17 recommended checklist items in CONSORT for Abstracts. All discrepancies will be resolved by consensus or, if necessary, discussion with a third author. **Results and conclusions:** As far as we know, this is the first analysis examining agreement in conference abstracts and full publications describing RCTs addressing pain. We will present our detailed results at the Colloquium.

Reporting of clinical prediction model studies in journal and conference abstracts: TRIPOD for Abstracts

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Background: Informative titles and abstracts are important for the identification of potentially relevant studies and communication of research results. Many readers and reviewers base their decision to read the full text of a publication on clarity and detail presented in the title and abstract. Clear and informative reporting in title and abstract is therefore essential. The TRIPOD Statement, published in 2015, is a guideline for Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis. TRIPOD provides general recommendations for the reporting of title and abstracts, however, more detailed guidance is desirable. **Objectives:** To develop specific guidance for informative reporting of diagnostic or prognostic prediction model studies in both journal and conference abstracts. **Methods:** We conducted a literature review on the reporting of prediction model studies and established a list of potentially relevant items to report in abstracts. This list served as the basis for a modified Delphi procedure. In the first round a panel of 110 experts in the field of prediction modelling studies were asked to rate to what extent each candidate item is essential. A maximum of two Delphi rounds will be carried out to reach consensus on whether to include an item and to provide insight into potential wording. **Results:** Preliminary analyses from our literature review showed that objectives, setting, participants, sample size, outcome and conclusions were reported in over 75% of 134 abstracts. Candidate predictors, internal validation technique and results for calibration were addressed in fewer than 25% of abstracts. The modified Delphi procedure is currently being carried out. We will present the results of this procedure and the guidance resulting from it. **Conclusions:** We present the development of a specific checklist and corresponding guidance for the reporting of diagnostic or prognostic prediction model studies in both journal and conference abstracts: TRIPOD for Abstracts. The guidance will be applicable to abstracts of publications that describe development or external validation of a prediction model.

Are reporting and methodological quality of systematic reviews from China lower than those from USA? A meta-epidemiological study

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Background: Cochrane and evidence-based health programmes have successfully promoted the production of systematic reviews (SRs) globally. In particular, the number of published SRs from China has increased exponentially, and there are concerns about their methodological quality. **Objectives:** To compare the quality of SRs of randomized controlled trials (RCTs) between China and the USA. **Methods:** We searched PubMed and randomly selected 100 SRs from China and 100 SRs from the USA, according to the following eligibility criteria: they included only RCTs, were published in 2014 in English, and had a corresponding author with affiliations in China or in the USA. PRISMA and the AMSTAR tool were used to assess the reporting and methodological quality of the included SRs. We conducted ordered logistic regression analyses to compare the reporting and methodological quality of SRs between China and USA after adjusting for multiple review characteristics. **Results:** Compared with SRs from the USA, SRs from China were more likely to contain a meta-analysis (97% vs 77%), more likely to be published in journals with lower impact factors (median 2.664 vs 3.711), less likely to be a Cochrane Review (8% vs 26%), and less likely to involve co-authors from other countries (12% vs 98%). There were considerable differences between China and the USA in reporting and methodological quality with respect to specific quality items. However, the reporting and methodological quality of SRs from China were not consistently lower or higher than those from the USA for all quality items. After adjusting for multiple review characteristics, neither country (China or USA) was statistically significantly associated with the summary PRISMA score (P = 0.075) or summary AMSTAR score (P = 0.779). **Conclusions:** The overall quality of SRs of RCTs from China published in English were similar to those from the USA, although the quality of SRs from both countries could be improved further. Adequate systematic reviewing capacity is important for evidence-based clinical practice, health policy, and primary research in China as well as in other low- and middle-income countries.

Quality and quantity of cancer-related systematic reviews published in high-impact journals

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Background: Systematic reviews (SRs) play a critical role in guiding evidence-based clinical practice including the management of patients suffering from cancer. Cochrane is recognized for its contributions to the development of SR methodology and its dissemination, which has contributed to publication of SRs in many other journals. **Objectives:** To assess the scope and quality of SRs published in high-impact medical journals. **Methods:** Following a written a priori protocol we performed a comprehensive search for SRs in PubMed published in high-impact general medical journals (e.g. NEJM, Lancet, BMJ etc.) and leading cancer journals (e.g. JNCI, JCO, Lancet Oncology etc.) over a five-year period (2011-2016). Two review authors performed all steps of the review independently in duplicate. We used AMSTAR (A Measurement Tool to Assess Systematic Reviews) to assess methodological quality of the SRs. **Results:** We identified 221 SRs that met our inclusion criteria: most of these were intervention reviews, 36 SRs without meta-analysis (MA), 41 including individual patient data, 15 evaluating prognostic factors or models, seven assessing diagnostic test accuracy, six network meta-analyses and one overview of reviews. Sixty-nine intervention reviews with MA were based on randomized controlled trials (RCTs), 93 on observational data. Rating of SRs with a MA based on RCTs shows that the most reported topic is cancer in general, especially adverse events of drugs. The average number of RCTs was 24 and the average number of participants 8411. Quality indicating items such as the number of abstractors and databases used are often satisfactory, whereas serious lacks occur in fields like a priori design (20%) and assessment of publication bias (46%). The quality of included studies is rarely evaluated in sensitivity analyses (29%). **Conclusions:** A growing number of cancer-related reviews are published in high impact journals. These are of variable quality, with notable shortcoming in the area of a priori design, evaluation

of publication bias and integration of quality aspects in analyses. There continues to be an need to raise the quality of cancer SRs.

Whether prospective registration can improve the overall reporting and methodological quality of systematic reviews: a comparative meta-epidemiological study

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Background: A key feature of high-quality systematic reviews (SRs) is the development of a protocol that sets out the main objectives, key design features and planned analyses for the review. A protocol written in advance can avoiding bias in the conduct and reporting of SRs. A large number of prospectively registered SRs have been published. It is not known yet whether the overall reporting and methodological quality of prospectively registered SRs is better than that of unregistered SRs. **Objective:** To compare the quality of registered and not-registered SRs. **Methods:** One reviewer searched PubMed to identify SRs/meta-analysis published in 2015 in English. Two reviewers independently selected full-text to identify eligible SRs and then divided them into a registered group and not-registered group. Registered SRs were defined as having a protocol in advanced of the review, whether a registration number was available or not. For each group, eligible SRs were randomly ordered, and the first 100 reviews were selected. If a selected SR was not eligible, a successive record was used to replace it until the total number of included SRs was 100 for each of the two groups. Data extracted from SRs included general characteristics, reporting of literature search, selective reporting bias, reporting quality based on the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement, and methodological quality based on the AMSTAR (A MeaSurement Tool to Assess systematic Reviews) checklist. The main characteristics and quality of registered SRs versus not-registered SRs were tabulated. The summary PRISMA and AMSTAR scores were ranked by quartiles for analysis. Ordered logistic regression analyses were conducted to compare the reporting and methodological quality of SRs between the registration and no registration groups after adjusting for multiple review characteristics. SPSS version 21.0 was used for statistical analyses. **Results and conclusion:** This study is ongoing and available results will be presented at the Colloquium.

Comparison of clinical practice guidelines between western medicine and traditional Chinese medicine on 18 diseases in China: an evidence-based literature review

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Background: Western medicine (WM) and traditional Chinese medicine (TCM) are established healthcare systems in China, and during the past decades, clinical practice guidelines (CPGs) have been developed in both TCM and WM. Previous study has showed that 12% (74/604) of WM CPGs recommended TCM therapies. **Objectives:** To understand how TCM recommendations for 18 diseases in the WM and TCM CPGs are evidence-based. **Methods:** From our previous study, we identified 18 diseases with both WM guidelines and TCM guidelines. We extracted relevant data from the guidelines, and searched four Chinese databases, PubMed, and the Cochrane Library from their inception till April 2014, to identify systematic reviews and randomized trials on TCM therapies for the 18 diseases. We then compared the references to support TCM recommendations in the guidelines with the best available evidence. **Results:** A total of 17 WM CPGs that had TCM recommendations were published from 2004 to 2014, while TCM CPGs were issued between 2008 and 2012 (Table 1). Chinese herbal medicine (oral decoction, Chinese proprietary medicine or external application), acupuncture, moxibustion, tuina and massage were recommended in both WM and TCM CPGs. Cupping, scrapping, acupoint injection, qigong were recommended in only WM CPGs. Only one TCM CPG provided supporting evidence with references when giving recommendations, but did not provide evidence gradings or a recommendation of strength. Ten out of 18 TCM CPGs provided literature evidence, amongst which nine adopted an evidence grading standard, and one used the Delphi process to establish a grading standard. By searching electronic databases, we identified a total of 4228 publications (including 336 systematic reviews and 3892 randomized trials) on TCM therapy for the 18 diseases that were largely ignored in the both WM and TCM CPGs (Figure 1). **Conclusions:** Substantial clinical evidence is not fully reflected in guidelines for TCM recommendations, especially in the case of WM guidelines in China. We suggest the development of CPGs based on systematic collection and synthesis of current best evidence for the target diseases.

Attachments: Table 1 Characteristics of traditional Chinese medicine and western medicine clinical practice guidelines for 18 diseases.pdf.

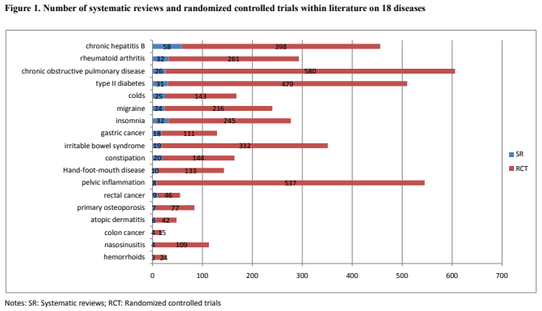

Figure 1. Number of systematic reviews and randomized controlled trials within literature on 18 diseases

Notes: SR: Systematic reviews; RCT: Randomized controlled trials

Reporting Items for Practice Guidelines in Healthcare (RIGHT)

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Background: The reporting quality of practice guidelines is often poor. There is no widely accepted guidance and there are no standards for the reporting of healthcare guidelines. **Objectives:** To develop essential reporting items for guidelines in health care to ensure the comprehensive and transparent reporting of such guidelines. **Methods:** Systematic reviews and a modified Delphi process were used to identify and select reporting items. **Results:** An international working group (the RIGHT working group) has been set up. We developed a checklist for guideline developers, as well as an explanation and elaboration document. The RIGHT statement is a checklist of 22 items that we consider essential for good reporting of practice guidelines (Table 1). These items encompass basic information (items 1-4), background (items 5-9), evidence (items 10-12), recommendations (items 13-15), independent reviews (items 16-17), funding and declaration of conflicts of interest (items 18-19), and other information (items 20-22). **Conclusions:** Clear, transparent, structured and sufficiently detailed guidelines are critical not only for guidelines developers but also for users. Failure to report important information about methods, conflicts of interest, context, and rationale, may lead to difficulty in evaluating, interpreting and implementing guidelines. We recommend that guideline developers and users support and endorse the standardization of guideline reporting.

Short Oral Session 2 Knowledge Translation

Use of i>clicker technology in workshops improves evidence-informed decision making (EIDM) knowledge

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Background: The National Collaborating Centre for Methods and Tools (NCCMT) has a mandate to support capacity development among public health professionals in Canada in evidence-informed practice. One mechanism used to achieve this mandate is interactive workshops. i>clicker technology was implemented as a strategy to increase audience participation, and assess knowledge and learning in real time (during workshop sessions). **Objectives:** To assess change in evidence-informed decision making (EIDM) knowledge among public health professionals using i>clicker technology. **Methods:** At five separate workshops, each workshop participant received an i>clicker device and was instructed to use the device to answer questions related to evidence-informed practice, posed throughout the session. Questions were asked pre- and post-delivery of the content within each workshop. Change in knowledge was assessed using Wilcoxon Signed-Ranks test and McNemar test. **Results:** Data from 106 participants were analyzed. Participants held a variety of positions (consultants, managers, front line service providers) and degrees (Bachelor's, Master's, doctorate). The majority of participants had worked in public health for 6+ years and reported poor to fair knowledge of evidence-informed practice at the time of the workshop. A statistically significant improvement in total score was observed via pre-post tests among participants ($P < 0.001$). Statistically significant increases within relative domains were found, specific to identifying scope of issue ($P < 0.001$) and search platforms ($P < 0.001$); appraising evidence ($P <$

0.001); interpreting statistical significance (odd ratios, risk ratios, confidence intervals, forest plots) (P < 0.05), and clinical significance (P < 0.001). Anecdotally, a number of participants reported that they liked using the i>clickers. **Conclusions:** Interactive workshops are one strategy to support capacity development among public health professionals. The integration of i>clicker technology not only promotes increased participation among attendees, but also allows for immediate assessment of changes in knowledge within the workshop setting.

What do clinicians understand and how do they interpret results from network meta-analysis and the way they are presented?

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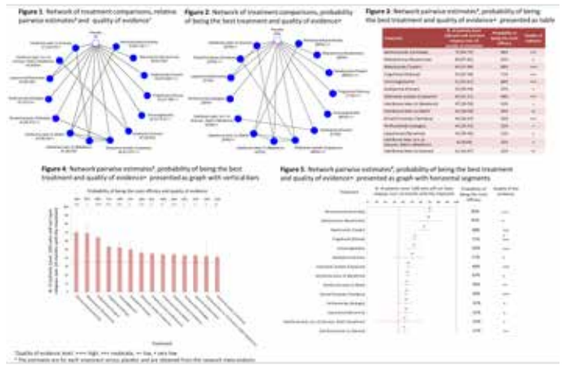
Background: Network meta-analysis (NMA) provides a summary of the evidence available in the literature about the efficacy and safety of health interventions. Since results from NMA are used by health professionals to make decisions, it is important that this method is properly understood and recognized by them. **Objectives:** To investigate how clinicians understand and interpret the results from NMA and the way they are presented. **Methods:** The assessment was carried out through an online national survey from October 2015 to January 2016 (www.statisticamedica.unimore.it/encore-ms/). The survey considered multiple sclerosis (MS) as the condition and involved neurologists as representatives of clinicians. The questionnaire was based on results and figures from a NMA on treatments for MS recently published on the Cochrane Library (Tramacere 2015 DOI: 10.1002/14651858.CD011381.pub2). **Results:** Forty-one neurologists participated in the survey and 22 completed it. Fifty-four per cent of responders considered the results from NMA useful. Among different ways of representing results (see the attachment), neurologists preferred the graph displaying the treatment effects by horizontal segments (36% of responders, Figure 5), followed by table (27%, Figure 3) and the graph with vertical bars (14%, Figure 4). Fourteen per cent of them would not use any type of representation presented. The type of representation mostly indicated by neurologists to be used to inform people with MS about available interventions and their efficacy was the graph with vertical bars (32% of responders, Figure 4) followed by the graph with horizontal segments (23%, Figure 5). **Conclusions:** Neurologists considered the outputs from NMA useful and important when deciding which treatment to use for MS. A different representation of results should be used for presenting them to patients.



Knowledge broker training: building capacity to use evidence

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Background: One approach to support evidence-informed decision making (EIDM) in public health is knowledge brokering. This 16-month program provided mentorship to teams of public health professionals from five public health departments in Ontario. **Objective:** To develop knowledge, skill and capacity for evidence-informed public health practice through a knowledge broker mentoring program. **Methods:** An initial 2.5 hour organizational needs assessment, to assess organizational capacity and readiness for EIDM, followed by the selection of knowledge broker candidates. Followed by a 16-month program, consisting of face-to-face workshops, monthly webinars, and monthly telephone and email support. Changes in EIDM knowledge and skills pre-post were assessed using a paired t-test (nonparametric test, Wilcoxon Signed Ranks Test). **Results:** Organizational priorities to support EIDM were identified for each organization and organizational strategies developed and implemented. Thirty public health professionals attended 10 face-to-face workshop days over a 12-month period, as well as 12 monthly webinars and monthly telephone/email contact. Based on paired data from 19 participants, a statistically significant increase in knowledge and skill was observed following the program (P < 0.017); specifically, statistically significant improvements were observed regarding interpretation of quantitative findings from single studies and meta-analyses. **Conclusions:** A 16-month mentoring program delivered by knowledge brokers shows promise as an effective strategy in supporting the development of knowledge and skills in EIDM among public health professionals. Ongoing evaluation of this strategy using rigorous research designs is recommended following this pilot program.

Use of systematic reviews when adapting guidelines

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Background: Adaptation of health practice guidelines to local settings is expected to improve their uptake and implementation. One challenge of adapting guidelines is to keep them efficient while ensuring they are evidence based. **Objective:** To showcase the advantage of published systematic reviews (SRs) to increase the efficiency of the process of adaptation of health practice guidelines. **Methods:** We are using the GRADE-Adolopment methodology to adapt the recently published American College of Rheumatology (ACR) Rheumatoid Arthritis (RA) guidelines to the Eastern Mediterranean region. The methodology builds on the advantages of adaptation, adoption, and de novo guideline development. We searched for published SRs on the topic of interest. Our next task was to select SRs that would contribute to evidence to support the guideline recommendations. **Results:** In the context of adapting the ACR RA guidelines, the following three characteristics of published SRs were important when evaluating their potential use: relevance, quality and 'up-to-date-ness'. First, we assess the relevance of identified SRs by matching their PICO to that of the guideline questions. The minimum requirement is for the population, intervention and control elements to match to a reasonable degree, i.e. not to have serious indirectness for more than one of the three elements. Then, we assess the quality of relevant SRs using the AGREE (Appraisal of Guidelines for Research and Evaluation) instrument. If we identify more than one SR, we prioritize the one with the highest quality. Finally, we assess the up-to-date-ness of the SR judged to be relevant and of highest quality; if it is not up to date, we proceed with updating it. At the Colloquium, we will present the descriptive statistics relating to the number of guideline questions, the number of SRs identified, how many were considered relevant and of high quality. Also we will provide data on how many SRs required updating. **Conclusion:** Guideline groups considering the use of published SR need to assess their relevance, quality and up-to-date-ness as a way to ensure the process is efficient and the guideline is evidence based.

Cochrane Textbook of Neurology

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Background: The Cochrane Neurological Field (CNF) promotes an easy approach to Cochrane neurological reviews by providing a browse list organized as a neurological e-textbook index. **Objectives:** To disseminate reviews and provide a straightforward way to reach new audiences with various cultural needs and diverse educational backgrounds among neurology health professionals. This approach could be appreciated by students and consumers as well, in order to share updated evidence with people not used to Cochrane systematic research. **Methods:** Every three months since 2007, CNF has highlighted reviews of neurological interest published or updated in the Cochrane Library. Reviews are blindly selected by two neurologists with different backgrounds, each appropriate title is ascribed to a topic within the index, which is a list of 27 categories and 35 sub-categories. Classification is discussed by two other independent neurologists who also find reviews that are of shared interest with neurology and other disciplines (i.e. neurology and urology, neurology and otorhinolaryngology, neurochild, etc.). **Results:** The e-book of neurological Cochrane Reviews has titles and chapters; it is possible to 'turn the pages' of the categorized reviews, each title has a direct link to an abstract and a plain language summary. Within each category there are more specialized sub-categories. Reviews of shared interest between disciplines are flagged, and this enhances the multidisciplinary and multiprofessional aspects of a single review and is crucial for different specialities to increase the channel of relationships. The 10 most read and appreciated reviews are highlighted. Comments and evaluations by readers are encouraged, as it is essential to maintain everyone's involvement, clinicians, decision makers and consumers. **Conclusions:** We would like to present the e-textbook of Cochrane neurological systematic reviews, offer the possibility to 'surf' it and create a space to begin exchange

and discussion with health professionals, students, patients, caregivers, citizens and policy makers in different situations.

Evidence Aid Lounge and the World Humanitarian Summit (WHS)

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Background: Crisis affected populations should receive effective, appropriate humanitarian aid that is not harmful. Alongside an increasing demand for 'value for money', proof of impact and effectiveness in provision of humanitarian aid, there is a need for contextual evidence. Increasingly humanitarian needs go unmet worldwide while capacity is stagnating, spurring a growing need for innovation. Although the value of an evidence-based (EB) approach is increasingly recognized, hurdles remain to enhance the use of evidence in the humanitarian sector. The Evidence Lounge provides a space where the hurdles and gaps in the evidence can be addressed and results shared, accessible to all, disseminated through the appropriate channels to avoid duplications and waste of resources. **Objectives:** To endorse an EB approach to humanitarian aid, when & where appropriate, by identifying shared or individual initiatives that support use of robust evidence in humanitarian decision making and action. **Methods:** Evidence Lounge uses online activities to build momentum and support. The initiative includes an interactive blog series, and an opportunity to join a Slack community for online discussion, sharing and interaction. Blog postings are advertised within the Slack community and on Twitter (@EvidenceLounge). Partners and supporters (including Cochrane) promote the Evidence Lounge, individual blog postings and the website through their own social media channels and communication teams. **Results:** Evidence Lounge activities will attract the attention of participants through partner and supporter activities which continue online during the WHS, bringing the online community together with those at the WHS, providing a platform to endorse key messages, present initiatives and interact with ambassadors of the initiative. Post WHS the Slack community will remain active as an online community to support future collaborations in support of an EB approach in humanitarian action. **Conclusions:** The humanitarian sector needs to commit to an EB approach to their action, by strengthening the sector's evidence base, improving sharing and dissemination of the evidence available, and promoting the use of evidence.

Rationale for the development of Cochrane Physical and Rehabilitation Medicine

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Objectives: The aim of this presentation is to discuss the relevance of the Cochrane Physical and Rehabilitation Medicine (PRM) Field that is now under development. What is PRM: PRM is "an independent medical specialty concerned with the promotion of physical and cognitive functioning, activities (including behaviour), participation (including quality of life) and modifying personal and environmental factors" in all ages and health conditions (European Union of Medical Specialists (UEMS)). PRM is recognized by the World Health Organization (WHO), and part of the UEMS. PRM and Cochrane now: All physicians should deal with prevention, diagnosis, treatment and rehabilitation. Rehabilitation is a general health strategy that aims to enable people experiencing disability to achieve and maintain optimal functioning. So, PRM is cross-sectional to all medical activities, mainly neurological and musculoskeletal, but also cardiovascular, respiratory, urogynecological, etc. Since Cochrane is organized in Groups, based on diseases and/or body areas (e.g. Stroke, Back, Musculoskeletal, etc.), the 242 reviews of PRM interest are dispersed among different Groups (Table 1). Interest from PRM to develop Cochrane PRM: The European Society of PRM (ESPRM) started an Evidence Based Medicine (EBM) Committee to strengthen the EBM approach in PRM. The aims are to develop a strict collaboration with Cochrane to systematically collect and spread PRM Cochrane Reviews, produce PRM 'umbrella reviews', study specific methodological issues of PRM research and increase visibility of EBM activities relevant to PRM. Interest from Cochrane to develop Cochrane PRM: PRM focuses on disability, functioning and chronicity: hence, the attention on these increasingly important health conditions will improve PRM. PRM research has specific methodological issues (complex treatments, difficulty with RCTs). Cochrane PRM will challenge and help the relevant Method Groups. **Conclusions:** An exploratory meeting will be held at Brescia University (Italy) in September 2016 and submission for approval of Cochrane PRM will be submitted to the Steering Group before the Seoul Colloquium.

Above 20 reviews		Above 10 reviews		Above 4 reviews	
Group	reviews	Group	reviews	Group	reviews
Musculoskeletal	40	Movement disorder	18	Injuries	9
Stroke	38	Neuromuscular disease	13	Developmental, Psychosocial and Learning Problems	7
Back	26	Pain, Palliative and Supportive Care	13	Multiple Sclerosis	6
Bone, joints and muscle trauma	20	Airways	11	Heart	4
		Dementia and cognitive impairment	10	Cystic fibrosis and genetic disorders	4
Less then 4 reviews					
Incontinence - Metabolic and endocrine disorders					3
Breast cancer - Eyes and vision – Neonatal - HIV/AIDS - Peripheral Vascular Diseases					2
Gynaecological Cancer - Menstrual disorders and Subfertility - Ear, Nose and Throat Disorders - Pregnancy and Child Birth – Renal – Wounds - Acute respiratory infections					1

Short Oral Session 3 Review production

Production models for Cochrane Reviews: What works? What are we doing to improve?

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Background: Cochrane's future relies on ensuring that Cochrane Reviews are high quality, relevant and up-to-date. **Methods:** To inform discussion about how to best achieve this, we conducted interviews with 26 participants and an online survey with more than 100 respondents. We aimed to explore the models currently employed to produce systematic reviews both within and beyond Cochrane and to gather ideas about how review production could be improved. **Results and Discussion:** Respondents highlighted the importance and the challenge of creating reliable, timely Cochrane Reviews. They described the difficulties and opportunities presented by current production models, and they shared what they are doing to improve review production. They particularly highlighted significant challenges with: - the increasing complexity of review methods; - the difficulty keeping authors on board and on track (particularly volunteers, but also paid, geographically diverse teams); - the length of the review process. Respondents also raised concerns about conflation of review production and editorial processes. The responses we received suggest that improvements to Cochrane's Systematic Review production model could come from: - improving clarity of roles and expectations of authors and Cochrane Review Groups from the outset of all review production processes; - ensuring continuity and consistency of input throughout the production process, between reviews and between Review Groups; - enabling active management of the review process; - centralising some aspects of review production; - breaking reviews into smaller 'chunks'; - improving approaches to capacity building and information sharing around review production. Respondents noted the important role technology can play in enabling these improvements. **Conclusion:** There are important opportunities to improve production of Cochrane Reviews. The information gathered through this project has been used in discussion with the Cochrane community to identify and develop new review production models and pilots are currently underway.

Rayyan: from Hyderabad to Seoul

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Background and Methods: Enabling evidence-based healthcare will depend on the availability of high-quality, up-to-date clinical resources. Synthesis of multiple resources in a systematic review can summarize the effects of individual outcomes, with a certain degree of confidence, and provide numerical answers about the effectiveness of interventions. Filtering of searches is time-consuming and no single method fulfils the principal requirements of speed with accuracy. Automation of systematic reviews is driven by a necessity to expedite the availability of current best evidence for policy and clinical decision-making. Rayyan (rayyan.qcri.org) is a web and mobile app that aims to provide an end-to-end platform to expedite the creation of systematic reviews using text-mining, machine-learning, database, and software engineering techniques. It is built on top of a cloud-based multi-tier service-oriented elastic architecture. We will present the basic architecture of Rayyan, how users interact with the app both on the web and on mobile devices, and results from an ongoing survey. **Discussion and Conclusion:** First announced at the Hyderabad Cochrane Colloquium in 2014, Rayyan has grown significantly both in terms of the diversity of its features and the size of its user base. Rayyan is now serving more than 900 users, conducting in excess of 1200 reviews, totalling more than 1 million citations. Countless testimonials from users, available through the website, highlight the ease of exploration of searches, the time saved, and simplicity of sharing and comparing inclusion/exclusion decisions. A recent survey showed that on average our users achieve a 50% time saving compared to using other means and technologies. The strongest feature of the app, identified and reported in user feedback, was its functionality, i.e. the clear and unambiguous way in which studies could be viewed in context together with the completed selections, and how the 'undecided' studies could be fed back into the system and that these were then highlighted as 'hint'. Rayyan is responsive and

quintessentially intuitive in use, with significant potential to lighten the load of reviewers.

Crowdfunding for a systematic review

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Background: We experimented with crowdfunding to update an important systematic review with the Cochrane Work Review Group, 'Interventions to decrease sitting at work'. Crowdfunding is the practice of generating funds for a project by raising money from a number of people via the internet. Crowdfunding campaigners state exactly how much they need for the completion of their project. They will only receive funding if they meet a predetermined minimum target. **Objectives:** To incentivize the review team that had to update a systematic review of interventions to decrease sitting at work. Target: 2500 EUR in 90 days (September to December 2015), minimum target 1000 EUR. **Methods:** We teamed up with the Finnish crowdfunding organization Mesenaatti.me. We explained the project and why it needed funding in a 90-second YouTube video (https://mesenaatti.me/en/how-to-sit-less-at-work/). We created a Facebook page (www.facebook.com/sitlessatwork) to engage people with the project and create interaction. Similarly, we used twitter and blogs in various websites to inform people about our project. We wrote direct emails to our friends, family, colleagues, and potential sponsors to ask for funding. In return for their support our donors received six newsletters for a 25 EUR donation, a webinar for a 100 EUR donation and a visit to the editorial office for a 250 EUR donation. **Results:** We collected 1600 EUR from 40 people in exchange for six newsletters, two webinars and one meeting. Our Facebook page got 233 likes and lively discussion. The review was updated on time and got very well disseminated after publication (Altmetric score 908). Most contribution came through personal contacts (dear friends/relatives). We found that likes on Facebook are very easy to get, but that it was much more difficult to get real money. The campaign was very labour-intensive but increased our interaction with and understanding of people who were interested in our review. **Conclusions:** It is possible to use crowdfunding for systematic reviews. It will probably be difficult to fund the real costs of a review. It is labour-intensive but it has more beneficial effects than just raising funding.

Making systematic review data open access – an example with the Cochrane Eyes and Vision US Satellite and the Systematic Review Data Repository

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Background: In keeping with the principles of open science, data from randomized controlled trials (RCTs) that are extracted for systematic reviews and used to support their conclusions should be made available in order to maximize transparency, minimize duplication of effort, and highlight where more data are needed. **Objectives:** To describe our experience using an open access data repository for Cochrane Eyes and Vision (CEV) reviews. **Methods:** The Systematic Review Data Repository (SRDR) was launched in 2012 as a web-based, open access system for systematic review data extraction and management, offered free-of-charge. SRDR users must complete training to register an account. We developed a data extraction form in SRDR for CEV reviews of dry eye syndrome (n = 5) and modified it to be specific for each review. Methodologists and clinicians pilot-tested the form. For reviews done in real-time, two review authors independently extracted data for each RCT included in their review. We compared extracted data and, when revision was needed, edited the data entered. For reviews completed before SRDR was made available, one person entered data that were extracted by the review teams using paper forms into SRDR and a second person verified the data entered. We informally asked review teams for their feedback on using SRDR. **Results:** To date, data for all five CEV reviews evaluating interventions for dry eye syndrome have been entered into SRDR. For 3/5 CEV reviews we entered data prospectively as part of the systematic review process (110 total RCTs), and for 2/5 we entered data retrospectively after publication of the review (11 total RCTs). Authors liked that SRDR is online, can be used simultaneously by multiple authors, and data are stored and can be shared with authors without emailing files; however, the training and registration process was an initial barrier. **Conclusions:** SRDR is a useful platform for making systematic review data open access; it is easy to use and amenable to adapting forms for other reviews and keeping outcomes consistent across reviews on the same condition. We are continuing to use SRDR for CEV reviews on other topic areas.

Partnership between Cochrane Eyes and Vision and the American Academy of Ophthalmology to identify systematic review evidence for clinical practice guidelines

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Background: Trustworthy clinical practice guidelines (CPGs) require reliable systematic reviews as supporting evidence for recommendations. **Objective:** The Cochrane Eyes and Vision US Satellite (CEV@US) identifies and notifies the American Academy of Ophthalmology (AAO) of reliable systematic reviews on guideline topics as part of the CPG updating process. **Methods:** In 2016, CEV@US and the AAO initiated a formal partnership whereby CEV@US provides reliable systematic reviews addressing topics covered in the AAO's CPGs, 'Preferred Practice Patterns' (PPP). Eligible topics address questions of effectiveness and safety of interventions that could be addressed by randomized controlled trials. To prepare, CEV@US performs a broad search of an established systematic review database it updates regularly in eyes and vision. This database includes systematic reviews on etiology, screening, diagnostic test accuracy, and intervention effectiveness. Two reviewers independently perform record screening, data extraction, and quality assessment. Disagreements between the two are resolved through discussion. The classification of a systematic review's reliability is based on a tool that combines AMSTAR, PRISMA, and other data items; reviews are classified as reliable if they report eligibility criteria, conduct comprehensive searches, assess the risk of bias of the included studies, use appropriate methods for meta-analysis, and present conclusions that reflect the results. **Results:** For the first topic, 'Management of adult cataract', we identified 33 relevant and reliable reviews, only eight of which had been cited in the 2010 PPP. We also identified several areas for continuing attention: keeping the database of systematic reviews up-to-date; continuous project-specific training for staff; and regular and timely communication between CEV@US and AAO. **Conclusion:** The partnership between CEV@US and the AAO provides AAO with access to an evidence base of relevant and reliable systematic reviews, thereby supporting robust and efficient CPG development for improving the quality of eye care.

Will notification that the journal does not require authors to pay to publish encourage them to submit to a subscription-based journal? A randomized study

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Background: It is very common for researchers to receive emails from journals inviting them to submit a manuscript. Many of these journals are open access and will require the authors to pay a fee if their article is accepted for publication. The Journal of Evidence-Based Medicine (JEBM) (ISSN 1756-5391) is a MEDLINE-listed, international, peer-reviewed journal, which is available online and follows the subscription model. **Objective:** To examine whether clearly indicating that the journal is open access in an invitation email has an effect on authors invited to submit articles to JEBM. **Methods:** Authors of systematic reviews published from 2011 to 2015 were identified with a search using the terms 'meta-analysis' or 'systematic review' in Web of Science. Duplicate emails and authors were removed. Three invitation emails were designed. These differed only in relation to a sentence describing the journal as not being open access in which 1) the JEBM is described as using the subscription model and not open access, 2) the JEBM is described as not open access, and 3) no mention is made of the subscription model or open access. The authors were randomized to one of these emails, stratified by country, and the order for sending the emails was also randomized. Two official email accounts for the JEBM were used to send a batch of each of the three emails every day. The proportion of emails that were replied to, the proportion that were followed by the submission of a manuscript and the time from sending the email to receiving a manuscript will be analyzed, with the first analyses using a six-month follow-up. **Results:** Approximately 50,000 emails were identified from Web of Science and the emails were sent in April 2016. Analyses will be presented at the Cochrane Colloquium. **Conclusions:** Conclusions will be presented at the Colloquium, and may have implications for highlighting whether a journal is subscription-based or not open access.

Short Oral Session 4
Information retrieval

Searching trials registries first: a fast method for finding published studies

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Background: For systematic reviews (SR) searching clinical trials registries is now recommended and becoming commonplace. Although this is a step in the right direction for ensuring as many sources of information are found for the conclusions drawn by the SR, there still seems to be little done with this information except see if there are any trials currently underway that may be completed soon. We have devised a step by step method that will enable people to not only find all relevant registered trials but to also find any publication information regarding those trials. **Objectives:** To test the feasibility and information gain from our step by step protocol to locate any published information regarding registered clinical trials. **Methods:** We searched clinical trials registries to find trials on two topics. These clinical trials were then run through a five-step process to identify any publications deriving from them. This covered not only trials published in standard databases such as PubMed and Embase but also looking for publications in other locations, such as personal websites of authors or theses of Research Higher Degree students. **Results:** We piloted the process looking for all registered homeopathy trials. We found six trials in PubMed, 18 potentially relevant results in Embase, and an additional 11 publications outside of the medical databases. We then tested the method in a full review of the adverse effects of macrolides. For this review we found 54 potential publications, 48 of which were in PubMed. Of these, 17 were not found in the original search and eight of them made it through the title/abstract screening process. When the same technique was used in Embase, 112 records were returned, suggesting identification of a high number of potentially relevant conference proceedings. **Conclusions:** The method appears to enhance the quality of SRs by ensuring any trials are easily found and included in the final analysis as well as creating an initial results set that can be used to create and validate a search strategy. This process is a fast and effective way to enhance the results of SRs of clinical trials.

More than just a search: using past search strategies and search summary tables to improve future identification of implementation studies

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Background: Implementation science is an emerging field for which the parameters and boundaries are still being constructed. This lack of clarity means that a common language is lacking and reporting is often poor, making it hard for studies to be located. In recent years there has been a rapid growth in the number of implementation studies. A recent update search for systematic reviews of implementation strategies in healthcare returned as many records from 2014 to 2016 as the original search, which covered the previous 13 years. Locating these studies is challenging: there is a large variation in terminology amongst authors and implementation science experts; there is no particular database where these types of studies are likely to be located and there is often disagreement about what constitutes an implementation study, leading to confusion about what terms should be included in the search strategy. **Objectives:** To analyse the terms used to describe or enable implementation in health settings, within published literature, in order to inform future search strategies for these types of study. **Methods:** Using three completed searches for implementation studies in healthcare, care homes and dementia for systematic scoping reviews, we examined the impact of the terms used in each search strategy against the studies included in the reviews. We completed search summary tables for the three reviews to identify which resources were the most effective for locating and returning implementation studies. **Results:** A total of 13,965 titles and abstracts were screened, resulting in 684 full text articles for inclusion across the three projects. Analysis of the search results indicates that some search terms and controlled vocabulary were more effective than others in retrieving the included implementation studies. The search summary tables indicate which databases are most likely to hold the relevant literature. **Conclusions:** This work will provide evidence towards how search strategies for locating implementation should be constructed, and provide guidance on how to search for implementation studies in the future in terms of resources and terminology.

Developing and validating geographic search filters for use in systematic literature searches

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Background: Evidence about a specific geographic region can be required for systematic reviews that have a focus on improving health or social care in a particular location. Information professionals at the National Institute for Health and Care Excellence (NICE) in the UK have developed validated geographic search filters for MEDLINE and Embase (OVID platform) to retrieve evidence about the UK in systematic literature searches. These UK filters were created using best-practice principles of search filter development and they have a good balance of recall and precision. The methods used to develop the NICE UK filters are transferable to the development of search filters for other geographic locations. The purpose of this presentation is to share the methods used to develop the NICE UK filters and to enable delegates to develop validated search filters for other geographic locations that are of interest to them. **Objectives:** To explain the process of developing and validating geographic search filters. **Methods:** The presentation will explain how to: 1. find a 'gold standard' set of references about a specific geographic location; 2. identify candidate search terms using frequency analysis; 3. combine search terms into a draft search filter; 4. test the draft search filter and make iterations as required; 5. validate the final version of the filter. Anticipated results: Attendees will understand the process of developing geographic search filters. **Conclusions:** Very few validated geographic search filters have been developed. To the knowledge of the authors these filters only exist for Spain, Africa, and the UK. This presentation will encourage the development of search filters for additional geographic regions.

Error identification in search strategies of new Cochrane Systematic Reviews published in 2015

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Background: Search strategy is a key component for the identification of clinical study reports. Previous research estimated error rate in search strategies of Cochrane Systematic Reviews (CSRs) to be as high as 90% (Sampson 2006). Efforts have been made since then in order to reduce errors in the design and report of search strategies, such as modifications in the Cochrane Handbook for Systematic Reviews of Interventions (Cochrane Handbook) and the development of expert consensus documents for peer-reviewing like the PRESS (Peer Review Electronic Search Strategies) guideline. **Objectives:** To describe errors identified in the design and report of search strategies of new CSRs published during 2015. **Methods:** In this cross-sectional study, we selected a random sample of 89 CSRs from the Cochrane Database of Systematic Reviews from the 12 issues published in 2015. Updates, withdrawals, protocols, empty reviews, dentistry, prognostic associations, safety of interventions and diagnostic test accuracy reviews were excluded. We formed a peer-reviewing team composed of a trained Cochrane Information Specialist, two medical librarians and a medical researcher. We used the Cochrane Handbook recommendations to assess reporting of search strategies and 12 items assessed by Sampson 2006 together with the six elements of the PRESS 2015 guideline to identify errors in MEDLINE search strategies. **Results:** After excluding 19 CSRs, 70 reviews were eligible for inclusion. Preliminary results based on the assessment of 20 included CSRs show that most reported search strategies (19/20) lack one or more of the recommended elements from the Cochrane Handbook; 4/20 lacked a full report of the detailed search strategy; and 9/20 had at least one identifiable error in the design. **Conclusions:** we will complete the assessment of the remaining 50 reviews and present the final results and conclusions at the Colloquium.

Finding the evidence gaps in Acute Respiratory Infections: an analysis of systematic reviews and RCTs

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Background: Prioritizing which reviews to accept and support is now a major requirement of Cochrane Groups. One important consideration (among many) is where the gaps in evidence are between what is published and systematically reviewed. To address this is at the Cochrane

Acute Respiratory Infections Group, we attempted to describe any gaps. **Objectives:** To identify gaps in Cochrane Reviews in one Cochrane Group by comparing randomized controlled trials (RCTs) held in the Group's Specialised Register of Trials against those synthesized in Cochrane Reviews. **Methods:** We generated a list of RCTs from the register, and similarly another list of Cochrane Reviews. For each item (RCT or Cochrane Review) listed, we derived the main disease and the main treatment (intervention). We then used graphic software to generate a single line that linked each intervention to its disease. This enabled us to compare both Cochrane Reviews and RCTs to highlight discordant areas of investigation. **Results:** We screened 5329 RCTs; 141 were excluded, leaving 5188. We screened 162 Cochrane Reviews; five were excluded (withdrawn, or inaccessible), leaving 157 reviews. Several areas exist in which RCTs have been performed, but there are no Cochrane Reviews: overall this was 3115/5188 (60%). These areas include vaccinations (e.g. there are 143 RCTs investigating vaccinations against Pneumococcus, but no Cochrane Reviews on it). This contrasts with vaccines for the common cold (a Cochrane Review but only five RCTs), and vaccines for acute bronchitis (a Cochrane Review but only two RCTs). **Discussion:** Limitations of the method include the sometimes arbitrary decision about which is the main intervention and main disease in any RCT or review, and also in collapsing groups of similar diseases and interventions together. The classification stage of the analysis was lengthy and tedious. Nevertheless it provided us with an excellent assessment of review gaps in our Group.

Retrospective case study to test performance of machine learning: results from Cochrane Heart

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Background: Screening search results to identify eligible studies for inclusion in systematic reviews is time consuming. Machine learning aims to reduce the workload of screening, but data evaluating the performance are limited. Project outline: We are therefore conducting a retrospective case study by comparing the performance of machine learning technology to the 'gold standard' of duplicate manual screening. **Methods:** We included data from published Cochrane Heart Reviews for which search results are available to Cochrane Heart. **Results:** Preliminary results for six (out of 40) reviews were presented at the Cochrane UK and Ireland Symposium in Birmingham, UK, in March 2016. These showed that at least 60% of the screening workload could have been saved with no loss in recall. Final results for 40 reviews will be presented at the Colloquium. **Conclusions:** Machine learning represents a potential strategy to reduce the workload of screening for systematic reviews. Further research evaluating the performance of machine learning systems and in other fields are needed before this method can be widely adopted

Systematic search and sort: a useful deliverable in the social welfare research area?

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Background: Internationally, a variety of deliverables summarize and/or synthesize research without culminating in a full systematic review. Examples include scoping reviews, mapping reviews, and evidence maps. The terms are used interchangeably. The Unit for Social Welfare Research at the Norwegian Knowledge Centre (Norwegian Institute of Public Health) receives commissions for evidence syntheses from a number of welfare directorates. In 2012 to 2015, the most frequent commission was for a 'systematic search and sort' on various topics. At the Knowledge Centre, a 'systematic search and sort' is defined as a systematic literature search with subsequent categorization of research that meets the inclusion criteria. There is no assessment of risk of bias or synthesis of the findings. However, in some cases, the key messages in the abstracts are translated and/or summarized. **Objectives:** The aim of this study is to present and discuss the usefulness of the 'systematic search and sort' as a deliverable. **Methods:** We examined the issue from three directions: 1. analysis of all 24 published systematic 'search and sorts' with respect to purpose, size and presentation, in order to map out the characteristics of the deliverable; 2. searching of databases and relevant organisational websites for deliverables similar to our 'systematic search and sort', in order to position it among other knowledge synthesis deliverables; 3. a survey among the welfare directorates in order to investigate the use and usefulness of the findings from the 'systematic search and sort' deliverables. **Results:** This study is ongoing. Preliminary findings include: 1. analysis of the 24 publications suggests at least three different objectives; 2. our literature search yielded a vast field of summarized research, and this raises the question of whether there deliverable(s) which share the same methodology as the 'systematic search and sort' already exist; 3. successful development, piloting, and distribution of the questionnaire to the commissioners, to which we expect answers within a month.

Short Oral Session 5
Bias

Do multiple data sources about a single trial agree on risk of bias and PICO (participant, intervention, comparator, outcome) information?

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Background: Cochrane recommends supplementing journal articles with other data sources to obtain information about trials, however, no clear guidance is given when multiple sources provide contradictory information. **Objective:** To compare PICO (participant, intervention, comparator, and outcome) information and risk of bias (ROB) assessment from multiple sources for two case examples: gabapentin for neuropathic pain and quetiapine for bipolar depression. **Methods:** We identified eligible reports by searching bibliographic databases, trial registers, conference proceedings, FDA reviews, and reference lists. We also used unpublished documents available from litigation (i.e. internal company documents called Clinical Study Reports or CSRs). Two independent reviewers completed each of the following tasks, and handled disagreements by discussion: screening, data extraction, and ROB assessment. For both cases, we compared the following items across sources: condition, number of participants randomized, sex and age of participants, interventions, comparators, length of follow-up, conflicts of interest, and items from the Cochrane ROB tool. **Results:** We identified 21 gabapentin trials and seven quetiapine trials. Most trials were presented in multiple reports. Among multiple reports of the same trial (14 gabapentin trials; six quetiapine trials), we identified substantive discrepancies in the number of groups and participants randomized across reports, and in the descriptions of administration methods and doses of interventions and comparators. For all other aspects of PICO and ROB we examined, we identified differences in completeness of information, but not contradictory information. CSRs, typically thousands of pages in length, can yield more complete information, but require considerable resources for review, double data abstraction, and reconciliation. **Conclusions:** In these two case examples, we found that different sources can yield substantively different information and varying levels of completeness on PICO and ROB assessment for trials. Although CSRs can yield additional information about PICO and ROB, abstracting data from them is time-intensive.

Is trial registration an indicator of the quality of methodological conduct in fertility trials? A risk of bias assessment

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Background: Systematic reviews (SRs) include all studies in a field, regardless of trial registration. Recent claims stated that unregistered trials are of lower quality than registered trials and their inclusion downgrades the quality of SRs. It was suggested that unregistered trials conducted post 2009 should be excluded from reviews, however there is no evidence to support this. **Objectives:** To investigate how prevalent registration is for published fertility trials and if registration is associated with a decreased risk of bias. **Methods:** The Cochrane Gynaecology and Fertility Groups' Specialized Register was searched for full text, English fertility trials published from 2010 to 2014. A computer-generated list randomly selected 25 registered and unregistered trials per year. These 250 trials were assessed for methodological quality using the Cochrane 'Risk of bias' (RoB) tool, judged as being at low or high/unclear RoB, and analysed using an odds ratio (OR) with 95% confidence intervals (CI). **Results:** A total of 693 trials met the inclusion criteria, 45% of which were registered. For each year there were more unregistered than registered trials published in journals. Registered trials were more likely to have a low RoB for random sequence generation (OR 2.80, 95% CI 1.60 to 4.90), allocation concealment (OR 2.38, 95% CI 1.39 to 4.01) and reporting the planned primary outcome from the protocol (OR 61.98, 95% CI 21.39 to 179.55). There was no difference between the RoB for registered and unregistered trials for blinding, incomplete outcome

data or non-reporting of patient-centred outcomes (eg. live birth) (OR 1.36, 95% CI 0.81 to 2.27). **Conclusions:** Registered trials were more likely to be considered to be at low risk in the categories of random sequence generation, allocation concealment and selective reporting. However as only 45% of fertility trials were registered, the exclusion of unregistered trials from SRs would greatly reduce the number of trials included, potentially introducing publication bias and reducing the power.

The impact of studies from trial registries on the results of systematic review: a survey of Cochrane Reviews

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Background: The rigorous requirements for each step of a systematic review are detailed in the Cochrane Handbook. For instance, there must be two independent reviewers to screen the eligible studies and extract the data. Furthermore, the Handbook states that trials registries should be searched for each Cochrane Review. To date, there are more 20 international trial registries, such as the World Health Organization International Clinical Trials Registry Platform (WHO ICTRP), ClinicalTrials.gov, etc. However, is it really significant to search trial registries for systematic reviews? **Objectives:** To investigate the searching of trial registries in Cochrane Reviews and analyse whether this activity changes the results of the reviews. **Methods:** We sampled Cochrane Reviews published in 2013. Two reviewers extracted the data independently. The extracted data included whether a trial registry had been searched, the number and name of the trial registries, the trials included in reviews, and whether the researchers could access the data, etc. We assessed the impact of studies from trial registries for the pooled effect size of the reviews through sensitivity analyses. **Results:** A total of 992 Cochrane Reviews were published in 2013. Of those, 974 (98.2%) had searched the registries (mean = 2, range: 1-20). The top five most frequently searched registers were the Cochrane Group Register (91%, 890/974), ClinicalTrials.gov (43%, 423/974), WHO ICTRP (34%, 331/974), CCT (19%, 181/974), and the metaRegister of Controlled Trials (mRCT) (12%, 120/974). Thirty-two (3%) reviews included studies from registries. Of those, nine (1%) reviews synthesized the data from studies obtained from registries. The results of sensitivity analyses showed only three (0.1%) reviews' pooled effect sizes were affected by the data of those studies. **Conclusions:** Most Cochrane Reviews search trial registries, and a small number of reviews include the studies from registries. However, few reviews' results are affected by the studies from registries.

Reporting bias and aripiprazole for schizophrenia: new data from unpublished studies

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Background: Reporting bias is a significant barrier to the development of evidence-based medicine as it results in biased estimates of treatment benefits and harms. Turner (2012) identified that of five trials submitted to the FDA (US Food & Drug Administration) for approval of aripiprazole (Abilify) for treating schizophrenia, only three were published in the medical literature. **Objectives:** To analyze and compare data on key outcomes reported in published randomized controlled trials (RCTs) and clinical study reports (CSRs) for the antipsychotic aripiprazole. **Methods:** An inquiry was submitted to the European Medicines Agency, under the access-to-documents policy, seeking access to all CSRs submitted as part of marketing-authorization applications for aripiprazole by Otsuka. Trial characteristics from placebo-controlled RCTS were extracted to guide a search for any matching journal publications. A comparison will be conducted to determine differences between the regulator's (CSRs) vs public's (published RCT reports) view of the data on the following key outcomes: all-cause mortality, non-fatal serious adverse events, and quality of life. We will examine the effects of any discrepancies on the results of meta-analyses. Additionally, methods descriptions in published and unpublished trial reports, and assessment of risk of bias, will be compared. **Conclusions:** Including data from sources other than traditional journal published RCTs may help to ameliorate the impact of reporting bias in systematic reviews, and produce a more balanced summary of benefits and harms. While the volume of data received is large, and may increase the complexity of the final analysis, access to CSRs may improve the reliability of systematic reviews and reduces the effects of reporting bias.

A new large-scale meta-epidemiological study on bias in randomized trials using routinely collected 'Risk of bias' assessments by Cochrane authors: results from the ROBES study

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Background: Empirical evidence suggests that certain aspects of trial design may lead to biased intervention effect estimates. **Objectives:** To examine the influence of 'Risk of bias' judgements from Cochrane Reviews for sequence generation, allocation concealment, blinding and incomplete data on intervention effect estimates in a large collection of meta-analyses (MAs). **Methods:** We selected MAs with dichotomous outcomes and more than four included trials from intervention reviews with fully completed 'Risk of bias' tool, published in issue 4, 2011 of the Cochrane Library. We classified outcome measures as mortality, other objective or subjective, and estimated the effect of 'Risk of bias' domain judgements on average bias (ratios of odds ratios (ROR) with 95% credible intervals (CrI)) using Bayesian hierarchical models. **Results:** Among 2815 trials in 256 meta-analyses, intervention effect estimates were on average exaggerated in trials with high or unclear risk of bias (versus low) for random sequence generation (ROR 0.91, 95% CrI 0.86 to 0.98), for allocation concealment (ROR 0.92, 95% CrI 0.86 to 0.98) and for blinding (ROR 0.87, 95% CrI 0.80 to 0.93). Unlike our previous study, we did not observe consistently different bias or between-trial heterogeneity in bias in MAs with subjective outcomes compared to mortality. Results from analyses of the influences of incomplete data were inconclusive. Limitations: Possible inconsistency in criteria for 'Risk of bias' judgments applied by individual reviewers is a likely limitation of routinely collected bias assessments. **Conclusions:** Inadequate randomization or lack of blinding may lead to exaggeration of intervention effect estimates in trials, but it is unclear if this effect differs by outcome type.

Rethinking the assessment of risk of bias due to selective reporting: a cross-sectional study

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Background: Selective reporting is included as a core domain of Cochrane's tool for assessing risk of bias in randomised trials. There has been no evaluation of review authors' use of this domain. **Objective:** We aimed to evaluate assessments of selective reporting in a cross-section of Cochrane Reviews, and to outline areas for improvement. **Methods:** We obtained data on selective reporting judgements for 8434 studies included in 586 Cochrane Reviews published in the Cochrane Database of Systematic Reviews from Issue 1-8, 2015. One author classified reasons for judgements of high risk of selective reporting bias. We randomly selected 100 reviews with at least one trial rated at high risk of outcome non-reporting bias (non-/partial reporting of an outcome on the basis of its results). One author recorded whether authors of these reviews incorporated the selective reporting assessments when interpreting results. **Results:** We rated 1055 (13%) of the 8434 studies as being at high risk of selective reporting bias. The most common reason for a high risk judgement was concern about outcome non-reporting bias. Few studies were rated at high risk because of concerns about bias in selection of the reported result (e.g. reporting of only a subset of measurements, analysis methods or subsets of the data that were prespecified). Review authors did not always specify in the 'Risk of bias' tables the study outcomes that were not reported (84% of studies) or partially reported (61% of studies). At least one study was rated at high risk of outcome non-reporting bias in 31% of reviews. However, only 30% incorporated this information when interpreting results, by acknowledging that the synthesis of an outcome was missing data that were not/partially reported. **Conclusion:** Our audit of user practice suggests that the assessment of selective reporting in the current risk of bias tool does not work well. It is not always clear which outcomes were selectively reported, or what the corresponding risk of bias is in the synthesis with missing outcome data. New tools that will make it easier for reviewers to convey this information are being developed.

The criteria of 'other bias' of the Cochrane Risk of bias tool: a cross-sectional study

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Background: The Cochrane 'Risk of bias' tool is used for evaluating the risk of bias of randomized controlled trials included in systematic review. It contains six domains (including seven items): selection bias (random sequence generation and allocation concealment), performance bias (blinding of participants and personnel), detection bias (blinding of outcome assessment), attrition bias (incomplete outcome data), reporting bias (selective outcome reporting) and other sources of bias. The criteria of the six former items are defined explicitly in the Cochrane Handbook for Systematic Reviews of Interventions, but those for 'other bias' are not. **Objectives:** To investigate the criteria of 'other bias' of the Cochrane Risk of Bias Tool for further assessment of risk of bias of randomized controlled trials in systematic reviews. **Methods:** We handsearched for systematic reviews published between 1 January 2012 to 31 December 2014 in the Cochrane Database of Systematic Review, Annals of Internal Medicine, Annals of Surgery, The Journal of the American Medical Association, The Lancet, and the BMJ. The included randomized controlled trials were assessed by the Cochrane 'Risk of bias' tool. Two reviewers completed the handsearching, screening and data extraction independently. **Results:** We included 340 systematic reviews, of which 250 (74%) were Cochrane Reviews and 90 (26%) non-Cochrane reviews. In total, 3342 primary studies included in 233 (69%) systematic reviews were judged to have 'other bias'. Of those, 723 (22%) were assessed as being at high risk, of which 538 (16%) were reported with the causes that were integrated into 67 causes. A total of 55 causes (from 167 original studies included in 108 systematic reviews) overlapped with the former six items such as random sequence generation, etc. In addition, the chief cause of 'other bias' was potential conflicts of interest. **Conclusions:** The causes of 'other bias' are varied in current systematic reviews, but most of them overlap with the other six bias items including random sequence generation, etc.

Design characteristics of external validation studies influencing the performance of risk prediction models

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Background: Meta-epidemiological studies have shown that study results are directly influenced by study design characteristics. The results of a randomized trial may for example be biased by inadequate allocation concealment and diagnostic test accuracy may be overestimated in case-control studies. The influence of design features on the results of prognostic research remains unclear. **Objectives:** To determine which study characteristics influence performance of a prognostic model upon external validation, taking the validations of three established prediction models for cardiovascular disease (CVD) as an example. **Methods:** In December 2015, MEDLINE, Embase, Web of Science, and Scopus were searched for articles investigating the external validation of three CVD risk equations (Framingham Wilson 1998, Framingham ATP III 2002 and Pooled Cohort Equations (PCE) 2013). Studies published before June 2013 were identified from a previous review. Studies were eligible if they validated the original prediction model in a general population setting. Data were extracted on key study characteristics. Random-effects meta-regression will be used to determine which study characteristics influence model performance (c-statistic and observed/expected ratio). **Results:** The search identified 10,687 references, of which 1501 were screened in full text and 47 met our eligibility criteria. These articles described the external validation of Framingham Wilson (27 articles), Framingham ATP III (16 articles) and the PCE (10 articles). The c-statistic varied between 0.56 and 0.92. We will investigate sources of heterogeneity and present the range of performance for different design characteristics, including study design (e.g. cohort), sample size, assessment of outcomes, and handling of missing data. **Conclusions:** This study will identify design characteristics influencing the performance of CVD risk prediction models in external validation studies, and thereby facilitate risk of bias assessment in systematic reviews of prognostic studies.

Short Oral Session 6 Communicating evidence

Are Cochrane plain language summaries plain?

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Background: Plain language is described as “Writing that is clear and to the point and that helps improve communication and takes less time to read and understand” (NIH 2016). It tells the reader what s/he needs to know in a structured form without using unnecessary words or expressions. The PLEACS Group (Plain Language Expectations for Authors of Cochrane Summaries) recommends using an online readability calculator for improved communication of review findings to the public. **Objectives:** To assess the readability of Cochrane plain language summaries (PLS) using the readability calculator suggested by PLEACS. **Methods:** A sample of PLSs from Cochrane Reviews, published between October 2015 and March 2016, were retrieved. The Text Readability Consensus Calculator was used for the analysis. The calculator takes a sample from the text and calculates the number of sentences, words, syllables, and characters. It then calculates a consensus readability score based on results from seven tests. The score, gives the reading and grade level of the text, and indicates whether it is readable by the public. The Word proof-reading tool was also used for the analyses. **Results:** The PLS from 143 Cochrane Reviews (50 review groups) were analysed. Average readability score was 14 (SD.1, 98), while the public reading level is 7 to 8. The mean number of words per sentence was 21.7 (SD.4.0), which can be compared to a recommended sentence length of 13 to 16 words. Passive voice was used in 20.2% of sentences (range 0 to 50%), while Word recommends 15%. Hard words (words with more than three syllables) constituted 21.7% of the text, which is more than the recommended 12% to 14% for public reading. **Conclusions:** Cochrane PLSs are not plain, but may instead be perceived as difficult to read. Cochrane authors most likely do not use readability calculators, but may benefit from doing so.

Cochrane plain language summaries are highly heterogeneous with low adherence to the standards

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Background: In addition to conventional scientific abstracts, Cochrane Systematic Reviews have a plain language summary (PLS), which is aimed towards the general public. The Cochrane PLSs are supposed to be clear, understandable and accessible, especially for the lay people in particular fields of medicine (non-professionals, patients etc.). It would be desirable to write PLSs in a standard format, and the Standards for the reporting of Plain Language Summaries in new Cochrane Intervention Reviews (PLEACS) should help in this. **Objectives:** The aim of this study was to analyse whether Cochrane PLSs adhere to the PLEACS standards. **Methods:** A systematic analysis of adherence to the measurable PLEACS was performed for Cochrane PLSs published from March 2013 to the end of January 2015. Duplicate independent data extraction was performed. An adherence score was calculated for each PLS and for the Cochrane Review Groups (CRGs) that published them. **Results:** Of the 1738 PLSs analyzed, not a single one adhered fully to the measured PLEACS items. The highest adherence was found for absence of complex statistical data (98% adherence), and the lowest adherence for an item mandating to address quality according to the GRADE system (0.7% adherence). Overall the adherence percentage of PLSs for reporting reviews with included studies was 57%. Different CRGs had a wide range of adherence scores. **Conclusions:** Cochrane PLSs are highly heterogeneous with low adherence to the PLEACS standards. Although there are a number of review groups producing systematic reviews within Cochrane, a standardization of PLSs is necessary to ensure delivery of proper and consistent information for consumers.

Testing Treatments Interactive: an evidence-based platform to help patients understand evidence

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Background: Shared decision-making can improve health outcomes. During the process, communication with patients about health information is important. Patients and their families' knowledge about and understanding of evidence have an effect on clinical decisions. **Objectives:** To introduce an evidence-based platform, 'Testing Treatments Interactive' ('TTi' for short), to help patients and public understand evidence, and make better health decisions. **Methods:** We established a team consisting of Chinese editors of TTi Alliance to launch, maintain and disseminate the platform in China. **Results:** So far, TTi has launched 13 language versions: the Chinese version was launched in 2012 and introduced at two international conferences in 2014 and 2015. We made some progress in the following aspects: firstly, we have published the Chinese version of the book 'Testing Treatments' online and made an audiobook in mp3 format for free access. Secondly, we have translated some learning resources related to evidence-based medicine. Also, we made some visual products to represent key concepts that help the public understand the evidence, which will be presented at the 24th Cochrane Colloquium in Seoul. Thirdly, based on this website, we successfully applied for the E-learning project to help medical students read literature. We would like to report its progress for more suggestions and comments. **Conclusions:** TTi can help patients and public understand evidence in an interesting and impressive way in the era of information overload. It also provides a reliable, attractive and evidence-based platform for doctors and patients to communicate the evidence for smart decisions.

The ACTIVE project: Authors and Consumers Together Impacting on eVidencE

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Background: Active involvement of key stakeholders is believed to improve the quality, relevance and impact of systematic reviews (SR), yet there is a lack of evidence about the best ways to achieve this and wide variation in consumer involvement in Cochrane Reviews. **Objectives:** To synthesise relevant evidence, information resources, and examples of active involvement in SR. Develop online learning for consumer involvement in Cochrane Reviews. **Methods:** Scoping review to map evidence systematically. Searching: comprehensive searching of electronic databases (MEDLINE, CINAHL, CDSR, DARE, HTA, Embase, Epistemonikos, DoPher, PDQ-Evidence, JBI) supplemented with searching other sources. Inclusion: papers describing methods or evaluations of involvement in SR. Two independent reviewers will apply selection criteria, extract data and appraise quality. Descriptions of methods of involvement and evidence of effect/impact will be synthesised. Interviews with researchers, authors and consumers involved in identified SR will provide enhanced descriptions of methods and supplementary resources. Data from the synthesised evidence, supporting material and interviews, will be used to develop and produce online learning resources, in collaboration with Cochrane Learning & Support. **Results:** Electronic searches will be run in April 2016, studies for inclusion identified and data extraction completed by July 2016. Additional resources and interviews will be collected by September 2016. Preliminary results demonstrate involvement of patients, carers and clinicians in Cochrane mixed-method and realist reviews, and individual patient data (IPD) meta-analysis, using small group meetings, conferences and participatory approaches. Involvement impacts on scope of reviews, theory generation and intervention description, analysis and synthesis of findings. **Conclusions:** This project will support and enhance Cochrane Review authors' ability to incorporate active stakeholder involvement into reviews, through the development of evidence-based learning resources. Effective methods of stakeholder involvement will improve the relevance, usefulness and usability of Cochrane Reviews.

Disseminating Cochrane findings to consumers through online, animated video summaries

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Background: Online videos may facilitate the distribution and use of health evidence across many settings, and thus may be useful for disseminating findings from Cochrane Reviews and sharing knowledge and information to a broad, online audience. Video sharing sites (e.g., YouTube) attract over one billion users (about 33% of internet users) of varying ages from around the world. **Objectives:** To develop a video lay-summary of a Cochrane Eyes and Vision (CEV) review and explore the potential of disseminating this video through consumer groups. **Methods:** We translated the plain language summary of a CEV review into a script, did a pilot recording, and added animation using an online digital media and content creation software (Moovly™). A Cochrane Consumer Network representative and informationist refined the script. We uploaded the completed video onto YouTube and screened the video to CEV staff and Consumers United for Evidence-based Healthcare affiliates and members for feedback. **Results:** The process of translating a Cochrane Review into a 6-minute animated video summary takes approximately 30 hours. The verbal script was largely adapted from the plain language summary of the Cochrane Review. Overall, feedback from respondents indicated that the videos were educational and would be useful to consumers. Animations helped illustrate some important medical terminology. Respondents suggested that the information in the videos be presented at a lower reading/speaking (e.g., 6th grade) level and cautioned that only the reviews relevant to consumer group's mission statements would be considered for dissemination on their website. Respondents also expressed concern that the bureaucratic structure of most consumer organizations may delay sharing of the videos and thus compromise their timeliness. **Conclusions:** Our video summary has potential to reach and educate an audience that may otherwise find a full Cochrane Review or plain language text summary challenging to comprehend or read. Video summaries contribute to meeting the growing demand for high quality medical information. Consumer groups can help disseminate this information.

From scientific publications to mass media: information quality in knowledge translation

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Background: Health information is delivered to diverse audiences in a variety of formats. Language barriers and differences in information quality impair information retrieval in national languages. **Objective:** To assess changes in the quality of information in scientific publications, official press releases and mass media and to investigate information-seeking behaviour by various target groups in health care. **Methods:** The project uses qualitative and quantitative methods. Firstly, information quality is assessed by applying the evaluation scheme of the 'Medien-Doktor MEDIZIN' to abstracts and full texts of scientific publications, press releases and mass media. The scheme contains 13 criteria that cover different domains relevant for good communication of health information: e.g. a sound description of effects and risks of an intervention or a description of intervention costs or novelty. Secondly, the evidence on information-seeking behaviour is examined through: 1. an evidence map of existing studies on information-seeking behaviour among health professionals; 2. focus group discussions with a variety of stakeholders to explore their attitudes towards information-seeking behaviour and their experiences in the retrieval of health information; and, 3. an online questionnaire tailored to practitioners, hospital pharmacists and self-help groups to investigate their information-seeking behaviour and their preferred information sources. **Results:** The assessment with 'Medien-Doktor MEDIZIN' indicates that there seems to be a lack of contextual information, such as a description of alternative interventions or intervention costs, in scientific publications and press releases. For the evidence map we retrieved six publications dealing with information-seeking behaviour of practitioners in Germany. More detailed results will be presented at the Colloquium. **Discussion:** Evidence on information-seeking behaviour in the national context of Germany is scarce and more research is needed to investigate behaviours and information sources for different stakeholders. The 'Medien-Doktor MEDIZIN' provides a useful tool to assess information quality in different formats.

Disseminating Cochrane evidence to the public health workforce via author-led webinars

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Background: Health Evidence™ is a free searchable repository of 4500+ quality-appraised public health relevant reviews, including nearly 700 Cochrane Reviews. Author-led webinars is one knowledge translation strategy to disseminate the findings of Cochrane Reviews. **Objectives:** 1. Disseminate the findings of Cochrane Reviews via webinars 2. Evaluate the impact of Cochrane author-led webinars **Methods:** Webinars are 60-90 minutes in length and include: an overview of the principles of evidence-informed decision making (15 mins), presentation of the findings by the review author (30 mins), and a Q&A period (30 mins). Web-conferencing software monitors participant registration, attendance, engagement, poll responses, and questions. Standard poll questions are asked throughout each session to assess familiarity with and use of systematic reviews (SRs), as well as familiarity and agreement with session-specific review findings. **Results:** Since January 2015 Health Evidence has hosted six Cochrane author-led webinars. Webinar participants include: nurses, health promoters, physicians, dietitians, and knowledge brokers. On average, participants in each session were attentive and engaged 68.8% of the time. Google Analytics reflected an average 572% increase in users accessing the Cochrane Review featured in each webinar on the day of the session compared to average daily access the month prior. On average, each session attracted 177 registrants, of which approximately half joined on the session date. Poll response data reveal 59.6% attendees use SRs to inform their practice. Data collected pre/post webinar on participant's knowledge of the effectiveness of an intervention, suggest that this is an effective way to influence participant's knowledge about intervention effectiveness (participant knowledge improved 10%-31.8%, measured via pre/post poll questions). During the Q&A period, attendees submitted 5-12 questions per session. **Conclusion:** Webinars are an interactive and effective mechanism for promoting public health relevant Cochrane evidence to decision makers. Data from webinars highlight a high level of interest and engagement with Cochrane author-led sessions.

Short Oral Session 7 Review methods non-statistical I

Integrating randomized and non-randomized studies in systematic reviews and its implications for GRADE: rationale, perceptions, and proposed methods

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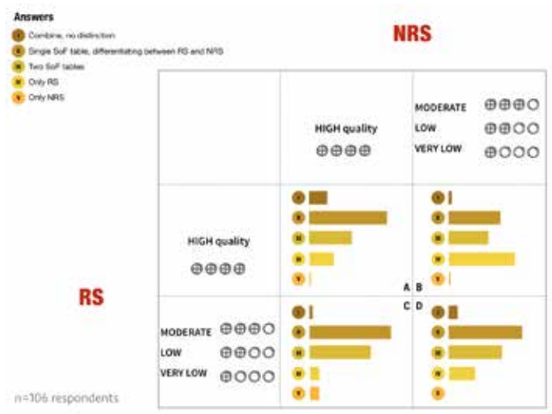
Background: Randomized studies (RS) are considered the ideal individual source of research evidence. Non-randomized studies of interventions (NRS) are critical to many areas of evaluation, yet they are commonly disregarded or separated from RS, and considered less certain due to confounding and bias. Using new tools for the assessment of NRS included in systematic reviews (eg, ROBINS-i) and GRADE (Grading of Recommendations, Assessment, Development and Evaluations) criteria, the integration of NRS with RS in systematic reviews could be more feasible. **Objectives:** as part of a Cochrane Methods project, we set out to obtain the rationale, perceptions and methods used to integrate RS and NRS from a group of experts for integrating both bodies of evidence using GRADE. **Methods:** We invited experts from different organizations (e.g. Cochrane, G-I-N (Guidelines International Network), GRADE members) to participate in a web-based survey to obtain their understanding, attitudes, and perceptions about integrating NRS with RS in a systematic review, and the integration within a summary of findings (SoF) table using GRADE. We assessed respondents' preferences and rationale regarding the integration of RS and NRS on different possible GRADE scenarios based on certainty of the evidence. **Results:** Of 187 initial responses, 137 (73.2%) were complete; 85% of respondents were highly experienced in systematic reviews and 65% had conducted at least one systematic review integrating RS and NRS. From presented scenarios, most experts favour a single SoF table differentiating RS from NRS (Fig). The situation most favourable for combining RS and NRS was when both bodies of evidence were of high certainty. A conceptual framework was drafted based on scenarios' assessments, feedback, and individual responses. **Conclusions:** Although most experts would prefer a single SoF table differentiating RS from NRS, we discuss other situations that are feasible for the RS/NRS integration based on the GRADE criteria. With more information and guidance on new methodological tools, the RS/NRS integration could help increase the certainty in the estimates in systematic reviews of interventions.



Determinants for successful de-implementation of low-value services: a systematic review

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Background: Stopping proven ineffective medical practices is important for improving the quality of healthcare. These low-value services (LVS) have no added value for patients or have shown to be only effective for a limited group. De-implementation of LVS is likely to face different challenges than implementation of new practices. Even with strong evidence against the use of an intervention or test, action is often required to restrict its use. **Objectives:** To investigate determinants for successful de-implementation strategies and to identify gaps in knowledge and areas for future research. **Methods:** MEDLINE, Embase, Cochrane, and Rx for Change databases were searched on 1 November 2015. Additional studies were found through checking references and healthcare websites. Studies of interest focused on the reduction or elimination of a LVS for clinical - rather than financial - reasons. Information on characteristics and effectiveness of de-implementation strategies, study design, and perceived/measured barriers and facilitators to these strategies were extracted. **Results:** About 120 studies were included: 65% on interventions (of which, drugs 80% vs non-drugs 20%); 25% on diagnostics; and 10% others (e.g. follow-up care or screening). Only 10% were randomized trials, most were before-after studies followed by interrupted time series. Most studies focused on adequate care or restricted use rather than total stoppage. About 70% claimed 'success' e.g. decreased use of LVS; 20% presented patient-health related outcomes. Only 1% considered the sustainability of the de-implementation. Most de-implementation strategies were multi-faced, with successful elements being patient education and empowerment, physician education and feedback, and organizational interventions. Serious barriers influencing the effectiveness of de-implementation were negative attitude towards change and continuing reimbursement. Strong facilitators were involvement of a medical leader and interaction with patients. **Conclusions:** We provide suggestions for quality improvement of future studies on de-implementation and give guidance for best practices to decrease LVS in health care.

Reporting and application of minimally important differences in randomized controlled trials evaluating patient reported outcomes: a systematic survey

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Background: Despite the increasing use of patient reported outcomes (PROs) in randomized controlled trials (RCTs), interpreting treatment effects (trivial, small but important, or large) remains a challenge. The minimal important difference (MID) provides a measure of the smallest change in a PRO that patients would perceive as important, and can facilitate interpretation of RCT results. **Objectives:** We conducted the first comprehensive systematic survey of published RCTs to determine the extent to which trialists

use MIDs when evaluating the impact of interventions on PROs. **Methods:** We searched MEDLINE, Embase, CENTRAL and PsycINFO to identify RCTs published in 2014 that evaluate the impact of interventions on at least one PRO. Reviewers screened identified citations, reviewed full texts of potentially eligible articles, and extracted relevant data from eligible studies. **Results:** 44/478 RCTs (9%) that reported on at least one PRO reported an MID. The 478 trials included 1312 PROs, of which only 75 (6%) reported an MID. Of these, 21 (28%) estimated the MID through anchor-based methods, 13 (17%) through distribution-based methods, 13 (17%) through a combination of these methods, 6 (8%) used an expert consensus approach, and it was unclear for 22 (29%) studies. Information regarding the method used to estimate the reported MID was primarily retrieved from referenced articles (94%). Most (n = 64, 85%) used an MID to interpret the magnitude of effects: 39 (61%) analyses involved a comparison of mean effects in relation to the MID, 19 (30%) examined the proportion of patients achieving an improvement greater than or equal to the MID, and no quantitative analysis was presented in 7 (11%) instances. In multivariable analysis, features associated with reporting an MID were publication in a general medical journal (odds ratio (OR) 4.04 (95% CI 1.12 to 14.5)), adequate allocation concealment (OR 2.25 (95% CI 1.12 to 4.56)), and blinding of outcome assessors (OR 2.17 (95% CI 1.02 to 4.65)). **Conclusions:** RCT authors whose outcomes include PROs seldom report MIDs. When they do, they usually use the MIDs to help interpret the magnitude of treatment effects.

Is it possible to match research outcome measures with patients' expectations?

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Background: It is crucial to select outcome measures and their rating scales to assess the meaningful results in chronic and disabling neurological diseases. **Objectives:** To address the mismatch between what clinical researchers do and what patients need. **Methods:** Epilepsy, amyotrophic lateral sclerosis and traumatic and non-traumatic spinal cord injury were considered. For each disease we performed a systematic review of all randomized control trials (RCTs) to evaluate any intervention published in any language over a period of five years in order to analyse the quality and methodological aspects of clinical research. For each trial, 13 different neurologists filled out a computerized form saved in a database. The evaluation of patient and career needs and emotions were performed with focus group discussions, transcribed into text-files, blindly elaborated into key semantic meanings and analyzed in a semi-quantitative way using 'Concordance' software. **Results:** We present preliminary results of our study regarding epilepsy only. We examined 949 published papers; only 167 were truly RCTs. We excluded 322 as not focused on epilepsy, 226 were not randomized, 104 focused on animal and phase I/II trials, 110 were on-going, open label studies, meta-analysis, and 23 were duplicated papers. A total of 61 patients and carers participated (40% of people contacted), they were organized into five groups of patients, and six groups of caregivers. Most frequently expressed needs were 'assistance', expressed three times more frequently by carers than patients, and 'experience sharing' and the 'need for knowledge' expressed twice as frequently by patients. The need for assistance was directly proportional with disease severity, while the need for knowledge was inversely proportional. Emotions most frequently expressed were anger and fear, which were proportional with disease severity, but also hope, resignation and acceptance. **Conclusions:** This approach could provide useful strategies to collect end-users of treatments' perspectives, ideas and values to reach an agreement between different stakeholders needs and to promote valuable clinical research.

Framework synthesis of 82 systematic reviews suggests narrative syntheses and meta-analyses use different approaches to argumentation

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Background and objective: Opinion is divided about the role of narrative synthesis in systematic reviews. On one hand, narrative synthesis and meta-analysis play complementary roles, and depending on user needs, one method may be preferable to the other. Though both methods ostensibly aim to present a picture of intervention effectiveness, it remains unclear and unexamined if narrative syntheses answer the same questions in the same

ways as meta-analyses do. That is to say, it may not be meaningful to compare one against the other on the same terms. Using Toulmin's argumentation theory, we analysed the texts of systematic reviews to explore differences in the modes of reasoning embedded in reports of narrative synthesis as compared to reports of meta-analysis. **Methods:** We used a sample of 106 systematic reviews on workplace health promotion interventions published in English after 1995 that were collected as part of an overview of reviews, and used framework synthesis and grounded theory methods to analyse 82 of the reviews that specifically addressed intervention effectiveness. **Results:** Two core categories, or 'modes of reasoning', emerged to frame the contrast between narrative synthesis and meta-analysis: practical-configurational reasoning in narrative synthesis ('What is going on here? What picture emerges?') and inferential-predictive reasoning in meta-analysis ('Does it work, and how well? Will it work again?'). Modes of reasoning examined quality and consistency of the included evidence differently. Meta-analyses clearly distinguished between claims and warrants, or arguments bridging data and claims, whereas narrative syntheses often presented joint warrant-claims. **Discussion:** Systematic reviewers are likely to be addressing research questions in different ways when using these different approaches to synthesis. These findings provide an alternative perspective on the role of narrative synthesis as 'second-best' to meta-analysis. They complement existing guidance on narrative synthesis by highlighting modes of reasoning used, and suggest how meta-analysis deploys narrative 'tools' in ways that are not explicitly stated in public.

Systematic reviews of qualitative studies can structure qualitative comparative analysis-based synthesis of intervention effectiveness

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Background and objectives: Qualitative comparative analysis (QCA) is useful for the synthesis of complex interventions, particularly when the goal is not to render a pooled estimate but to identify configurations of conditions, or participant and intervention characteristics that form pathways to an outcome. QCA originally relied on theoretically guided condition selection, which may be less helpful when rich data on interventions, e.g. from qualitative studies, is available. We report how a systematic review of service user views structured condition selection, model construction and interpretation to identify pathways to effectiveness in weight management programmes (WMPs). **Methods and results:** We updated a previous views synthesis and a systematic review of interventions. We identified 38 key themes in the views synthesis via thematic synthesis and translated themes into intervention conditions. We coded the ten most and ten least effective of 40 interventions as to the presence or absence of these conditions. Because of the number of conditions we coded, we relied on the views synthesis to identify overarching processes that users suggested were associated with WMP effectiveness, and selected conditions to develop three QCA models on the basis that they addressed these processes. We then checked models for contradictory configurations, i.e. where a combination of conditions included both most effective and least effective interventions. Whilst two of our models were consistent, one included contradictory configurations. We used the views synthesis to develop additional lines of enquiry and to bound our enquiry (prevent 'data dredging') by acknowledging when inferences were unsupported by the views synthesis. Finally, findings from the views synthesis contextualised minimised solutions for pathways to effectiveness. **Discussion:** Because QCA is an abductive approach, it requires 'theorising' and understanding of intervention processes to yield a meaningful solution. We have demonstrated here how the findings of views syntheses can be used to structure, but also to discipline and bound, analyses of pathways to effectiveness in interventions.

GRADE for preclinical animal studies: translating evidence from bench to bedside

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Background: Preclinical animal studies are used to develop new clinical treatments. The aim of animal studies (bench) ranges from unravelling pathophysiology and action mechanisms to investigating the clinical potential of selected interventions (bedside). Systematic reviews (SRs) can provide a reliable synthesis of the available evidence on the effect of interventions, but are relatively novel in laboratory animal research. SRs of animal studies can facilitate healthcare decisions, e.g. selection of interventions with therapeutic potential to be tested in clinical trials, regulatory decisions limiting human exposure (drugs or toxicants) or decisions on further animal studies. In addition, evidence from animal studies can inform clinical management decisions, if other evidence is lacking. Certainty in the evidence plays an essential role in these decisions, but guidance on the assessment is lacking. **Objectives:** To apply the GRADE (Grading of Recommendations, Assessment, Development and Evaluations) approach to preclinical animal studies, to adapt if needed, and to identify methodological issues. **Methods:** A draft GRADE approach for animals studies was developed by a literature survey on how authors of SRs of animal studies address certainty in the evidence, and by applying the 'human studies' GRADE approach to three SRs of animal studies to flag challenges. The draft was discussed and improved in several rounds of expert meetings. **Results:** In general, the GRADE approach applied well. The evidence is based on animal studies (bench), but the clinical question (bedside) is central. No factors other than the current GRADE domains were identified. Identified methodological challenges were choice of baseline risk, dealing with inconsistency within and across species, upgrading for consistency across species and specification of translating animal models to humans as part of GRADE's indirectness domain. **Conclusions:** GRADE can be applied to preclinical animal studies in the context of therapeutic interventions. Further work will concentrate on performing case studies, methodological issues and development of Evidence to Decision frameworks.

Short Oral Session 8
Research prioritization and evidence mapping

A novel modality for evidence mapping in systematic reviews: Plotting-E-Map (PLOEM)

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Background: The highlight of previous systematic reviews has been focusing on meta-analyses of randomized-controlled trials and non-randomized studies. In several clinical issues with a lack of meaningful sized comparative studies, although the issue is important, there are rare modalities to analyse or visualize the mapping of evidence. **Objectives:** To establish a novel tool for 'evidence mapping' in clinical issues which have multiple treatment options but also have numerous, dispersed, and small-sized evidence. **Methods:** We developed a web-based plotting program using Java-script and named it 'plotting-e-map (PLOEM)'. In the example of recurrent pancreatic cancer, there are five kinds of treatment options but which therapy is the best is still controversial. Because of its clinical characteristics, meaningful-sized comparative study is rare. Instead, literature screening showed 75 studies including case reports. Using the PLOEM program, we assigned ID numbers for 75 individual studies and inserted the basic information (study type, publication year, author, sample size, etc.) of all the studies into the application. **Results:** The visualized evidence mapping is shown in Fig 1. There are numerical dots (from 1 to 75): the shape of each dot represents the study type: 1) case reports in blue diamonds; 2) case series (sample size 2 to 10) in green ellipses; 3) single-armed cohort studies in yellow hexagons; 4) observational comparative studies in pink pentagons; and 5) prospective comparative studies in brown rectangles. The number inside each dot matches the study ID, and each dot is linked to its corresponding study by clicking on it. Users can easily understand the trend for 40 years in this condition. Figs 2 and 3 emphasize linkages between studies and gray alphabets indicate types of study combination. Users can try to conduct meta-analyses as a concept of subgroup analysis. **Conclusion:** Our new modality (PLOEM) enables users to look over research trends at a glance and to perform subgroup meta-analyses. To distribute this program widely, we are developing an open-access website and patches for statistical analytic programs such as Stata or R.

Figure 1.

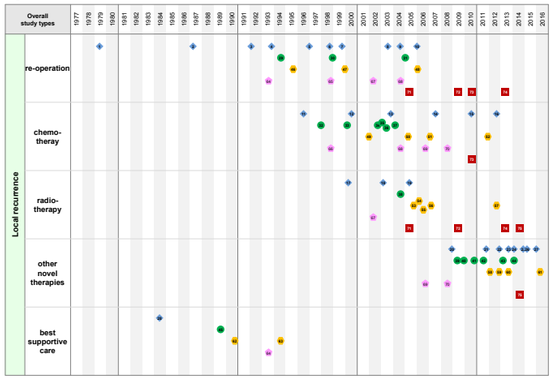


Figure 2.

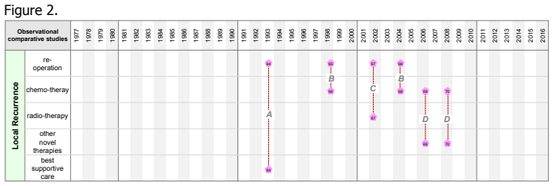
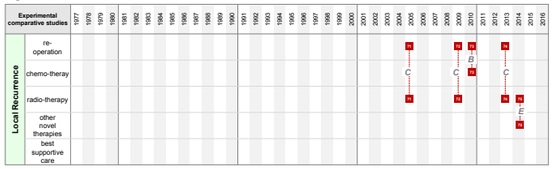


Figure 3.



Developing consensus when tackling highly technical and emotive challenges: an observational study of JLA Preterm Birth Priority Setting Partnership

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Background: Setting priorities for research requires engaging with highly technical and value-laden issues. Guidance developed by the James Lind Alliance (JLA) for setting priorities is unusual in drawing on both formalised and tacit knowledge held by clinicians and service users. **Objectives:** To learn how people in a mixed group interact during discussions and decision making. The research questions were: how do service users and clinicians interact when making collective-decisions about research, in particular, what makes some messages more persuasive than others? The Elaboration Likelihood Model of persuasion was used as a theoretical framework. **Methods:** An observational study of the Preterm Birth Priority Setting Partnership (PSP) at 14 meetings and two public surveys from 2011 to 2014. The study adopted an ethnographical approach with participant observation and discourse analysis of discussions at meetings. This involved digital recording and transcription of discussions, field notes and analysis of documentary records of meetings and steering group (SG) activities. **Results:** Final workshop priorities did not always match priorities expressed by the public voting. Communication patterns and methods to persuade others differed depending on the stages of the group development. For example, at the final workshop the SG used more rational than emotive ways to persuade others compared to new participants. As the PSP progressed to its second phase of public voting, the SG reflected on its ways of working, whereas this was rare at the workshop. **Conclusions:** The SG showed typical stages in group development: forming, storming, norming, performing and adjourning. However, when the new participants were added at the final stage of the decision-making process, the PSP returned to the very beginning stage of the development (forming). This may explain differences between the public voting, which adapted the Delphi method, and the final workshop, which adapted the Nominal Group technique.

Behaviour change in Water, Sanitation and Hygiene (WASH) promotion programmes: a review of reviews to identify evidence gaps

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Background: There are various approaches to promote WASH interventions (e.g. hand washing, toilet use, water supply). A systematic review (SR) on the effectiveness of these approaches to promote WASH behaviour change is relevant to guide policy makers to formulate effective WASH programmes. **Objectives:** In preparation for a

new SR (funded by 3ie (International Initiative for Impact Evaluation) and WSSCC (Water Supply and Sanitation Collaborative Council)), we mapped existing SRs that investigated the EFFECTIVENESS or IMPLEMENTATION aspects of WASH promotion programmes on behaviour change. **Methods:** We searched seven biomedical/social sciences databases and eight relevant websites (for grey literature) to identify SRs about the EFFECTIVENESS or IMPLEMENTATION aspects of WASH promotion programmes on behaviour change in low- and middle-income countries. Study selection, data extraction and quality appraisal (via ROBIS tool) were performed by two reviewers independently. We constructed an evidence map to identify current gaps in the literature. **Results:** We screened 3775 results from database searches and 199 from the grey literature and we included six SRs (five about EFFECTIVENESS and one about IMPLEMENTATION). The risk of bias ranged from low (four SRs) to high (two SRs). We found inconsistent results in terms of the EFFECTIVENESS of WASH promotion programmes on behaviour change outcomes (i.e. uptake/adherence, five SRs). Evidence from one SR indicated that WASH promotion programmes are effective to improve behavioural mediators (i.e. knowledge, skills and attitude). One SR concluded that promotion (via personal contact with a health promoter) is an important IMPLEMENTATION factor for a sustained WASH behaviour. The evidence gap map showed a lack of SRs investigating both the EFFECTIVENESS and IMPLEMENTATION aspects of various WASH promotion programmes on behaviour change. **Conclusions:** Mapping evidence gaps, based on a review of reviews, will inform researchers about potentially relevant future SRs within the WASH domain and behaviour change. We specifically used this information to fine-tune the scope of our own mixed-methods SR, which will be published in 2017.

Engaging stakeholders in the development of a Theory of Change to support a systematic review aimed at WASH (water, sanitation, hygiene) policy makers

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Background: In order to improve handwashing and sanitation practices in low- and middle-income countries, a range of programmes to promote behaviour change have been designed. It is not always clear to policy makers which of these approaches is the most effective in relation to learning outcomes, behaviour change and health outcomes. We engaged stakeholders in the development of a systematic review (funded by 3ie/WSSCC). **Objectives:** Our first objective in the development of this systematic review was to build a Theory of Change (ToC) framework illustrating how (elements of) handwashing and sanitation promotional approaches are expected to lead to the outcomes, and how different factors can influence the implementation of the promotional approaches. This ToC was then used to guide subsequent steps of the systematic review. **Methods:** Different sources of information were used to inform the ToC (existing WASH behavioural models and systematic reviews, and frameworks providing equity and implementation factors). The draft ToC was discussed in a three day face-to-face meeting and/or via electronic means by the team and the project Advisory Group members, including methodological (ToC/quantitative and qualitative research) and content experts (WASH/behaviour change), as well as end-users, policy makers and donors. **Results:** Discussion with the different stakeholders resulted in an improved version of our ToC, containing a more complete representation of the different promotional approaches, a clear distinction between outputs and short/intermediate/longer term outcomes, and three groups of factors that influence the implementation of promotional approaches. In a next step the ToC was used for defining the selection criteria and creating a coding sheet for data extraction. Conclusions from the systematic review will be coupled back to the ToC. **Conclusions:** The involvement of relevant stakeholders resulted in a ToC that is more relevant to our target groups. This theory-based approach will help policy makers to understand the important role of implementation, and the processes determining behaviour change in handwashing and sanitation.

Identifying future research priorities in low-and middle-income countries using an Evidence Gap Maps approach: case study of mapping reviews on cataract

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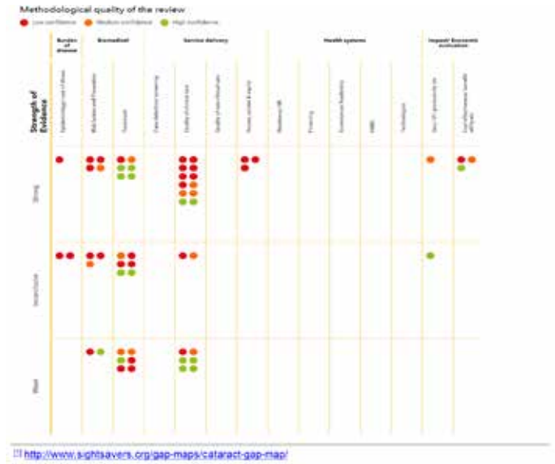
Background: Evidence Gap Maps (EGMs) are a tool for promoting evidence and identifying gaps in research. EGMs summarize, appraise critically and present evidence - often systematic reviews - in a user-friendly format. This paper describes how this tool was applied to assess the availability of evidence on cataract in low- and middle-income countries with the aim of understanding better how to avoid gaps in research and set up the future research agenda (Fig 1). **Methods:** The first stage of developing the cataract EGM involved identifying and displaying all relevant reviews in a matrix of 14 themes against three degrees of strength of evidence. The next stage involved searching and mapping primary studies on cataract into the same matrix as the systematic reviews. **Results:** In the first stage, 52 reviews were included in the cataract EGM. Clear gaps were identified on cataract-related health systems and uptake of surgery. The second search yielded 169 primary studies, of which 11 met the inclusion criteria. Out of 11 studies, four provided evidence on barriers to surgery uptake, five focused on improving patients' knowledge and subsequent demand for surgery, and two studies identified interventions to improve health workers' knowledge, attitude and practice. Among the primary studies, the outcomes, designs and interventions were heterogeneous, thus precluding a systematic review. **Conclusions:** The cataract EGM is a useful tool for identifying priorities in research in a number of ways: 1. EGMs help identify methodological weaknesses of existing reviews and encourage more systematic or rigorous approaches to synthesising evidence; 2. EGMs show thematic areas where few or no reviews are available and suggest questions for future systematic reviews; 3. EGMs identify evidence gaps with no reviews or primary studies and suggest areas for future investment in research.



Identifying the gaps: Cochrane Reviews on cancer prevention

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Background: Cancer represents a major healthcare burden of our current time, affecting nearly 34 million individuals worldwide. Cancer is associated with disease-specific symptoms, impaired quality of life and resource utilization on an individual patient level, as well as social and economic equity on a societal level. Apart from efforts aimed at better detection and treatment, increased efforts have recently been directed towards cancer prevention (e.g. smoking cessation, tackling childhood obesity). Given Cochrane's role in the synthesis and dissemination of reliable information on healthcare interventions, it should play an important role in this space. **Objectives:** To critically assess Cochrane's engagement in systematic reviews of cancer prevention. **Methods:** We performed a systematic, protocol-driven search for cancer prevention related reviews in the Cochrane Library using a tailored search strategy (search date March 2016). We also searched the Cochrane list of priority reviews related to cancer (www.cochrane.org/news). Two authors independently screened the results and extracted data. **Results:** We identified five Cochrane protocols and 19 published reviews assessing various types of cancer prevention, of which only five were published within the last three years. Eight evaluated dietary supplements, four assessed benefits and harms

of drugs. The evaluation of the Cochrane priority list showed that 30/345 prioritized titles are cancer reviews (9%), but none is related to cancer prevention, and only one cancer review out of 61 prioritized published reviews has been published so far. The Cochrane Review Support Programme has allocated funding to one cancer-related review (out of nine funded reviews), again, not assessing prevention but treatment. **Conclusions:** Cancer prevention is an underdeveloped field for Cochrane as reflected in the relative paucity of recent and ongoing reviews in this field. Raising greater awareness for this field through activities of the newly formed Cancer Alliance, as well more robust methods for the use of non-randomized controlled in Cochrane Reviews may help enhance Cochrane's engagement in this arena.

Mapping priority topics for nutrition research

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Background: Dietary imbalances are leading risk factors for the global burden of disease. Research evidence can inform investment in effective interventions to address malnutrition. A new Cochrane Nutrition Field (CNF) has been proposed to support the preparation and use of Cochrane nutrition reviews, to promote evidence-informed nutrition policy and practice. Given that no best practice for priority-setting exists, ascertaining nutrition research priorities already identified across existing regional and global priority-setting exercises may be useful to inform the CNF's activities. **Objectives:** To map priority topics for nutrition research from available priority-setting exercises. **Methods:** We searched PubMed, Embase, CABI (Centre for Agriculture and Bioscience International) database, Web of Science, and Google (January 2010 to 16 March 2016) to identify nutrition priority-setting reports in any language. Two authors independently screened titles and abstracts from database searches and the first 100 Google results, and potentially eligible full-texts. We included reports if they: specified nutrition research priorities or topics; documented prioritization processes; and referred to regional or global priorities. Disagreements were resolved through discussion. We will extract data, in duplicate, on: author affiliations; consensus methods; frequently occurring topics; geographic region; publication date; and conflict of interest reporting. We will describe data narratively, create summary topic categories for analysis, and map priorities into intervention categories, namely nutrient-based; food-based; nutrition education, counselling and coordination of care; or policies, programmes or systems that influence nutrition outcomes. **Results:** We screened 512 records, 29 of which are eligible. Data extraction and analysis is in progress and will be presented at the Colloquium. **Conclusions:** This project will identify overlapping nutrition research priorities that, along with future stakeholder engagement, will inform the CNF's activities around topics for new reviews and for which review evidence exists for dissemination.

Mapping the knowledge needs of Cochrane Field stakeholders: a gaps analysis

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Background: Cochrane's *Strategy to 2020* emphasizes the critical need for external facing and cross-cutting engagement with clinical communities, professional bodies and other external stakeholders. These concepts are embedded in engagement, dissemination and transfer or translation of knowledge (KT), and much of this activity already occurs across Cochrane entities. Fields are active in dissemination and education, however, measurement of the scope of this activity and its perceived value and utility among key stakeholders has not been established. This multi-phase study sought to address questions related to types of educational content and activities, and to identify the perspectives of key Fields stakeholders in relation to awareness, impact and unmet needs. **Objectives:** To provide an overarching framework that describes the current educational resources and activities of Cochrane Fields and identify the unmet knowledge needs of Field stakeholders. **Methods:** This multi-phase study began with a comprehensive audit of current Field educational activities and resources using a cross-sectional design. This was supplemented by a series of purposive, short answer interviews conducted with key Fields stakeholders, that focused on identifying their self-reported knowledge needs and preferences. A final conceptual mapping process indicated the degree of overlap between current Field resources and educational activity and the knowledge requirements of stakeholders. **Results:** Descriptive analysis of the survey data was mapped against stakeholder views and perspectives. These results show Fields deliver a range of training, with a focus on understanding systematic reviews, while stakeholders are interested in a broader range of knowledge. **Conclusions:** Fields engage widely across external stakeholder groups, primarily promoting knowledge of Cochrane Reviews. Stakeholders have broader knowledge needs and priorities. These findings may inform future collaboration between Fields, Centres and Cochrane Central to deliver on these knowledge needs while minimizing duplication of effort.

Short Oral Session 9
Review methods statistical

Arm-based versus contrast-based methods for network meta-analyses: radical differences or misunderstood nuances?

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Background: Network meta-analyses have traditionally estimated exposure effects by modelling contrasts (e.g. risk ratios or risk differences). Although some have recently argued that modelling arm-specific risks directly is also possible, this 'radical' suggestion has met considerable resistance from certain segments of the research synthesis community. The most commonly used argument against arm-based methods is that arm-based methods 'break randomization'. Interestingly, there are very few papers that explicitly discuss and compare the underlying assumptions of these two methods. **Objectives:** The objectives of this presentation are to review the differences in the approaches at a conceptual level, and explain the challenges and benefits associated within each under different contexts. We posit that the usual goal of ranking treatments is an arm-based objective. **Methods:** We use a causal inference approach and simulation studies. **Results:** The essential difference is that arm-based methods rank exposure arms directly, whereas contrast-based approaches must convert estimated contrast effects into arm-based rankings afterwards. We show that the differences between the two methods can be defined in terms of the weights associated with the study treatment arms and the resulting variances of the estimators of the arm-specific parameters. When all studies include only two exposure arms, one arm-based analysis will produce identical point estimates to the contrast based method, but power is reduced. The variances are likely to be similar when the network meta-analyses is based on three-arm studies, and the variance will generally be less for the arm-based approach when the network meta-analysis is based on four-arm studies. More generally, both approaches require appropriate modelling of the causes driving particular participants into different studies. Failure to do this will result in biased estimates early in the process, or late in the process, but biased estimates nonetheless. **Conclusions:** Our preliminary work suggests that arm- and contrast-based approaches yield unbiased estimates when done appropriately; variances depend on the number of study arms.

Dealing with methodologic challenges in systematic reviews addressing baseline risk

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Background: Estimating absolute treatment effects requires establishment of baseline risk (control event rate) and then application of relative risks of interventions to that baseline risk. Systematic reviews of baseline risk are not common, and application of GRADE Working Group guidance to such reviews even less common. Methodologic challenges, and the necessity for innovative solutions, arise in such situations, one of which is establishing baseline risk of venous thromboembolism (VTE) and bleeding in patients undergoing urologic surgery. **Objectives:** To address challenges encountered in a series of systematic reviews addressing the trade-off between benefits (VTE prevention) and risks (bleeding) of thromboprophylaxis in patients undergoing urologic surgical procedures. **Methods:** Review of relevant literature and systematic review team brainstorming, development of approaches, and iterative testing and refinement. **Results:** Challenges encountered and solutions adopted included the following: 1. identifying risk of bias issues most relevant to this setting; 2. variable duration of follow-up: we identified natural history studies that informed timing of VTE and bleeding and modeled the frequency of events accordingly; 3. choice of best estimate: when there were sufficient studies we chose the

median of the higher quality studies, when few studies existed we chose the median of all studies; 4. variable use of prophylaxis: we modeled event rates using results of systematic reviews of RCT of the impact of prophylaxis on bleeding and thrombosis; 5. estimating deaths: we applied mortality estimates for VTE and bleeding from the studies with sufficient numbers of patients to make the estimates to those that did not; 6. risk stratification: we created a simple novel instrument for risk on the basis of available prognostic studies; 7. certainty in estimates: we adapted criteria for each GRADE domain to this context including generating 'certainty intervals' that incorporated limitations beyond chance in generating quantitative estimates of uncertainty. **Conclusions:** Authors conducting reviews of baseline risk may benefit from our experience.

Hartung-Knapp-Sidik-Jonkman confidence intervals can be bizarrely narrow when heterogeneity is very low

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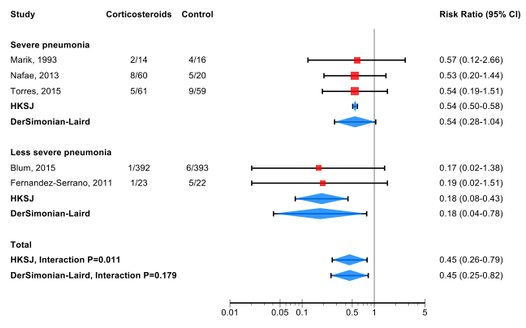
Background: Critics have suggested that the widely used DerSimonian and Laird (DL) method for summarizing random effects often has inappropriately narrow confidence intervals and high type I error rates. The Hartung-Knapp-Sidik-Jonkman (HKSJ) method represents a popular alternative with allegedly superior properties. **Objectives:** To illustrate the advisability of scepticism about unquestioning reliance on any one random-effects model. **Methods:** We conducted a systematic review and meta-analysis addressing the desirability of adjunctive administration of corticosteroids in patients with community-acquired pneumonia. We tested four a priori subgroup hypotheses, including the severity of pneumonia (expecting a larger reduction in mechanical ventilation in patients trials with > 70% of patients with severe pneumonia). **Results:** Random-effects meta-analysis with HKSJ and DL approaches provided identical point estimates and very similar confidence intervals, suggesting that steroids apparently reduce the need for mechanical ventilation: relative risk 0.45, 95% confidence intervals: HKSJ 0.26 to 0.79, DL 0.25 to 0.82 (Fig). For the severe pneumonia subgroup, the HKSJ confidence interval was unrealistically narrow (0.50 to 0.58) and much narrower than the intuitively sensible DL confidence interval (0.28 to 1.04). For the less severe subgroup, the HKSJ confidence interval (0.08 to 0.43) was also narrower than the DL estimate (0.04 to 0.78). This led to a statistically significant interaction P value with the HKSJ but not the DL approach: P = 0.01 and 0.18, respectively. **Conclusions:** The HKSJ method for calculating confidence intervals in random-effects meta-analysis can lead to implausibly narrow confidence intervals and, in this case, suggested a spurious subgroup finding. We recommend that systematic reviewers remain alert to counterintuitive implausible statistical analysis results and, when observed, use alternative approaches.



High statistical heterogeneity is more frequent in meta-analysis of continuous than binary outcomes

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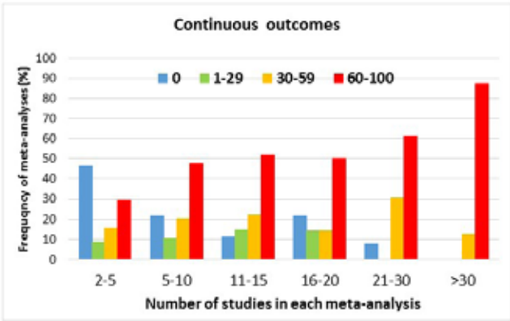
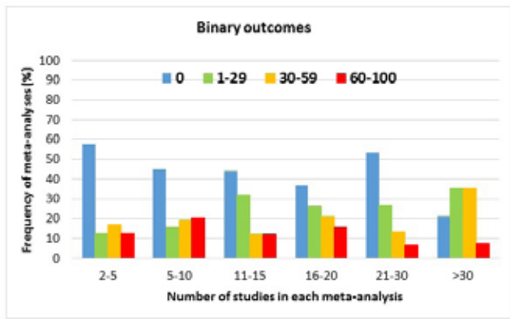
Background: Large variation in results of individual studies (heterogeneity) decreases certainty in the effect estimates from meta-analyses. Authors have addressed the interpretation of heterogeneity, as assessed by I2, primarily in meta-analysis evaluating binary outcomes. **Objectives:** We compared the distribution of heterogeneity in meta-analyses of binary and continuous outcomes, and explored hypotheses explaining the difference in distributions. **Methods:** We searched citations in MEDLINE and Cochrane databases for meta-analyses of randomized trials published in 2012 that reported a measure of heterogeneity in the analysis of either binary or continuous outcomes. Two reviewers independently performed eligibility screening and data abstraction. We evaluated the distribution of I2 in meta-analyses of binary and continuous outcomes and explored the association of number of studies included and distribution of heterogeneity separately for continuous and binary outcomes. We tested the hypothesis that I2 increases with an increasing number of studies meta-analysed and increasing precision of study effect estimate using bivariate Spearman rank correlation. **Results:** After full-text screening, we selected 671 meta-analyses evaluating 557 binary and 352 continuous outcomes. Heterogeneity, as assessed by I2, proved higher in continuous than in binary outcomes: the proportion of continuous and binary outcomes reporting an I2 of 0% was 34% versus 52% respectively and reporting an I2 of 60% to 100% was 39% versus 14%. In continuous - but not binary outcomes - I2 increased with larger number of studies included in a meta-analysis. Increased precision and sample size do not explain the larger I2 found in meta-analyses of continuous outcomes with a larger number of studies. **Conclusions:** Meta-analyses evaluating continuous outcomes showed substantially higher I2 than meta-analyses of binary outcomes. Results suggest differing standards for interpreting I2 in continuous versus binary outcomes may be appropriate.





Impact of missing outcome data for trial participants included in 100 meta-analyses: an imputation study

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Background: Missing participant data (MPD) relates to trial participants for whom outcome data are not available for systematic review (SR) authors. A number of methods to assess the impact of MPD on the results of meta-analyses have been proposed. No study has compared the use of these different methods. **Objectives:** The aim of this study is to compare the impact on the pooled effect estimates by different methods of accounting for MPD when conducting a meta-analysis. **Methods:** We included one meta-analysis from each of 100 clinical interventional SRs published in 2012. Eligible SRs reported a group-level meta-analysis of a patient-important dichotomous efficacy outcome, with a statistically significant pooled effect estimate. Ten reviewers, working in pairs, independently extracted data from all included meta-analyses and from all trials that contributed data to those meta-analyses. We considered 19 categories of participants that could potentially have MPD (Table 1). We included in our analyses participants belonging to any of these categories and explicitly reported on by the trialists as not followed-up (i.e. missing data). We reran each meta-analysis by applying nine different assumptions about the outcomes of participants with missing data using the same statistical methods used by the SR authors (Table 2). We calculated for each assumption the percentages of meta-analyses that 1) lost statistical significance or 2) changed direction. We also calculated for each assumption the mean change in the pooled effect estimates across the 100 meta-analyses. **Results:** We included 50 eligible Cochrane SRs and 50 non-Cochrane SRs, and a total of 653 trials. We have collected all data and we are in the process of analysing it. We will present the findings of the study at the Colloquium. **Conclusions:** Our findings will inform recommendations regarding what assumptions systematic review authors should make when considering the extent to which MPD impacts risk of bias.

Table 1: Categories of participants that could potentially have MPD

- "ineligible after randomization/mistakenly randomized"
- "did not received any treatment"
- "excluded as part of center exclusion"
- "explained loss to follow-up"
- "unexplained loss to follow-up"
- "withdrew consent"
- "withdrawn by physician investigator/sponsor"
- "protocol violation by participants"
- "protocol violation by physician/investigator/sponsor"
- "unintended protocol violation"
- "discontinuing trial prematurely"
- "discontinuing due to adverse events"
- "lack of efficacy"
- "outcome non-assessable"
- "cross-over"
- "dead"
- "unavailable data"
- "more than one category reported together"
- "other"

Table 2: Nine assumptions about the outcomes of participants with MPD

- Four commonly used assumptions that are seldom if ever plausible:
  - Best case scenario
  - Worst case scenario
  - All participants with MPD had the outcome of interest
  - None of participants with MPD had the outcome of interest
- Five increasingly stringent assumptions plausible assumptions *(i.e., incidence of events among participants with MPD higher by a specific ratio relative to the observed incidence among participants followed-up; referred to as relative incidence $RI_{LTFU/FU}$)*
  - $RI_{LTFU/FU}=1$
  - $RI_{LTFU/FU}=1.5$
  - $RI_{LTFU/FU}=2$
  - $RI_{LTFU/FU}=3$
  - $RI_{LTFU/FU}=5$

Node-splitting generalized linear mixed models for evaluation of inconsistency in network meta-analysis

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Background: Network meta-analysis for multiple treatment comparisons has been a major development in evidence synthesis methodology. However, the validity of a network meta-analysis can be threatened by inconsistency in evidence of the studies in the network. One particular issue of inconsistency is how to evaluate directly the inconsistency between direct and indirect evidence with regard to the effect difference between two treatments. A Bayesian node-splitting model was first proposed and a similar Frequentist side-splitting model has been put forward recently. Yet, it was noted that different parameterizations of side-splitting or node-splitting do not yield the same results when multi-arm trials are involved in the evaluation. **Methods & Results:** In this article, we showed that the side-splitting model can be viewed as a special case of design-by-treatment interaction model, and different parameterizations correspond to different design-by-treatment interactions. We showed how to evaluate the side-splitting model using the arm-based generalized linear mixed model, which is flexible in modeling different types of outcome variables, and an example dataset was used to compare results from the arm-based models to those from the contrast-based models. The three parameterizations of side-splitting make slightly different assumptions: the symmetrical method assumes that both treatments in a treatment contrast contribute to inconsistency between direct and indirect evidence, while the other two parameterizations assume that only one of the two treatments contributes to this inconsistency. **Conclusions:** With this understanding in mind, meta-analysts can then make a choice about how to implement the side-splitting method for their analysis.

Too much data from too many sources: what is the best estimate of the treatment effect?

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Background: There is no question that data gleaned from clinical trials will become increasingly available. For meta-analysts, however, this presents a new challenge because data extracted from different sources about the same study do not always agree. For a systematic review on gabapentin for neuropathic pain, we identified 10 trials providing data for a pain outcome at eight weeks. These data were described in six journal articles, two conference abstracts, two FDA medical reviews, five individual patient data (IPD), and six clinical study reports. **Objectives:** To describe a resampling-based, data-splitting approach to providing a distribution of all possible pooled estimates of effect and selecting data sources for meta-analysis. **Methods:** The data structure is illustrated in the Table. In each resampling, we selected one set of outcome data from each study (n = 10) and performed a random-effects meta-analysis with the data selected (degrees of freedom = 9 in each meta-analysis). We ran 10,000 samples and generated a distribution of all possible pooled estimates of effect based on available data. We examined the contribution of each data source to the top and bottom 5 percentile of estimates. We also conducted sensitivity analyses by imposing probabilities of each data source being selected for the meta-analysis. **Results:** When all data sources were used, the distribution of the meta-analytical estimates centered around -0.79 (95% confidence interval (CI) -1.28 to -0.26). When only one data source was used, the data from the FDA medical reviews appeared to provide a larger effect estimate than other data sources, but the 95% CIs overlap substantially. The contributions of each data source for the top and bottom 5 percentile of estimates do not seem to differ materially. Other results will be presented at the Colloquium. **Conclusions:** Our approach offers a non-parametric solution to identifying a distribution of all possible pooled estimates of effect by using all data from all sources. By incorporating probabilities of selection, our approach also shows the impact of partial inclusion or complete exclusion of a data source.

Table. Illustration of the data structure

	Data Sources for Pain at 8 weeks				
Studies	IPD	CSR	FDA Medical Review	Journal Article	Conference Abstracts
1				X	
2	X	X		X	X
3	X	X			
4	X	X			
5	.	X			
6	X	X	X	X	
7				X	
8				X	X
9	X	X	X		
10				X	

IPD: Individual patient data
CSR: Clinical study report
FDA: Food and Drug Administration

Short Oral Session 10 Implementing evidence

Drivers and barriers to evidence-informed country-level health policy making: case study of a discussion in the HIFA virtual forum

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Background: Healthcare Information For All (HIFA) is a global initiative of more than 15,000 individuals in 270 countries. In February 2016 HIFA launched a new programme on Evidence Informed Policy and Practice, supported by World Health Organization (WHO), TDR (WHO Special Programme for Research and Training in Tropical Diseases) and The Lancet. Three themed discussions through HIFA's virtual forum, each lasting six weeks are planned under this programme. The first discussion in February to March 2016 was on the theme of evidence-informed country-level policy making. **Objectives:** To present the experience of a themed discussion on evidence-informed health policy-making in the HIFA virtual forum. **Methods:** A working group was initially created that was later expanded to add additional members and expert advisors. The working group created a detailed background document consisting of five questions, each including several probable sub-themes to explore as prompts and a bibliography to stimulate the discussion. The discussion moderator sent one question every week to start the discussion. 1. What is evidence-informed policy making? Why do countries need it? 2. How are health policies currently made in different countries? In your country? 3. What are the key challenges for policymakers? 4. What mechanisms are in place to support policy making in your country? Which organizations provide support globally and nationally? 5. What needs to be done at global and country level to strengthen evidence-informed policy making? **Results:** More than 130 contributions from 34 authors in 16 countries were received. The presentation will summarize the key themes that emerged from the discussion about the drivers and barriers for evidence-informed country-level policy making. This will be based on a realist synthesis to be undertaken. **Conclusion:** The presentation will present the experience of the working group in preparing for and moderating the discussion, discuss how key themes emerged from discussion, together with their implications, and the steps required to develop a fuller understanding of the issues raised and how these issues can be addressed more effectively.

Connecting evidence-based guidelines with clinical practice: strategies and lessons learned across a large USA integrated healthcare delivery system

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Background: Kaiser Permanente (KP) is an integrated healthcare delivery system with 10.2 million members in eight USA states, 41 hospitals, and 600+ medical offices. The KP Care Management Institute, Evidence Services Unit, facilitates the production of KP National Guidelines using a robust methodology for evidence synthesis and translation.

These evidence-based resources are disseminated through KP's internal, web and mobile app-based Clinical Library, and also by local champions engaged in the guideline development process. **Objectives:** A range of locally led approaches have been used at KP to connect evidence-based guidelines with clinical practice. This presentation will highlight promising examples from across the KP system that illustrate how evidence does (or does not) move from a published study to a patient care encounter. It will report on opportunities and practical challenges that exist in the space between evidence and practice. **Methods:** Case studies of guideline implementation activities from across the KP system, including: 1) continuing medical education (CME) modules; 2) electronic medical record functions; and 3) shared decision-making tools. **Results:** KP has built an online continuing medical education (CME) training program that directly incorporates an osteoporosis guideline. The tool will be available to all clinicians across the KP system; evaluation data are forthcoming. Electronic medical record functions include 'Smart Set' templates customized to specific scenarios; Best Practice Alerts to identify screening, treatment, and patient safety opportunities; and companion products, such as clinical pathway algorithms and patient decision aids. A shared decision-making pilot effort incorporates evidence-based estimates of lung cancer mortality into an infographic that shows patients the risks and benefits of aggressive lung cancer screening. **Conclusions:** There are promising examples of evidence being translated into practice at KP. Key operational barriers include maintenance of updated content when evidence changes; and evidence gaps for contextual questions such as sub-populations.

CReST (Cochrane Review Screening Tool): developing a search process to identify implementable evidence

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Background: Cochrane methods recommend duplicate data extraction from primary studies to minimise bias. One of the features of Covidence, a new platform for the development of systematic reviews, is its ability to assist in this when extracting data from studies for inclusion in Cochrane Reviews. A similar task is extracting data from Cochrane Reviews. Several groups have searched the Cochrane database to identify implementable evidence or for mapping research gaps. We were faced with the task of extracting data from Cochrane Reviews reporting maternal or neonatal mortality or selected surrogate outcomes. **Objectives:** To develop a tool which could assist in the identification and extraction of data from Cochrane Reviews. **Methods:** We used Google forms as our basic concept to develop a tool we named the Cochrane Review Screening Tool (CReST). Data were extracted in duplicate by two data extractors working independently from the PDF version of relevant Cochrane Reviews directly into a Google form designed specifically for the purpose. Data included number of studies, total number of participants, effect size and 95% confidence interval and an assessment of quality. CReST was then used to compare data from the two data extractors and consensus was obtained between the two or by involvement of a third person. Finalised data were then automatically transferred to a spreadsheet for analysis. Only authorised data extractors had access to the toolkit and their experience was assessed. **Results:** Users described CReST as time saving and convenient. The tool allows two data extractors to work independently at a different place and time. It allowed for real time communication or via comments. Documents were easy to share. It reduced the risk of data error during transfer between documents. Google form is widely accessible without additional cost. It is suitable for team tasks such as reaching consensus after duplicate data extraction. **Conclusions:** CReST, although a relatively rudimentary tool uses an available platform. The toolkit could be applied to any project looking at extraction of data across a series of Cochrane Reviews or other large databases.

The use of Cochrane Reviews in the development of a first aid guideline for daily practice

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Background: The Belgian Red Cross-Flanders developed an up-to-date first aid handbook for Flanders (Belgium), containing practical instructions for laypeople concerning how to provide initial care in case of an acute illness or injury, according to the principles of Evidence-Based Practice. Amongst other databases, the Cochrane Library was searched for systematic reviews (SRs) that address PICO (population, intervention, comparator, outcomes) questions concerning first aid. **Objectives:** As Cochrane aims to synthesize clinical research and, by this influence decision making, the objective of this study was to investigate whether Cochrane SRs are useful for a practical guideline designed for laypeople. **Methods:** A total of 319 PICO questions, subdivided into 17 first aid categories, were addressed by searching for SRs and individual studies in MEDLINE, Embase and the Cochrane Library, leading to 191 PICOs for which evidence was found (60%). A post hoc analysis was performed to determine the prevalence of Cochrane SRs in the 191 evidence summaries made. **Results:** Of the 191 PICOs supported by evidence, 71 were supported by a SR (37%), of which 41 were Cochrane SRs (58%). The first aid topics best supported by a Cochrane SR were 'pregnancy and delivery' (30% of the PICOs for this topic were addressed by a Cochrane SR), 'infections' (29%) and 'chest pain' (29%). In contrast, for the chapters 'burns', 'illnesses due to heat and cold' or 'poisoning', no relevant Cochrane SRs were found. Fifty-four per cent of the Cochrane SRs used were less than five years old and 22% were over five years old but considered 'stable', showing that 24% of the Cochrane SRs used were out of date and not considered 'stable'. For 5/10 summaries where these Cochrane SRs were used, additional evidence from more recent individual studies was found and included. **Conclusions:** Evidence could be extracted from Cochrane reviews for only a limited number of the PICOs, during the development of a first aid guideline. This amount varied strongly between different topics. However, if a Cochrane SR review was available, it was found to be up to date in the majority of cases.

Using Cochrane Reviews to ensure best practices to achieve optimal attainment of the Malaysian MDG 4 and 5 mortality indicators

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Background: Malaysia has explored many opportunities to achieve its mortality indicators for Millennium Development Goals (MDG) 4 and 5. One of these was to examine whether interventions with high level of evidence have been implemented into the health service. **Objectives:** To identify interventions from the Cochrane Database with clear evidence of benefit for reducing maternal and neonatal mortality and select for implementation interventions expected to reduce maternal and neonatal mortality in Malaysia. **Methods:** This project consisted of four phases: 1. using prespecified criteria and duplicate data extraction, we identified Cochrane Reviews with clear evidence for reducing maternal or neonatal mortality or selected surrogate outcomes; 2. examination of local obstetric and neonatal registry data for evidence of current level of implementation of the selected interventions; 3. stakeholder presentations and selection of interventions for implementation; 4. Development of strategies for implementation and monitoring. We evaluated stakeholder's responses to the presentations. **Results:** We present the results of phases 1-3. We found 50 Cochrane Reviews describing 29 maternal and 21 neonatal interventions with clear evidence for reducing MDG 4 and 5 mortality indicators. Evidence on current implementation could be obtained for only two of these interventions. Interventions were presented at a series of stakeholder meetings. Stakeholders were engaged in the presentations, felt the interventions were informative, and could be used to change practice. Interventions selected were kangaroo mother care, probiotics for preterm infants, aspirin to prevent pre-eclampsia and calcium supplementation. Stakeholders wanted more discussion on implementation and help with developing implementation and intervention monitoring strategies. **Conclusions:** We have identified interventions with clear evidence of benefit in being able to optimize our Malaysian MDGs. Stakeholders were keen to implement them. Malaysian registries could be better used to monitor use of important interventions. Our approach could be applied to other areas of health care.

Systematic review, process evaluation and knowledge translation of community interventions to tackle a 'wicked problem': food insecurity

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Background: Food security is an important social determinant of health and basic human rights. Yet even in developed countries, millions of people suffer from food insecurity, with consequences for individual and societal health. Community Food Security (CFS) involves a systems approach to sustainable interventions. Herein, we report on a systematic review and process evaluation of CFS interventions. This CIHR-funded integrated knowledge translation (KT) project involves 20 experts from academia, public policy and health and food security coalitions, from Canada, Scotland and Australia. The aim is evidence-based decision-making on CFS. **Objectives:** To conduct a systematic review and process evaluation of interventions for Community Food Security. To work with our partners to design and implement a KT plan. **Methods:** We involved knowledge users (KU) from the start; they helped shape our review questions, PICO, search parameters and KT strategy. Primary outcomes are household food security, dietary intake and physical, mental and social health. We searched 13 electronic databases from 1980 to July 2015; we also handsearched. Data from included studies were extracted using Cochrane guidelines. We conducted meta-analyses where possible. The process evaluation is ongoing. We drew from systems approaches to KT and Outcome Mapping concepts to identify who we need to involve and other frameworks to think about depth and style of involvement. We are monitoring these efforts with a developmental evaluation. **Results:** We identified 24,213 records. After screening titles and abstracts, we included 353 papers to review full text (ongoing). Studies of food subsidies, pricing incentives, healthy corner stores, collective kitchens, community gardens and farmer's market interventions are included. We report on the effects of each intervention and assess explanatory variables. Interviews with KUs affirmed they were happy with their involvement; their input was sought and valued and the amount of contract was just right (see summary). **Conclusion:** Evidence from this review has important implications for food security policy and programs; our KUs will ensure its dissemination.

Attachments: Food Security Executive Summary_final.pdf

Routine piloting in systematic reviews to improve usability: a case study

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Background: In 2014, Linda Long proposed a method for the routine piloting of a systematic review through to evidence synthesis stage using data from a sample of included papers in order to improve efficiency and validity of the full review. **Objectives:** This paper describes and evaluates the method in a systematic review of low intensity interventions to prevent sexually transmitted infections in young people and men who have sex with men (MSM). **Methods:** Seven databases were searched up to October 2014; 23 'young people' RCTs and 10 MSM RCTs were identified for inclusion in the review. A sample of five young people studies was piloted through to evidence synthesis, undergoing data extraction and quality appraisal using the Cochrane 'Risk of bias' tool. 'Summary of findings' (SoF) tables describing participants, intervention delivery and study outcomes were created. Following the mini-synthesis, the data extraction form and SoF tables were circulated to team members in all participating research institutions. Feedback was sought on their usefulness to inform the next stage of the project and amendments invited. MSM papers were not subject to the piloting method and were processed as usual. **Results:** Following the mini-synthesis, a number of criteria in the data extraction form and SoF tables were identified as needing modification. After amendments, relevant data from the remaining young people RCTs were efficiently extracted in one phase. All 10 MSM RCTs had data extracted and their quality appraised. However, after modification of the data extraction form and SoF tables, a second phase of data extraction from all 10 studies had to be performed. **Conclusions:** Routine piloting in this systematic review facilitated a 'bespoke' review, with time saved through efficient data extraction. In addition, the mini synthesis provided a potential version of the full review that could be discussed and agreed by all stakeholders at an early stage of the review process. This supported review project management, improved efficiency, and ensured optimal usability by researchers involved in the next stage of the research programme.

Short Oral Session 11 Overviews, rapid and other review types

Trading certainty for speed: how much uncertainty are decision-makers willing to accept when using rapid review? An international survey

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Background: Systematic reviews (SRs) employ high methodological standards to summarize primary research, and offer the most reliable and valid support for health policy decision making and guideline development. SRs frequently take longer than a year to complete and, consequently, often do not meet the needs of those who need to make decisions rapidly. Rapid reviews (RRs) are knowledge syntheses that abbreviate certain methodological aspects of SRs to produce information faster; these are a pragmatic alternative to SRs. However, RRs may produce less reliable results than SRs. Incomplete or inaccurate information from RRs could lead to an increased risk of making incorrect or inferior decisions/recommendations that may impact patients, practice, and policies. **Objective:** To determine the degree of risk of getting a wrong answer that guideline developers and decision makers are willing to accept in exchange for faster evidence-synthesis. **Methods:** We designed and pilot-tested an online-survey that asked participants to assign a value to the maximum risk of getting a misleading answer (wrong or inaccurate) that they are willing to accept in exchange for a rapid evidence synthesis. We will use a non random purposive sample of decision makers, contacted through email. All responses will be anonymous. We will administer the survey in two stages: 1. contacting individual decision makers who use evidence-syntheses identified through our professional networks and associations sending them a link to the survey; and 2. circulating a broad notice to targeted email distribution lists in order to enhance recruitment. Survey enrolment is expected to be from April to July 2016 with reminder notifications sent at 2, 4, and 6 weeks. **Results:** We will present our results at the Colloquium. Findings will provide insight into decision maker attitudes towards the potentially lower reliability of results from RRs. We will use results to establish a non-inferiority margin for an upcoming methods project that aims to test whether different methods of abbreviated search strategies are non-inferior to comprehensive, systematic literature searches.

Ultra-rapid HTAs: a survey of usefulness and influence in decision making

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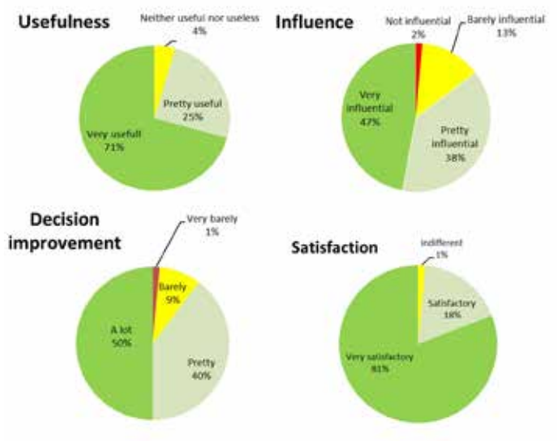
Background: IECS is a Health Technology Assessment (HTA) agency in Latin America, that provides reports to public institutions, social security and private insurance entities. Since 2012 we have produced ultra-rapid reports, completed within 72 hours, aiming to solve specific coverage problems, often related to a single patient needs. Decision-makers systematically complete a brief survey on usefulness and satisfaction within two weeks of receiving the report. **Objectives:** To evaluate the usefulness for the decision makers and the influence of ultra-rapid, patient-based HTA reports in the decision-making process, as well as their agreement with final coverage decisions. **Methods:** Descriptive and analytic cross-sectional study. We analysed the survey responses and compared the agreement between the final coverage decision and the conclusions of the report. The Ultra-rapid HTAs do not make recommendations about coverage, but provide information about efficacy and safety to help decision-making. **Results:** From May 2014 to February 2016 we collected a total of 68 responses from 117 reports (58%). In only 10.3% of the cases the decision was still pending at the time of the survey; 47.1% had a coverage denial and 42.6% a positive coverage. All seven cases with no decision made yet had a negative conclusion in the report. In case of active decisions, the crude agreement rate was high (76.5%) (Fig 1). Regarding usefulness: 96% of decision makers found the report useful or very useful; 85% stated that the report had influenced their decision; 90% thought the quality of the decision-making improved with the reports and inputs were better after reading the report; and 99% were satisfied with the service (Figure 2). The three most frequent consultations were related to cancer, neurological and musculoskeletal disorders; and half of the cases were related to drugs. **Conclusions:** Most decision makers found

ultra-rapid HTA reports useful and reported that their final decisions were influenced by them. Agreement with final decisions was high.

Figure 1. Crude Agreement

Figure 2



An inventory of methods for overviews of systematic reviews of interventions: mapping the evidence for the methods

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Background: Evidence mapping is a systematic method for representing the evidence on a particular topic, with the resulting map facilitating identification of gaps in the literature. To date, there has been no evidence map of the methods used in overviews of systematic reviews, thus making it difficult to determine where there are gaps and hence what methods research should be undertaken as a priority. **Objectives:** 1. To develop and populate a framework with methods that have, or may be used, in conducting, interpreting and reporting overviews (stage 1). 2. To create an evidence map of studies that have evaluated these methods (stage 2). **Methods:** From a search of general and methods-specific databases, we identified cross-sectional studies, guidance documents and commentaries that described methods proposed for or used in overviews (stage 1). Studies evaluating the performance of these methods were identified from systematic reviews (SRs) and individual methods studies (stage 2). We described the evaluations and mapped them to the framework of methods developed in stage 1. This presentation considers initial, related steps (scope and purpose; eligibility criteria; search methods; data extraction), focusing on methods for which there are considerations unique to overviews. **Results:** Forty-two studies identified methods relevant to one or more of the initial steps of conducting an overview; most with insufficient detail to operationalize methods. Synthesis across studies identified alternative approaches for each method (options). For example, in the data extraction step of the framework, options for handling discrepant data across SRs were to: 1) extract data from all reviews recording discrepancies; 2) extract data from one SR selected using prespecified criteria (e.g. most recent or highest quality); or 3) extract each data element (e.g. effect estimates, quality assessments) from the SR that meets decision rule criteria (e.g. most complete information on effect estimates; uses Cochrane 'Risk of bias' tool). **Conclusions:** Our results provide a framework and inventory of studies evaluating the performance of methods for overviews.

Guidance for conducting overviews of reviews: results from a scoping review and qualitative meta-summary

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Background: Overviews of reviews (overviews) compile data from multiple systematic reviews (SRs) to provide a single synthesis of relevant evidence for healthcare decision-making. Despite their increasing popularity, there is limited methodological guidance available for researchers wishing to conduct overviews. **Objectives:** To identify and collate all published and unpublished documents containing methodological guidance for conducting overviews. Our aims were to: provide a map of existing guidance documents; identify similarities, differences, and gaps in guidance; and identify common challenges involved in conducting overviews. **Methods:** We conducted a comprehensive search that involved reference tracking, database searches, handsearching websites and conference proceedings, and contacting overview producers. Guidance statements across included documents were analyzed by stage of the overview process using a qualitative meta-summary approach. **Results:** We identified 52 guidance documents produced by 19 author groups between 2004-2015; 69% were produced by authors affiliated with Cochrane, and 71% were unpublished documents not accessible through traditional database searching. Adequate guidance was available for: deciding whether to conduct an overview, specifying the scope, and searching for and including SRs. Limited or conflicting guidance was available for: quality assessment of SRs, collecting and analyzing data, and grading quality of evidence. Major challenges identified were deciding whether and how to include multiple SRs examining the same intervention for the same disorder, and dealing with data that are missing, inadequately reported, or reported differently across SRs. **Conclusions:** This is the first systematic and comprehensive compilation of methodological guidance for conducting overviews. Results of this project will facilitate the production of future overviews and can help authors address key challenges they are likely to encounter. Results have been used to update the guidance contained within the Cochrane Handbook's chapter on overviews, and can be used to set priorities for future methods research.

Methods for developing software to support systematic review development: the JBI SUMARI example

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Background: It is widely accepted that systematic reviews are a vital resource to inform policy and practice to ensure efficient and effective health care. However, a systematic review is not a simple project to undertake, and given their complexity they can take anywhere from six months to two years to complete. As such, software programs have been developed to facilitate, streamline and support the review process. **Objectives:** To develop software for conducting systematic reviews of various types of evidence. **Methods:** An agile software development approach was taken. A widespread consultation process was undertaken to collect feature requests from an international network of systematic reviewers. These were then turned into 'user stories' and assigned points which reflected the technical requirement to complete a story. Throughout the development an international user group provided feedback on the software functionality to enable iterative changes throughout the process. **Results:** The software is now available and supports the entire systematic review process for different types of systematic reviews. User feedback and testing is ongoing, and the software will continue to evolve based on the needs of systematic reviewers. **Conclusions:** An agile software development approach combined with wide consultation and user testing can facilitate systematic review software design and development. A number of lessons learned throughout this process are available for other software developers in this field.

Developing methodology for systematic reviews addressing questions of prevalence

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Background: There currently is only limited guidance for authors aiming to undertake systematic reviews addressing questions of prevalence. These reviews are particularly useful to measure global disease burden and changes in disease over time. **Objectives:** The aim of this project was to develop guidance for conducting these types of reviews. **Methods:** A methodological working group of the Joanna Briggs Institute, Adelaide, South Australia, Australia, was formed to create guidance for conducting systematic reviews of studies reporting prevalence and cumulative incidence information. All methodological output of the group was subject to peer review and feedback by members of the international evidence synthesis community. **Results:** Systematic reviews of prevalence data should follow the same structured steps as systematic reviews of effectiveness. However, many of these steps need to be tailored for this type of evidence, particularly surrounding the stages of critical appraisal and synthesis. This presentation will discuss some of these adapted steps. **Conclusions:** Prevalence systematic reviews and meta-analysis is an emerging methodology in the field of evidence synthesis. These reviews can provide useful information for healthcare professionals and policymakers on the burden of disease, show changes and trends over

time in disease, and inform geographical distributions of disease and conditions.

Systematic review opportunities: identifying gaps and areas of wealth in the public health review literature

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Background: Health Evidence™ supports the public health workforce in searching for, interpreting, and applying research evidence to practice. The www.healthevidence.org repository offers 4500+ quality-appraised public health relevant systematic reviews, including nearly 700 Cochrane Reviews. **Objectives:** 1. Identify gaps in availability of high quality public health relevant reviews. 2. Identify opportunities for creation of systematic reviews of reviews (SRRs). **Methods:** Searches of 18 topics on www.healthevidence.org produced an inventory of public health review literature from 2011-2016. Gaps and areas of wealth were identified based on review methodological quality (strong/moderate/weak), availability of Cochrane Reviews, and availability of SRRs within each topic area. **Results:** Topic areas with the largest quantity of methodologically strong quality reviews include (Cochrane, total): chronic diseases (72, 293), physical activity (30, 246), nutrition (69, 246), adult health (99, 235), youth health (58, 196), and mental health (38, 180). For the topic areas of chronic diseases, physical activity, and nutrition, a growing number of SRRs already exist (13, 10, and 11, respectively). Topic areas with less than five SRRs and a considerable quantity of strong quality reviews include (Cochrane, total): communicable disease and infection (55/130), adult health (99, 235), reproductive health and healthy families (46, 113) and, social determinants of health (12, 44).Topic areas with a paucity of reviews that highlight opportunities for creation of strong quality reviews include (strong quality, total): emergency preparedness and response (2, 9), dental health (29, 39), and environmental health (30, 40). **Conclusion:** SRRs are valuable in guiding policy and practice. Methodologically strong systematic review evidence exists in a number of public health relevant topic areas; Health Evidence™ is well positioned to support the conduct of reviews of reviews in multiple topic areas. There are also a number of topics for which there are an opportunity for Cochrane Reviews to be conducted.

Short Oral Session 12
Research conduct and waste

Discontinuation and publication of randomized clinical trials supported by the Swiss National Science Foundation

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Background: About 25% of randomized clinical trials (RCTs) are prematurely discontinued; mainly due to slow recruitment of participants. Up to 60% of discontinued RCTs remain unpublished. The Swiss National Science Foundation (SNSF), the main public funding body for research in Switzerland, promotes academic excellence, and evaluates study proposals critically. It remains unclear, whether RCTs selected competitively for funding by the SNSF have a lower risk of discontinuation or non-publication. **Objectives:** To assess and compare completion and publication status of SNSF-supported RCTs with non-SNSF supported Swiss RCTs from a similar time period. **Methods:** We systematically identified SNSF-supported RCTs in health care up to May 2015 and extracted in duplicate trial characteristics from corresponding proposals. For each RCT, we searched for corresponding publications and conducted a survey of principal investigators for information about discontinuation and publication of RCTs. We used multivariable logistic regression and data from previous empirical work to compare risks for discontinuation of SNSF-supported RCTs to Swiss investigator-initiated RCTs not supported by the SNSF and industry-sponsored RCTs. **Results:** Out of 101 RCTs that were supported by the SNSF between 1986 and 2015, 61 RCTs were completed as planned, 34 were prematurely discontinued (all due to slow recruitment), and the completion status remained unclear for six RCTs. Fifty-three RCTs were published in peer-reviewed journal articles. Ninety-five principal investigators responded to our survey. SNSF-funded RCTs were equally likely to be discontinued as non-SNF RCTs (adjusted odds ratio (OR) 1.62, 95% confidence interval (CI) 0.82 to 3.21) and more likely to be discontinued compared to industry-sponsored RCTS (adjusted OR 6.45, 95% CI 2.94 to 14.40), both due to slow recruitment. **Conclusions:** One-third of RCTs funded by the SNSF were prematurely discontinued and more than 40% remain unpublished. Approval and support from the SNSF does not seem to lower the risk for discontinuation or non-publication of RCTs in Switzerland.

Barriers to Cochrane Reviews of traditional medicine therapies: problems and potential solutions

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Background: Traditional medicine (TM) therapies originating in East Asia are widely used across the world. The evidence for therapies such as acupuncture, herbal medicine, and tai chi requires assessment in rigorous systematic reviews, and it is important to understand any obstacles to conducting these reviews. **Objectives:** To identify barriers to the registration and conduct of Cochrane Reviews of TM therapies. **Methods:** We surveyed Cochrane Review Groups (CRGs) to ascertain barriers to registration of TM reviews, and identify perceived difficulties in the conduct of the reviews. We also asked what steps the TM research community could take to address these problems. **Results:** We contacted 53 CRGs and received 48 responses on behalf of 49 (49/53; 92%) CRGs. Most respondents (45/48; 94%) reported that their CRG currently had at least one review on a TM therapy, but few CRGs (10/48; 21%) had editorial TM expertise. The greatest barriers to registration were that TM was not applicable to CRG high priority conditions (21/48; 44%) and that there was difficulty in assessing mechanisms or components of TM therapies (21/48; 44%). The most commonly identified difficulties in carrying out TM reviews were insufficient characterization of interventions (31/48; 65%), too few good quality trials (29/48; 60%), and difficulties in finding peer reviewers (26/48; 54%). Difficulties in searching the literature and working across languages were also mentioned frequently. Improving the conduct of and access to TM trials, assisting with finding appropriate peer reviewers and providing language support were all helpful actions endorsed by more than 50% of respondents. **Conclusions:** Difficulty in assessing the components and mechanisms of TM therapies is a major barrier to the registration and conduct of Cochrane Reviews of TM. The Cochrane Complementary Medicine Field has partnered with Cochrane colleagues and TM researchers outside Cochrane to work on this and other identified issues with TM reviews. We will report on the details and progress of several activities aimed at addressing the barriers to good quality TM reviews.

Individual and institutional financial conflicts of interest reported by authors of randomized controlled trials: a systematic survey

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Background: Systematic reviewers are expected to collect the financial conflicts of interest (COI) disclosures of authors of included studies. These disclosures usually lack important details that would allow the judgment of their significance. **Objectives:** The objective of the study is to survey reports of randomized controlled trials (RCT) for the characteristics of individual and institutional financial COI disclosures. **Methods:** We are using standard systematic review methodology to survey reports of clinical RCT papers published in any of the 119 Core Clinical Journals in 2015. We categorized the types of disclosed financial COI as grant, employment, personal fees, non-monetary support, drug or equipment supplies, patent, stocks, and other types. We will collect data on general characteristics of the RCTs, the reported funding, and the characteristics of the COI disclosures including type, source, relation of the source to the trial subject and funder, the duration, and the monetary value. We will also collect data on the characteristics of authors that report the COIs, including authorship rank, title, affiliation, and gender. We will conduct descriptive and regression analyses. **Results:** We included 108 RCT papers with authors reporting financial COIs. Of the 108 RCTs, 96% had the first author affiliated with an institution from a high income country and 57% were on a pharmacological intervention. All RCTs reported being funded, of which 58% were funded by a private for profit source. Eighty-five per cent of papers provided COI disclosures as narrative statements in the main document and 20% as ICMJE forms available online or upon request. We identified 818 authors disclosing a total of approximately

3000 financial COIs. The data collection phase is ongoing and we will present additional results at the Colloquium.
Conclusions: The findings of our study will support the development of future guidance for authors of systematic reviews to record the individual and institutional financial conflict of interest disclosures of authors of included studies.

Integrity in reporting research: what do Cochrane authors from LMICs think?

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Background: In low- and middle-income countries (LMICs) research integrity is increasingly important as researchers take the stage in international research, global standards are rising and systems for assuring integrity may be limited. To promote integrity in reporting research, we need to understand the current situation in terms of what LMIC researchers think and what is happening at institutions. **Objectives:** To describe LMIC health researchers' perceptions and awareness of good practice in relation to authorship, redundant publication, plagiarism and conflict of interest. **Methods:** We conducted an online survey of LMIC contact authors of active Cochrane Reviews in 2015. We developed and piloted a questionnaire containing scenarios related to authorship, redundant publication, plagiarism and conflict of interest. We included opportunities for free-text comments. We set up the survey on Google and invited participants via email. We analysed data with SPSS. Ethical approval was obtained and responses were anonymous. **Results:** We received 199/583 (34%) responses from Latin America, Africa and Asia. Respondents were authors on a median of 3 Cochrane reviews (IQR 1-5). Most respondents thought that adding (65%; 129/198) or omitting (98%; 195/198) an author, text-recycling (71%; 141/198), translating a text (95%; 189/198) or copying an idea (90%; 178/198) without acknowledgement of the source, and not declaring a financial (87%; 173/198) or non-financial conflict of interest (76%; 151/198) was unacceptable. However respondents indicated that these practices did occur at their institutions. Guest authorship was the most common practice and 77% of respondents stated it occurred in their institution. Respondents also commented extensively, especially on authorship issues, which appeared to be a common problem. Comprehensive results will be presented at the Colloquium. **Conclusions:** Although LMIC researchers perceived certain reporting practices to be unacceptable, they also indicated that these occurred at their institutions. Follow-up interviews with selected participants who provided contact details will explore these issues in depth to inform future activities.

Is another validation of a clinical prediction rule necessary? A demonstration of research wastes using recursive cumulative meta-analyses

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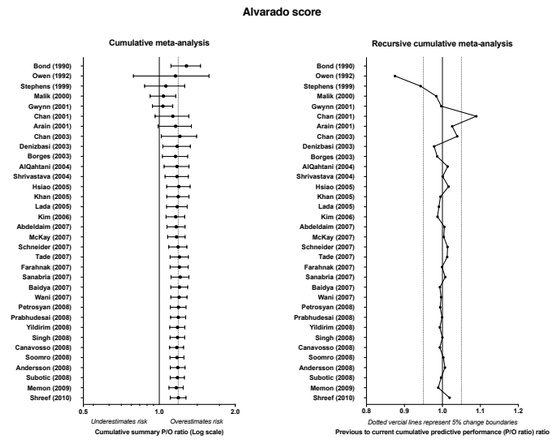
Background: Although many studies validating clinical prediction rules are published, they have been unevenly focused on a few prediction rules leaving many without any external validation. **Objectives:** This study aims to demonstrate research wastes related to conducting many external validation studies of a clinical prediction rule. **Methods:** Data from published meta-analyses of Pneumonia Severity Index (PSI) and Alvarado Score were re-analyzed. From each validation study, the publication date, total number of subjects, and number of predicted and observed events were recorded. Random-effects cumulative meta-analyses of predictive performance (predicted/observed event ratio) were conducted according to the publication date. Then, the trajectory of previous to current cumulative predictive performance ratio over information step (addition of a new validation study) was graphically assessed. The number of validation studies and participants included in the validation studies were calculated before and after the stability of predictive performance is reached. **Results:** Firstly, 30 validation studies of PSI which contained 26,563 participants were re-analyzed. After the data from the twelfth validation study was added to the recursive cumulative meta-analysis, the trajectory of cumulative predictive performance became stable (sustained less than 5% change). Therefore, 19 (63.3%) validation studies and the data from 17,443 (65.7%) participants added little value. Secondly, 34 studies validating Alvarado Score (9778 participants) were assessed. The trajectory of cumulative predictive performance became stable after the data from the seventh validation study was added to the recursive cumulative meta-analysis. Hence, 24 (80%) validation studies and data from 8066 (82.5%) participants included in these validations had little value. A recalibration was done in only 1 validation study of PSI. **Conclusions:** Substantial research wastes were demonstrated in the validation of PSI and Alvarado Score. Before a validation of a clinical prediction rule is carried out, researchers should carefully consider whether it is truly necessary.



How often are ineffective interventions still used in clinical practice? A cross-sectional survey of 6272 clinicians in China

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Background: One of the important impacts systematic reviews and evidence-based medicine can make is to facilitate the elimination of proven ineffective interventions from practice, which is one of the worst uses of health interventions. However, little is known about the changes that evidence-based medicine has made in reducing such inappropriate use of medicine. **Objectives:** We surveyed clinicians in China to establish how often ineffective interventions were still used in practice. **Methods:** A total of 3246 clinicians from 24 tertiary hospitals were surveyed in person and another 3063 through an online survey. The main outcomes are prescription by a clinician, and use in a patient of, an ineffective intervention and of a matched effective intervention in patients with the same disease. We identified 129 ineffective interventions for 68 diseases from the BMJ Clinical Evidence and included these in the survey. One effective intervention was identified for each disease and a total of 68 effective interventions were thus also included. The frequency of use of effective interventions was used as a reference for that of ineffective interventions. **Results:** The mean prescription rate by clinicians was 59.0% (95% confidence interval (CI) 58.6% to 59.4%) and 81.0% (95% CI 80.6% to 81.4%), respectively for ineffective and effective interventions. The mean frequency of use in patients is 31.2% (95% CI 30.8% to 31.6%) and 56.4% (95% CI 56.0% to 56.8%) for ineffective and effective interventions, respectively. The relative reduction in use of ineffective interventions compared with that of matched effective interventions was 27.2% (95% CI 27.0% to 27.4%) and 44.7% (95% CI 44.3% to 45.1%) for clinician's prescription and use in patients, respectively; 8.6% of ineffective interventions were still routinely used in practice. **Conclusions:** Ineffective interventions were still commonly used. Efforts are necessary to reduce and eventually eliminate ineffective interventions from practice.

Short Oral Session 13 Review methods non-statistical II

An adaptable framework for analysing diversity, context and inequalities in systematic reviews

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Background: There is increasing interest in research evidence to inform policy about health (where evidence-based medicine originated) and international development, which cuts across all areas of public policy. The emphasis on health inequalities in the former, and diversity of context in the latter, raises a challenge when synthesising research findings drawn from different populations. **Methods:** We compared how inequalities had been analysed in systematic reviews for health using the mnemonic PROGRESS-Plus with the multilevel, ecological framework of social determinants of health. We tested the utility of similar ecological frameworks for investigating diversity,

context and inequalities for systematic reviews addressing other topics. **Results:** PROGRESS-Plus provided a flexible framework for extracting data and conducting subgroup analyses, but appeared unstructured and incomplete. In comparison, ecological frameworks were more coherent, theory driven and dynamic; they also helped identify more contextual factors and encouraged systems thinking. They were successfully applied to various topics such as: children and peacebuilding; microfinance and empowerment; problematic masculinities; and contraceptive choices. **Conclusions:** A multi-level, ecological framework can be adapted to diverse topics to: 1) help identify important contextual factors; and 2) structure the collection of data required to answer questions about the applicability of interventions and the transferability of findings to new contexts.

An analysis of the transparency of narrative synthesis methods in systematic reviews of quantitative data

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Background: Narrative synthesis (NS) is commonly used in systematic reviews (SR), especially when there is a high level of complexity and heterogeneity. Yet developments to improve review methods have largely overlooked NS of quantitative data. Although NS guidance exists, it is rarely used and consensus is lacking about how quantitative data should be synthesized. Consequently, it is difficult to assess rigour and potential bias in NS. **Objectives:** To assess the methods and adequacy of reporting of NS of quantitative data in SRs. **Methods:** Focussing on SRs of public health interventions, we used a random 20% (n = 474) sample of SRs from the McMaster Health Evidence database (2010 onward) to identify SRs using NS. Informed by key sources on NS methods, we extracted data from 29% (n=72) of reviews using NS on: SR characteristics, justification for NS, management of conceptual and methodological heterogeneity including clarity of groupings used in the NS, links between data and text, and adequacy of NS description. **Results:** In total, 48% of reviews (n = 215) used NS only and 44% (n = 195) used meta-analysis only; 8% of reviews (n = 36) used NS and meta-analysis. Of the reviews using NS, 75% included non-randomised studies, and 23% (n = 58/251) referenced a protocol. Description or justification for use of NS was limited and often absent. Investigation and management of heterogeneity was unclear, and data were not presented transparently so as to facilitate links to the synthesis findings. **Conclusions:** Despite frequent use of NS for quantitative data, lack of transparency in reporting makes it difficult to assess the rigour and reliability of SR findings. Failure to manage heterogeneity and justify groupings used in the synthesis further prevents assessment of the appropriateness and usefulness of the synthesis. We estimate that NS is used in > 30% of all SRs. The lack of transparency raises concern about the potential for bias in a large volume of the SR evidence base, and is a potential threat to evidence-informed decision-making. There is an urgent need for a programme of methodological development to underpin and improve NS of quantitative data.

Fitting a square peg into a round hole: adapting Cochrane methods to conduct a methods review

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Background: Cochrane methods systematic reviews typically adapt methods for systematic literature searches, 'Risk of bias' assessment, data extraction, and results synthesis developed for intervention reviews. We originally used such methods to develop 'Full publication of results initially presented in abstracts', a methods review, but approaches for assessing risk of bias and identifying heterogeneity appeared inadequate for our ongoing update of the review. **Objectives:** To develop: 1. a unique 'Risk of bias' tool for studies examining full publication outcomes of conference abstracts; and 2. robust algorithms to classify subgroups to facilitate applicability of synthesized results. **Methods:** We identified methods used in included studies to assess risks of selection, information, and ascertainment bias. We compared these biases with those described by Schmucker et al in a methods review on full publication of studies approved by ethics committees or included in trial registries. We arrived at consensus on items to include. We also grouped all included studies by abstract source (i.e. how investigators identified the cohort of abstracts assessed for full publication). **Results:** We included five components in the 'Risk of bias' tool (see Table): 1. sampling frame; 2. length of follow-up; 3. identification of full publications; 4. match of abstract to full publications; and 5. adjustment for factors possibly associated with full publication. From 428 included studies, we identified unique subgroups based on abstract source (specific conference, specialized register, unique set of authors); location (international, national, or regional conferences); study design (randomized trial, systematic review, etc.); and medical specialty. Work concerning how to organize results synthesis using these subgroups is ongoing. **Conclusions:** While some of the standard methods used to conduct Cochrane Intervention Reviews can be adapted for conducting a methods review, distinctive features of included methods studies require unique adaptations of the Cochrane Review methodology for assessing risk of bias and synthesizing results.

Table 1. Definition of risk of bias items for studies examining full publication of results presented in abstracts

Risk of bias item	Bias		
	Low	Unclear	High
Sampling frame (methods used to sample abstracts)	• Included all trials presented at a conference OR • Included a random sample of trials presented at a conference OR • Included a systematic subset of trials presented at a conference OR • Included a sample selected by study design	• Sampling method not reported	• Included only abstracts based on "selected" questionnaires if author contact was used OR • Other method subject to selection bias
Length of follow-up time between presentation at meeting and date of search for publications	• ≥48 months after presentation	• Date of search not reported	• <48 months after presentation
Methods used to identify full publications	• Author contact alone (response rate ≥80%) OR • Search of 2 or more electronic databases OR • Search of at least 1 electronic database followed by author contact	• Methods not reported • Author contact (response rate not reported)	• Search of only 1 database OR • Only author contact with response rate < 80%
Methods used to match abstract with full publication (number and type of criteria)	• Matched abstract to full publication by 2 or more different criteria OR • Author contact used to identify or confirm publication	• Matching criteria not reported	• Matched abstract to full publication by only one criteria
Adjustment for factors possibly associated with full publication	• 2 or more factors used for adjustment in multivariable analysis or stratification of publication outcome	• Adjustment or stratification not reported	• Only 1 factor used for stratification of publication outcome OR • 2 or more factors used but without proper multivariable analysis or stratification.

Meta-aggregation as a method to synthesize qualitative evidence: history and development

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Background: Qualitative synthesis informs important aspects of evidence-based healthcare, particularly within the practical decision-making contexts that health professionals work in. Of the qualitative methodologies available for synthesis, meta-aggregation is perhaps the most transparently aligned with accepted conventions for the conduct of high-quality systematic reviews. **Objectives:** To investigate the development of meta-aggregation as a systematic review methodology and update this methodology. **Methods:** A methodological group consisting of experienced qualitative researchers and systematic reviewers was formed to review this methodology. Over a period of two years, the core tenets of this approach and theoretical underpinnings were evaluated. **Results:** Meta-aggregation was found to be philosophically grounded in pragmatism and transcendental phenomenology. The essential characteristics of a meta-aggregative review are that the reviewer avoids re-interpretation of included studies, but instead accurately and reliably presents the findings of the included studies as intended by the original authors. This presentations reports on the updated methodology and methods of meta-aggregation within the structure of an a priori protocol and standardized frameworks for reporting of results by over-viewing the essential components of a systematic review report. **Conclusions:** Meta-aggregation provides a robust and pragmatic methodology to synthesise qualitative research. This methodology has now been used in dozens of reviews with over 4000 people having been trained in this approach.

Using theory to inform evidence synthesis : a case study of school accountability systematic review in developing countries

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Background: Accountability has been introduced by many developing countries as a tool of quality control, monitoring and evaluation, and decision-making within school and school systems. Identifying and developing an initial theory of school accountability is a crucial part of evidence synthesis of a large and diverse body of literature. Objective: We conducted a systematic review aiming to explore the conditions under which school accountability systems operate in the systems to improve schools and learning outcomes. **Methods:** At the beginning of the review, we identified a theoretical framework from existing literature that highlighted the five categories of mechanisms that may contribute to the outcome of interest. An iterative search was carried out to identify both published and unpublished literature from a wide range of sources. We assessed quality of a paper based on rigour and relevance and used proposed categories of mechanisms to elaborate and contextualise causal pathways between conditions, mechanisms, and outcomes. This review followed the publication standards for realist reviews put forward by the RAMESES (Realist And Meta-narrative Evidence Syntheses: Evolving Standards) project (Wong 2013). Findings: Sixty-eight studies were included for in-depth analysis in the final review. In three areas of accountability activity (monitoring, assessment and evaluation), we found evidence of outcomes and associated conditions related to: setting

expectations; providing feedback/consequences; and capacity development of educators. Only in inspection did we identify outcomes and associated conditions related to capacity development of stakeholders. We did not find any evidence in any of the areas of accountability activity of the institutionalization of norms. **Conclusions:** Although we included evidence from widely varied contexts, the findings suggest that similar types of conditions may be associated with key educational outcomes. The review identified mechanisms that are inter-related and play important roles in how each of the three accountability elements may lead to improvement in school and schooling outcomes.

The IMPACT realist review on interventions to improve antimicrobial prescribing for doctors-in-training: key findings and methodological lessons

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Background: Cochrane Reviews on antimicrobial prescribing in outpatient and inpatient settings have identified different effect sizes and levels of success for different types of interventions. Nonetheless, more clarity is needed on how these interventions can be used effectively under different circumstances and for different professional groups. **Objectives:** The IMPACT realist review used a broad range of literature to develop theoretically-informed explanations about how the process of antimicrobial prescribing works for doctors-in-training. This review will draw conclusions on how and why specific interventions might produce particular effects, taking into account the role of the context in which antimicrobial prescribing decisions are negotiated. **Methods:** A realist review is an interpretive, theory-driven approach to evidence synthesis. For the IMPACT review, clearly bounded searches of electronic databases were supplemented by citation tracking and grey literature searches. Following current quality standards for realist reviews, the resulting articles (N =115) were screened and analysed to draw theoretically-driven explanations of how antimicrobial prescribing works in practice. A programme theory was iteratively developed and refined with input from our stakeholder group. **Results:** Few interventions are designed and implemented in a way that pays adequate attention to the influence of context and the ways this changes during clinical training. The social, organisational and professional environment in which trainees operate has a significant influence on the way antimicrobial prescribing interventions are perceived and adopted. The dynamics between junior and senior members of staff have a powerful effect on the antimicrobial prescribing process and the outcomes achieved by different interventions. **Conclusions:** By using a realist review to make sense of the literature on antimicrobial prescribing for doctors-in-training we were able to draw transferable lessons on how and why interventions can be designed and implemented in specific ways for different contexts to achieve desired outcomes.

Defining and evaluating quality of evidence in Cochrane Reviews

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Background: Cochrane has adopted GRADE's approach (Grading of Recommendations, Assessment, Development and Evaluations) to categorizing quality or certainty of evidence, defined as reflecting the extent of confidence that the estimates of effects are correct. This definition leaves ambiguity: does it refer to confidence in point estimates, or confidence in the range of possible estimates? **Objectives:** To clarify the definition and approaches to judging certainty of evidence. **Methods:** Brainstorming, workshops, presentations, iterative refinement of ideas, and discussion at two GRADE Working Group meetings. **Results:** Quality of evidence is best considered as the confidence or certainty that a true effect lies on one side of a specified threshold, or within a chosen range. This interpretation raises the challenge of defining the threshold or range for making quality ratings. We developed four possible approaches for making this judgment. For guidelines, what we call a fully contextualized approach requires simultaneously considering all critical outcomes and their relative value. We defined three less contextualized approaches more appropriate for systematic reviews (Table). The three approaches most appropriate for systematic reviews involve judging certainty that the true effect lies within the 95% confidence interval; the effect is something other than no effect at all; and that the effect lies within ranges of what we might consider small, moderate, or large. We have applied the approaches to real-life systematic reviews and will present this application at the Colloquium.

Conclusions: The Grade Working Group is now considering this novel characterization of certainty of evidence, the implications for guidelines and systematic reviews. If adopted by GRADE, and subsequently by Cochrane, it will provide a useful clarification of how Cochrane reviewers can make certainty of evidence judgments.

Table. Possible ways of setting thresholds or ranges and what the certainty expressed will represent

Threshold or range	How it is set	What the certainty rating represents	Degree of contextualization
Range: 95% Confidence Interval	Using existing limits of the 95% CIs, which implies precision is not routinely part of the rating	Certainty that the effect lies within the confidence interval	Non-contextualized
OR ≠ 1		Certainty that the effect of one treatment differs from another	Non-contextualized
Specified magnitude of effect	A small effect can be defined as an effect small enough that one might consider not using the intervention if adverse effects or costs are substantial	Certainty in a specified magnitude of effect (e.g. small, medium, large effect)	Partially Contextualized
Threshold determined with considerations of all critical outcomes	Considering the range of possible effects on all critical outcomes, bearing in mind the decision(s) that need to be made, and the associated values and preferences	Certainty in the balance between desirable and undesirable outcomes	Fully Contextualized

Short Oral Session 14 Translations

Cochrane Kompakt: experiences from three co-ordinating entities translating Cochrane content into German

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Background: One aim of Cochrane's 'Strategy to 2020' is the multilingual translation of Cochrane content, particularly from Cochrane Reviews, to make Cochrane evidence more widely accessible and comprehensible. German translations are supervised and edited by three individual teams, based in Switzerland and Germany, with different expertise, focus and translation strategies. **Objectives:** To co-ordinate the translation of Cochrane plain language summaries and abstracts into German between three independent teams. **Methods:** The co-ordination of the three independent translation teams is based on three major aspects. First, standardization of translations and editing of translations: when possible the groups use a standardized glossary (which includes definitions) to translate terms that are frequently used in Cochrane Reviews. All translators have access to this glossary. Similarly, the groups agreed to apply common criteria for editing the translations and to ensure the highest possible quality standards. Second, staying up-to-date: we use a Google spreadsheet to track the current status of ongoing translations and document which translations are completed or outdated and which reviews have recently been published. This spreadsheet gives a comprehensive overview of the translations, the translators and their activity. Lastly, talking to each other: ongoing and prompt communication is key to a successful co-operation. Meetings on at least an annual basis and regular exchange of emails allows us to maintain a successful collaboration. **Results:** All three teams have successfully implemented their individual strategies, and overall 739 translations have been published (up to April 2016). High-quality, timely translation of Cochrane content is achieved by involving teams from different disciplines. **Conclusions:** The collaborative efforts of multiple translation coordinators are a promising approach to the translation and publication of Cochrane Reviews from different medical specialties, the involvement of translators with various backgrounds, and the increase of the recognition of Cochrane Review translations.

Cochrane's translation strategy: testing new support models to improve sustainability and effectiveness of translation activities

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Background: Cochrane's translation strategy was approved in 2014, and aims to facilitate translation in a range of languages to make Cochrane evidence more accessible. As of April 2016, translation teams have published over 16,500 translations of Cochrane summaries in 13 languages, mainly relying on low resources and volunteers. Evaluation in 2015 raised challenges in delivering the strategy, leading to a series of adaptations. A key change in 2016 is a pilot to provide limited funding for some languages. Each team sets annual translation and dissemination targets, and

the Cochrane Central Executive aims to provide more co-ordinated and tailored support. **Objectives:** To assess pilot models for supporting Cochrane translation teams. **Methods:** Nine teams have been selected to receive central funding based on criteria agreed by Cochrane's Translation Advisory Group. Funding ranges between an equivalent staff time of one to five working days a week, over a period of ten months. Each team decided how to use its funding, and set their own translation and dissemination targets. Four other teams do not receive funding. All teams receive central support for translation, dissemination and fundraising. The analysis includes the collection of metrics and quarterly progress meetings with each team to cover: translation of abstracts, plain language summaries, podcasts, blogshots, press releases; social media and media activities; access to cochrane.org; volunteer involvement, financial and staff resources. **Results and conclusions:** We will present interim results at the Colloquium. It is expected that funded teams will be able to achieve their targets, regularly translate and disseminate Cochrane evidence, see increased access to cochrane.org, social media and/or press coverage for their language, boost volunteer numbers or secure more resources. The analysis should indicate the most effective strategies among teams' approaches. It is also expected that teams will feel more assured about the sustainability of their projects and be able to plan their work better. If expectations are met, models could be fully adopted and expanded going forward.

Russian translations of Cochrane plain language summaries: quality assurance with continued feedback from an online survey

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Background: The Russian translation project started in May 2014 with a team of volunteers from Kazan Federal University, initially affiliated to the Nordic Cochrane Centre, and now part of Cochrane Russia (since August 2015). In March 2015 we conducted a survey to assess translation quality, and reported results at the 2015 Colloquium, having translated 200+ PLS. **Objectives:** To re-assess quality of Russian translations and their impact through user feedback, aiming to establish the survey as the quality assurance tool for Russian translations. **Methods:** We conducted online Google survey (in Russian and English) from March 2015 to March 2016. We invited respondents via e-forum E-LEK (WHO, Department Essential Medicines), links on Cochrane.org website, social networks (started in January 2016), invitations to new volunteers. The survey consists of 10 questions on clarity, quality of translated texts, needs, impact for Russian-speaking community, suggestions for improvement. **Results:** By April 2016, 188 people had responded (173 in Russian, 15 in English), mostly representing health professions (n = 125; 67%), with 730 translations published. Russian translations are clear to most respondents (n = 186; 99%), who rated the quality of Russian translations as high as before: excellent (n = 45; 24% vs 31%), good (n = 114; 61% vs 51%), satisfactory (n = 20; 11% vs 14%). All but one respondent noted good compliance of the Russian translations with the original English texts. A higher proportion of respondents (n =181, 96% vs 92%) recognise the need of Cochrane evidence for Russian-speaking countries. A lower proportion of respondents than before (n=109; 58% vs 66%) prefer translations be worded in Russian freely, without precise compliance to original text, with nearly half voting for full compliance to original texts (n = 79; 42%). We welcome and thank respondents for valuable suggestions. **Conclusions:** The survey works as a valuable tool that helps to ensure translation quality and improvement. We are planning to expand dissemination via social media, medical journals, newspapers, and hope the survey will continue to feed quality assurance and attract volunteers.

'Portuguese Pills' by WhatsApp: a typically Brazilian experience

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Background: The Brazilian Cochrane Centre (BCC) reviews systematic review abstracts translated into Portuguese by volunteers. During the last year, we have identified the main mistakes and difficulties our translators had with their own language. WhatsApp has become increasingly popular in Brazil, and people use it both personally and professionally, individually or in groups: family groups, work groups. People stay connected through their mobile phones, which they use all the time, in all places. **Objectives:** To describe our experience with dissemination of tips for Portuguese use by WhatsApp. Methods and **Results:** The volunteers in the BCC, who are also researchers at Universidade Federal de São Paulo (Unifesp), have a WhatsApp group. They share information on a daily basis about research findings news, courses or symposia, exams questions, duty schedules, group meetings etc. In December 2015, we started to send Twitter-like texts, about Portuguese grammar — but with a funny or ironic tone — to the BCC WhatsApp group: the 'Portuguese Pills'. They receive these short, easy to read messages (about 150 words) in their mobile phones, without needing a computer. The 'Portuguese Pills' are inspired and prepared during the revision process of the Cochrane Abstracts translated by the volunteers. They always touch on sensitive issues: the mistakes that translators do in their routine work. The idea was to make them remember things they certainly learned in school, but as busy researchers, they did not have the time to study again, nor did they have appropriate grammar books to consult (and would not be familiar with those). The response was very good. Our translators got used to receiving these tips on the use of Portuguese and answered the messages immediately: "I did not remember this, thank you", or "I didn't know it worked this way! Now I understand!", "Thanks a lot. Very helpful" (Fig 1). They feel that the tips can be used both in their translation activity for Cochrane and for their personal life: thesis, dissertations, grants reports. **Conclusions:** Whatsapp proved a very useful tool in the update of Portuguese grammar rules for the volunteers.

Attachments: Figure 1.pdf, Portuguese Pills (full).pdf

Integrating Cochrane abstract translation practice into teaching: an exploration in medical translation course

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Background: The Cochrane abstract translation project is seeking for volunteers for the wider dissemination of best evidence into other languages; this is an opportunity to practice medical translation, as well as an efficient way to learn systematic review (SR) methodology. In Beijing University of Chinese Medicine (BUCM), it is important for Medical English majors to comprehend fully the concept of evidence-based medicine (EBM) and establish translation capacity. **Methods:** We integrated the training of Cochrane abstract translation into teaching for undergraduates majoring in Medical English in BUCM in their sixth and seventh semesters. In the sixth semester, we introduced Cochrane SRs and encouraged students to practice translating the abstracts and Plain language summaries (PLS) into Chinese. We revised the translations and selected two typical pieces as the teaching material for the class and trained the students, focusing on the structure and skills of translation for one hour. Forty-nine students formed 24 groups and selected 24 abstracts and PLS as assignments. In the first week each group finished the translation and summarized the questions they encountered. In the second week we organized a discussion and each group finalized the translation and went through the revising. When the translation was handed in, we did the final revision and submitted it to Cochrane via Smartling, and at the same time sent feedback and scores to the students. The scoring counted 10% of the final marks in the Medical English Translation course. **Results:** We have finished 31 pieces of translation and will finish the submission in May of 2016. Many students were encouraged by the recognition of their own translation work and obtained interest in EBM and Cochrane SRs. **Conclusions:** The third year undergraduates are capable of translating Cochrane SR abstracts and PLS after proper training and it is a worth trying to teach an approach that integrates methodology and practical skills. The Cochrane translation practice has been a set part in teaching for Medical English Majors in BUCM and will continue, with improvements, in the future.

Health in my Language: evaluation of health domain adapted machine translation for Cochrane Reviews

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Background: Health in my Language (HimL) is an EU-funded, three-year project. It aims to address the need for reliable and affordable translation of public health content into different languages via fully automatic machine translation (MT) systems, initially testing with translation from English into Czech, Polish, Romanian and German. Recent advances in MT are used, including in domain adaptation, translation into morphologically rich languages, terminology management, and semantically enhanced MT. Cycles of incorporating improvements into the MT systems are being iterated annually, with careful evaluation and user acceptance testing. Health information produced by Cochrane and NHS24 (Scotland's national tele-health and tele-care organisation) serves as the test case, and will be translated in each cycle and also published on their websites. **Objectives:** To evaluate the quality and to test the usability of the obtained machine translations; and to measure the effect on post-editing and web access. **Methods:** Different automatic evaluation

metrics are applied to assess quality. The planned human evaluation tasks are: annotation of semantic components to assess accuracy; ranking of MTs against each other and human translation; text gap-filling to assess comprehension; online survey to assess user acceptance; post-editing of MTs to measure speed compared to post-editing of baseline MTs and fully manual translation. Web usage statistics will be collected to assess the effect on website access of the published MTs. **Results and conclusions:** The first version of the MT system was deployed in September 2015, and human semantic annotation as well as automatic metrics applied. Results varied between different text types of Cochrane and NHS24. The annotation provided some guidance for the next iteration of system development. The second system will be deployed in September 2016. The 2015 evaluation results will be presented at the Colloquium, as well as preliminary results that are available from the 2016 evaluation. The focus will be on Cochrane content.

Cochrane Russia: establishment, activities and development of a Russian-speaking Cochrane community

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Background: Cochrane Russia was established in August 2015 by the Cochrane Central Executive at the Kazan Federal University. The International Conference 'Evidence-Based Medicine: achievements and barriers (QiQUM2015)' (7-8 December 2015, Kazan, Russia) officially launched Cochrane Russia. **Objectives:** To explore potential for Cochrane development in the Russian-speaking community. **Methods:** We translated the draft Cochrane membership concept paper into Russian and used it as the basis for involving new people in Cochrane work and for an online survey (in Russian and English). We disseminated these from September 2015 via emails, QiQIM 2015 and the Cochrane Russia website. The survey consists of 10 questions about involvement in Cochrane work, the Cochrane membership scheme, willingness to join Cochrane Russia, achievements and barriers to evidence-based medicine (EBM) in Russian-speaking countries and suggestions for the development of Cochrane Russia. **Results:** By April, 57 people responded. Most respondents have not been involved in Cochrane earlier (n = 41; 72%) and fully supported Cochrane plans to broaden its membership scheme (n = 48; 84%) and would like to get involved with Cochrane Russia (n = 55; 97%) through active participation (n = 40; 70%). Nearly half of the respondents (n = 26; 46%) considered organizing a Cochrane Russia satellite in their region. For EBM achievements in local settings the respondents listed quality improvement of health care, clinical guidelines and medicines lists, protection of patients' rights, introduction of EBM teaching, establishment of EBM centres and development of critical thinking. Barriers included: language skills, low level of EBM knowledge, tradition and support of eminence-based medicine, aggressive drug promotion, unavailability of the Cochrane Library and underestimation of its importance, inadequate monitoring of clinical trials and registration of medicinal products, and administrative barriers with a lack of will to try system solutions. **Conclusions:** The survey provided valuable information on existing resources and potential for building the Cochrane Russia community.

Posters

P1: Is Cochrane Wikipedia compatible?

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Background: Wikipedia is accessed every day by people all over the globe. Cochrane has recognised it as a key tool for dissemination of evidence and is working with Wikipedia. How many existing Wikipedia pages are suitable for insertion of evidence from any given Cochrane Review, however? All Cochrane Schizophrenia reviews may fit into the page on 'Management of Schizophrenia', however such seeding of general pages with huge amounts of evidence would defeat the purpose of provision of succinct information. **Objectives:** To investigate how many of the 200 Cochrane Schizophrenia reviews have a Wikipedia page that is both specific enough, and appropriate, upon which, to 'land' evidence. **Methods:** 1. Reviews with an obvious Wikipedia 'home' were counted. 2. Reviews with Wikipedia pages that were relevant, but less appropriate for insertion of evidence – in which, for example, the intervention was mentioned only briefly among others – were identified as potentials. 3. Reviews with no obvious Wikipedia page were also identified. 4. Finally, in the expectation that the 'Summary of findings' table of the Cochrane Review would be the source of evidence inserted, the number of reviews with such a table were counted. **Results:** Out of 200 reviews, 97 (49%) had an obvious Wikipedia 'landing' page, a further 47 (24%) were associated with a page that was of potential relevance but was less appropriate, and 56 (28%) reviews had no obvious Wikipedia 'home'. Of those 144 (72%) Cochrane Reviews with at least a potential Wikipedia 'landing' site, 76 (53%) had 'Summary of findings' table(s). **Conclusions:** Creating new pages for the 56 'homeless' reviews would be time consuming. Making pages more suitable where necessary for the 47 reviews with a relevant, but not fully appropriate, 'landing' would require less work. The remaining reviews, however, simply require the insertion of a table into Wikipedia. This means that many of Cochrane's reviews are Wiki-compatible right now - and this is very promising with regard to Wikipedia's potential as a powerful tool for the dissemination of evidence produced by Cochrane, not just Cochrane Schizophrenia.

P2: A methodological systematic review of 494 published network meta-analyses

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Background: Previous empirical studies exploring the characteristics of networks of interventions have raised the need for improving the quality of network meta-analyses (NMA) applications. These empirical studies have included networks published up to the end of 2012 at the latest. Since then, several developments have been made in the field of NMA and many tutorial and guidance papers have been published. **Objectives:** We aim to present how the methodological and reporting quality of NMA applications has evolved over the years, to monitor the rate of adoption for the new methodological developments and provide an updated overview of the characteristics of published networks. **Methods:** We compiled a database of 494 published NMAs published up to April 2015. We updated the collection presented by Nikolakopoulou (1) to include NMAs published after 2012 and we extracted data on additional clinical and methodological network characteristics that had not been previously considered. We performed a descriptive analysis for all the characteristics we extracted from the eligible networks of interventions. **Results and Conclusions:** Publication of NMAs has increased exponentially over the years. We found that the prevalence of NMAs that do not evaluate the transitivity or the consistency assumption has decreased considerably, and there is an important drop in using inappropriate methods to evaluate consistency after 2013. There is also an important increase after 2013 in the percentage of networks that compare only pharmacological interventions; this finding potentially indicates a tendency to narrow the inclusion criteria to increase the chances of a consistent network. This apparent improvement in the methodology employed in NMA applications could be the result of a proliferation of tutorials and methodological articles in 2012 and 2013. (1) Nikolakopoulou A, et al. PLoS ONE. 2014 9(1):e86754.

P3: Efficacy of near-infrared devices to facilitate peripheral intravenous access: a systematic review and meta-analysis

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Background: Peripheral intravenous catheter placement in difficult-access patients is a challenge procedure in clinical setting. Extensive research has explored the effects of near-infrared devices, but there is a lack of systematic reviews regarding their outcomes. **Objectives:** To evaluate the effects of near-infrared devices to facilitate peripheral intravenous access through meta-analysis. **Methods:** Guidelines for the production of Cochrane Reviews were followed. Five Chinese or English databases (the Cochrane Library, PubMed, CINAHL, Airiti Library, and Index of Taiwan Periodical Literature System) were searched from the earliest year available to November 2015. The search was limited to randomized controlled trials (RCT) or controlled clinical trials (CCT) and humans by using '(intravenous OR peripheral venous) AND (near-infrared OR VeinViewer OR AccuVein OR AV300 OR VascuLuminator OR VueTek Veinsite)' as key words. The Cochrane 'Risk of bias' tool was used to examine the quality of included articles. Extracted data were entered and analyzed using Review Manager 5.3 software. **Results:** Twelve RCTs and one CCT article (2011 Oxford Centre for Level of Evidence: Level 2-3) regarding the effects of near-infrared devices to facilitate peripheral intravenous access compared to those of traditional techniques were reviewed (Table 1). Participants included adults and children. Subgroup analysis showed that none of the three different near-infrared devices increased the first attempt success rate (AccuVein: odds ratio (OR) = 0.93, 95% confidence interval (CI) 0.47 to 1.84, P = 0.84; VascuLuminator: OR = 1.02, 95% CI 0.82 to 1.27, P = 0.89; VeinViewer: OR = 0.95, 95% CI 0.76 to 1.19, P = 0.65, Fig 1). No statistically significant effect on the number of attempts (MD = 0.08, 95% CI -0.05 to 0.21, P = 0.23, Fig 2), and time to intravenous access (MD = -18.93, 95% CI -57.39 to 19.54, P = 0.33, Fig 3). **Conclusions:** Current evidence does not support the benefit of near-infrared devices for facilitating peripheral intravenous access, but there might be a clinical significance for the subpopulation of difficult-access children.

Attachments: Table 1.pdf, Figure 1.pdf, Figure 2.pdf, Figure 3.pdf

P4: Developing a model workshop for systematic review protocols at teaching hospitals: midterm report of action research

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Background: Medical practitioners are unfamiliar with systematic reviews, and a workshop for creating systematic reviews is not common at teaching hospitals despite upwelling relevant clinical questions. **Objectives:** The purpose of our project is to develop a model workshop for participants at teaching hospitals to acquire skills in creating high quality protocols for systematic reviews based on their clinical questions. **Methods:** We used an action research method to create the model workshop, and implemented it at two teaching hospitals in Japan. The main participants were personnel engaged in medical care. Two teachers who are Cochrane Review authors - including one master of public health - gave consecutive lectures. We improved the program by conducting reflection based on questionnaires to participants in each lecture and assessing the quality of homework submitted by participants after each lecture. In the second hospital we introduced the flipped classroom model because it was difficult to assemble. Not only the model workshop itself but also the completed protocols of systematic reviews that resulted were assessed as outcome measure. **Results:** We held eight interactive lectures from April 2015 to July 2015 at the first hospital. In the second hospital, we held eight interactive lectures from October 2015 to February 2016 (Fig 1). Twenty-one participants produced seventy-three research questions at the first hospital and eleven participants produced thirty-three research questions at the second hospital. Then four review teams with nine members completed their protocols for systematic reviews. **Conclusions:** We found that medical practitioners developed a startling number of clinical questions through this workshop and two teachers, only, were able to handle their numerous clinical questions and to support protocol development. In the third hospital we will break down one search formula session into two. By using this model workshop, participants could acquire skills in creating systematic review protocols. After completion of this research, clinician educators will be able to use this model for teaching methods of systematic reviewing.

Attachments: figure.gif

P5: Methodological challenges when quantifying a mortality reduction with screening for abdominal aortic aneurysm when incidence is falling: a registry study

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Background: Screening for abdominal aortic aneurysms (AAA) has been implemented in Sweden, the UK and the USA based on a relative reduction in disease-specific mortality of about 50% in randomized trials, which translates into a 0.5% absolute mortality reduction. However, these estimates were based on populations with a much higher disease prevalence than today; due to reduced smoking, the incidence of AAA has fallen over 70%, resulting in reduced absolute benefit and probably a worsened benefit/harm-ratio. Additionally, AAA screening has been claimed to result in reduced mortality from other diseases due to life-style modifications and treatment of cardiovascular risk factors following a AAA-diagnosis. However, these claims are debated and meta-analyses have not shown a significant reduction in total mortality. **Objectives:** To estimate the effect of organised AAA screening in Sweden on disease-specific and total mortality. **Methods:** We are conducting a study based on national Swedish registry data using anonymized, individual patient data for disease-specific AAA mortality and total mortality. The Swedish screening programme was gradually implemented from 2006 to 2015, which makes it possible to compare a screened versus a non-screened cohort. **Results:** We will discuss the methodological challenges created by substantially diminishing disease incidence in our on-going register study, and how we have tackled them. Preliminary results will be presented. **Conclusions:** The balance of benefits and harms of AAA screening today is unknown. The gradual implementation of AAA screening in Sweden presents a unique possibility for evaluation of the screening programme, but substantially declining disease incidence complicates analyses.

P6: Effects of progressive muscle relaxation on cancer patients with anxiety, depression and nausea: a systematic review and meta-analysis of randomized controlled trials

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Background: Progressive muscle relaxation (PMR) training has been used to improve anxiety, depression and chemotherapy-related complications, like nausea and vomiting. However, the empirical effects of PMR training remain uncertain in cancer patients. **Objectives:** This paper uses published randomized controlled and controlled clinical trials to analyze the effect of PMR training on improving anxiety, depression and nausea in cancer patients. **Methods:** Systematic reviews and meta-analysis were used. Searches were conducted in databases including MEDLINE, PubMed, the Cochrane Library, Embase, PsycINFO, Web of Science, CEPS, and the National Digital Library of Theses and Dissertations in Taiwan. The search focused on articles published up to February 2016. Based on inclusion and exclusion criteria, 11 articles addressing relevant randomized and controlled clinical trials were extracted. Eight of these provided sufficient data for pooling and analysis. The main outcomes assessed were anxiety, depression, and nausea. **Results:** The eight studies showed that the PMR intervention had significant effects on anxiety and nausea, with respective effect sizes of 1.43 (95% confidence interval (CI) 0.57 to 2.29) and 0.84 (95% CI 0.18 to 1.49). There was no significant effect on depression, with an effect size of 0.36 (95% CI -0.26 to 0.99) **Conclusions:** This study indicates that PMR training may improve anxiety and nausea in patients with cancer. Further study is needed to help healthcare staff advise patients better on the effects of PMR training in cancer patients.

Attachments: anxiety Forest plot4.pdf, nausea Forest plot.pdf

P7: Comparing different types of exercises for fall prevention in older people living in the community: a systematic review and network meta-analysis

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Background: Falls can lead to fatal injuries and increased rate of hospitalizations in the elderly, and exercises are one of the important strategies to prevent falling. However, no comparisons of different types of exercises for fall prevention have been conducted previously. **Objectives:** To compare different types of exercises for fall prevention in older people living in the community. **Methods:** We searched MEDLINE, Embase, CINAHL, PEDro, and the Cochrane Central Register of Controlled Trials (CENTRAL) to identify clinical studies comparing different types of exercises for fall prevention in older people. Two review authors conducted selection of studies, data extraction, and assessment of risk of bias independently. A random-effects model was used to conduct the pairwise meta-analysis and the Bayesian network meta-analysis. **Results:** Overall, 40 studies were included in the systematic review. Among the different exercise types, balance combined with strength training was the best treatment strategy for rate of falls (median HR versus control 0.24, 95% credible interval (CrI) 0.24 to 0.29). Balance combined with strength, flexibility, and Tai chi training was the best treatment strategy for risk of falls (median risk ratio versus control 0.18, 95% CrI 0.03 to 0.70). Rankogram was plotted (x-axis for risk of falls and y-axis for rate of falls) and balance combined with strength, flexibility, and Tai chi training was the best treatment strategy in consideration of the two outcomes. No reporting bias was noted in the study. The quality of these studies was good. **Conclusions:** According to our analyses, balance combined with strength, flexibility, and Tai chi training was the most effective treatment among these different exercise types for fall prevention.

P8: Financial incentive policies for obesity prevention in worksite employees: a systematic review

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Background: Interventions such as discounted healthy menus, point-of-purchase advertisements, and sugar-free beverages for employees at worksites might prevent obesity in a manner similar to food-taxation strategies. **Objectives:** We aimed to assess the effectiveness of food environmental interventions that incorporated financial incentive strategies for obesity prevention at the population level, unlike individual/group-focused nutrition education programs. **Methods:** We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, CINAHL and PsycINFO (January 2016) and included individual- and cluster-randomized controlled trials (RCTs) only. We followed standard Cochrane methods for trial eligibility criteria, 'Risk of bias' assessment, data extraction, and accuracy. **Results:** We identified 42 full texts out of 2420 potentially eligible studies, from which two RCTs were included. Included studies compared the intervention versus none or multiple interventions, and involved a total of 595 employees. One of the trials was conducted in the USA and one in the Netherlands. The trials featured multi-components, e.g. low-priced healthy menus combined with nutrition education, food labelling, or portion size. For the primary outcomes, there was no significant effect on weight changes (mean difference (MD) 0.00 - confidence interval (CI) -11.69 to 11.69; one trial, 90 participants. Food/nutrition intake and cholesterol were secondarily assessed and followed by physical measures, e.g. weight changes. Data were not amenable to meta-analysis due to non-comparable effectiveness measurements. The trials had mostly an unclear to high risk of bias. **Conclusions:** We found scarce evidence about the effectiveness of the assessed interventions. There was no significant effect of financial incentive policies targeting employees at worksite cafeterias for obesity prevention, and the trials had small sample sizes, wide confidence intervals, and uncertainty. In order to integrate these evaluations, it is necessary to accumulate further evidence from additional RCTs.

P9: Are unpublished data searched for and included in systematic reviews? A survey of 348 reviews of adverse effects

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Background: Publication and outcome reporting bias are well known problems when conducting a systematic review. One way to attempt to overcome these problems is to search for unpublished studies or data. The Cochrane Handbook recommends searching beyond the published article by contacting experts or authors and by searching conference abstracts, the grey literature and trial registries. As one of the most update and freely available guides to systematic reviews the Cochrane Handbook is used by both Cochrane and non-Cochrane reviewers. **Objectives:** We sought to identify the proportion of systematic reviews of adverse effects that search for unpublished data, and the success rates of identifying unpublished data for inclusion in a systematic review. **Methods:** Two reviewers independently screened all records published in 2014 in the Database of Abstracts of Reviews of Effects (DARE) for systematic reviews where the primary aim was to evaluate an adverse effect or effects. Data were extracted on the types of adverse effects and interventions evaluated, sources searched, how many unpublished studies were included and type of unpublished data included. **Results:** From 9129 DARE abstracts, 348 met our inclusion criteria. Most reviews evaluated a drug intervention (237/348, 68%) with specified adverse effects (250/348, 72%). Over a third (136/348, 39%) searched a specific source for unpublished data, such as conference abstracts or trial registries. However, less than half of these reviews (62/136, 46%) included unpublished data in their review. The most popular sources searched were conference abstracts, contacting authors and ClinicalTrials.gov. Overall over a fifth of all the reviews included some unpublished data (78/348, 22%). Although most of these reviews searched specific sources of unpublished data (62/78, 79%), others did not, but included sources that contain unpublished studies in addition to published studies (such as Embase or the Cochrane Central Register of Controlled Trials (CENTRAL)) (16/78, 11%). **Conclusions:** Most reviews of adverse effects do not search specifically for unpublished data and less than half of those that do are successful.

Attachments: figure.pdf

P10: The extent of hidden or unpublished adverse events data: a methodological review

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Background: Publication and reporting biases may pose serious threats to the validity of systematic reviews of adverse events. **Objectives:** To ascertain whether we can quantify the under-reporting of adverse events in the medical literature and measure the impact this has on systematic reviews of adverse events. **Methods:** A systematic review of studies assessing the quantity or impact of unpublished adverse events data was undertaken. Studies were identified from 15 databases, handsearching, reference checking, internet searches and contacting experts. Search results were sifted independently by two reviewers and the quality assessment tool was derived in-house. **Results:** From 4344 records, 27 methodological evaluations met the inclusion criteria. Ten compared numbers of adverse events in matched published and unpublished documents. The percentage of adverse events that would have been missed, had an analysis relied only on the published versions, varied between 43% and 100% with a median of 57%. Two other studies demonstrated that there are also substantially more types of adverse events reported in unpublished than published documents. Nine studies compared the proportion of trials reporting adverse events by publication status. The median percentage of published documents with adverse events information was 46% compared to 95% in the corresponding unpublished documents. There was a similar pattern with unmatched studies where 43% of published studies contained adverse events information compared to 83% of unpublished studies. There were 15 meta-analyses that reported the odds ratios/risk ratios with and without unpublished data. Inclusion of unpublished data increased the precision of the pooled estimates (narrower 95% confidence intervals) in 13 of the 15 pooled analyses. **Conclusions:** There is strong evidence that much of the information on adverse events remains unpublished and that the number and range of adverse events is higher in unpublished than in published versions of the same study. The inclusion of unpublished data can reduce the imprecision of pooled effect estimates during meta-analysis of adverse events.

Attachments: figure1.pdf

P11: Systematic review of public opinion of the ethical considerations of using social media as a data source for research

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Background: Social media are now increasingly being used as a source for the collection of data for health-related research. Studies using social media may be included in systematic reviews. In addition, given the plethora of information on social media, social media may become a data source for systematic reviews providing insight into the patient experience or evidence on aspects such as adverse effects of an intervention. This brings about many ethical issues. **Objectives:** To review systematically the research literature that has evaluated opinions on the ethical considerations of using social media as a data source for research or surveillance. **Methods:** We used the SPIDER approach to define the inclusion criteria for the review. The SPIDER for this systematic review was as follows; S - Sample: any sample of people, P - Phenomenon of Interest: the opinions/views on the ethical implications of using of social media as a source to collect information or data or carry out surveillance by third parties, D - Design: any type of research, E - Evaluation: any information on opinions/views on the ethical implications R - Research type: qualitative (such as interviews or focus groups), quantitative (such as surveys or questionnaires with fixed responses only) or mixed methods (such as research that collates a combination of fixed and open-ended responses). Nineteen databases were searched in addition to reference checking, citation searches and contacting experts. An assessment of methodological quality was carried out, but no quality threshold was implemented. A thematic analysis was carried out on the included studies. **Results:** Independently, two reviewers sifted 2934 records. Although a large number of studies were ordered, few met our inclusion criteria. Many studies were discursive or about subjects such as cyberbullying or grooming and child protection. Ethical issues arising from research using social media posts are dependent on the research context such as the type of data sought and by whom and the research purpose. **Conclusions:** The authors will present a summary of opinions on the ethical issues arising from research using social media.

P12: Comparison of tap water and saline for wound cleansing: an overview of systematic reviews

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Background: Numerous solutions such as tap water and sterile saline are available for wound cleansing, yet the evidence for these interventions is complex across the literature. **Objectives:** To compare the difference between tap water and saline for wound cleansing through an overview of systematic reviews. **Methods:** We searched MEDLINE, Embase, and the Cochrane Database of Systematic Reviews in March 2016. Systematic reviews that examined adults receiving wound cleansing were included. Two reviewers independently screened the literature, abstracted data, and assessed study quality using AMSTAR. **Results:** Six systematic reviews were included after screening and three were systematic reviews without a meta-analysis. Overall, 83% of the included reviews were rated as being of high quality (AMSTAR score ≥ 8). For pressure ulcers, two studies reported no statistically significant change in healing when wounds were cleaned with water compared with saline. For chronic wounds, two studies showed there was no increase in infection or in wound healing rates between patients whose wounds were cleaned with tap water or sterile saline. Finally, three studies showed that the use of tap water to cleanse acute wounds in adults and children was not associated with a statistically significant difference in infection rate when compared to saline. **Conclusions:** The high-quality evidence indicates that using tap water to cleanse wounds is not significant different with regard to increases or reductions in infection when compared to saline. The AMSTAR scale can useful to evaluate the quality of systematic reviews. However, most studies were consistent across all outcomes throughout the literature. Clinicians and nurses rarely use the results for wound cleansing. The gap between what we know and what we do remains a challenge for the discipline and the professions. Evidence-based medicine has emphasized the fact that often decisions are valued and partiality sensitive. To do the best for the individual patient, clinicians need to evaluate patient's values, especially with shared decision-making.

P13: How to meet advances in science when developing evidence-based practice guidelines: AGREE II, IOM, AMSTAR, GRADE

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Background: The development of rigorous, accurate, and trustworthy clinical practice guidelines is typically a momentous undertaking. Accordingly, various criteria have been developed to assess the quality of guidelines. However, meeting all of these criteria can be a great challenge for guideline developers. **Objectives:** To present methods by which guideline developers can adhere to all four major grading criteria: AGREE II, IOM (Institute of Medicine), AMSTAR and GRADE. **Methods:** A literature review was conducted to determine if methods on how to meet multiple criteria have previously been published. Additionally, a methodology was developed addressing each of the four assessments tools' criteria. Domains for each tool were reviewed by the American College of Occupational and Environmental Medicine (ACOEM) Guidelines Methodology Committee and the ACOEM Board of Directors. **Results:** No published research was identified that detailed methods on how guideline developers can simultaneously meet these multiple criteria. Through a two-year methodology development process, the ACOEM Guidelines now adhere to all the domains put forth by every major assessment tool: IOM (eight standards), AGREE II (six domains), AMSTAR (11 criteria), and GRADE (seven domains). Domains include the scope and purpose, stakeholder involvement, rigor of development, clarity and presentation, applicability, and editorial independence. **Conclusion:** Following a rigorous development process is important for developing a high-quality guideline that can help curtail the effects of bias in formulating a treatment plan. This detailed overview will provide guideline developers with guidance on how to simultaneously meet these four sets of criteria.

P14: Quality scoring of randomized controlled trials for the development of evidence-based practice guidelines

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Background: Well-designed randomized controlled trials (RCTs) are considered the 'gold standard' for evaluating an intervention's effectiveness. As the quality of them varies widely, a method is needed to separate higher from lower quality. **Objectives:** To quantify the number of guidelines listed in the National Guideline Clearinghouse (NGC) that utilized a rating scheme to determine the quality of evidence and present a quantitative method to assess the quality of RCTs. **Methods:** Data were abstracted from the NGC addressing systematic reviews. We reviewed the guideline matrix used by the NGC, which allowed for quantification of methods to assess the quality of the evidence. **Results:** Of the systematic review-based guidelines (n = 2024) represented by the NGC, 25.3% (n = 513) do not utilize a weighting according to a rating scheme (scheme given) to assess the quality of the evidence; 2.8% (n = 56) use a rating scheme but do not provide further details (scheme not given), while 4.3% (n = 88) do not provide any methods regarding analysis of evidence. Further review found that many of those represented as having a rating scheme in the NGC largely use qualitative methods. A quantitative scoring method used by the American College of Occupational and Environmental Medicine (ACOEM) considers 11 criteria: randomization, concealed treatment allocation, baseline comparability, whether patient-, provider-, assessor blinded, controlled for co-interventions, compliance acceptable, dropout rate, timing of assessments equivalent, intention-to-treat analysis, and lack of bias. Each criterion is rated 0, 0.5, or 1.0. Study ratings range from 0-11. A study is considered to be low quality if the composite rating is 3.5 or less, moderate quality if rated 4-7.5, and high quality if rated 8-11. This system results in a testable article score and more reproducible guidelines methods. **Conclusion:** Properly grading study quality and rating overall strength of evidence can produce improved levels of confidence about the scientific basis for guidelines.

P15: Network meta-analysis on the effects of acupoint corresponding to meridian for asthma symptoms

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Background: Asthma is a chronic disease characterized by recurrent attacks of breathlessness and wheezing. Currently, approximately 235 million people worldwide are asthmatic. Appropriate treatment and health management can relieve the symptoms of attack asthma. Acupoint corresponding to meridian has been promoted as a treatment for people with asthma. However, its efficacy remains controversial. **Objectives:** This study was to determine the effects of acupoint corresponding to meridian on asthma symptom relief in people with asthma. Methods All searches in the Medline, PubMed, Cochrane Library, Embase, CINAHL, SPORTDiscus and Chinese Electronic Periodical Service databases were conducted from journal inception to January 2016. The Cochrane collaboration tool for assessing risk of bias was employed for a quality assessment. Two reviews were independently performed for the study selection, risk of bias assessment, data collection, and data extraction. Treatment effects were calculated using the Bayesian network meta-analysis in a random-effects model by using STATA software. **Results:** This study examined 41 published studies and 4,724 participants identified from the databases. In the network meta-analysis, the ranking probability estimation showed a combination of meridians of bladder, stomach, and lung was ranked first for treating asthma according to the patient's outcomes of symptom relief. Moreover, a combination of the bladder meridian, stomach meridian, conception vessel, and governor vessel were, compared with Chinese herbal medication, more effective for ameliorating asthma symptoms (odds ratio, 0.19; 95% CrI, 0.06–0.68). **Conclusions:** This study conclude the acupoint corresponding to meridian as an intervention for asthma symptom relief. Acupoint corresponding to meridian involving the meridians of bladder, stomach, and lung should be given high priority. This information and knowledge could provide medical staff with more objective information and suggestions for treating people with asthma. Because of research limitations encountered in this study, the potentially promising findings should be applied to clinical practice cautiously.

Attachments: 2016-Cochrane.pdf

P16: Restricting abstracts of Cochrane Reviews: a pragmatic solution

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Background: By definition, an abstract is a brief summary of a review of a particular subject and is often used to help the reader quickly ascertain the paper's purpose. Currently, there are 16 attributes (both essential or desirable) recommended by Methodological Expectations of Cochrane Intervention Reviews (MECIR) standards that need to be met while writing an abstract. Our own review included 132 trials, 4.6 million participants, > 40 outcome measures; and its abstract initially had 2264 words. We were forced to make a 'trade-off' between meeting those standards and fitting within the limit of 1000 words. **Objectives:** This article is aimed at measuring the length of abstracts of recent Cochrane Systematic Reviews (CSRs). **Methods:** Systematic literature searches of MEDLINE (via PubMed in March 2016) were undertaken using the search terms: systematic review and Cochrane Database of Systematic Reviews. A random sample of 50 recent CSRs was chosen using a random number generator. Descriptive statistics have been undertaken to calculate range, means and standards deviations of the published reviews. **Results:** All the CSRs were published in 2016. The average length of abstract was 603.1 words (standard deviation = 156; median = 604; range: 305-969). **Conclusions:** With the reviews sometimes exceeding 100 primary trials, it is often difficult to ascertain the right balance, i.e. succinct and comprehensive at the same time. Abstracts of less than 500 words can be a useful alternative to often unnecessarily lengthy summaries. By shortening abstracts, authors of CSRs must make a review finding usable to policymakers, researchers, clinicians or other stakeholders.

P17: Methodological quality of meta-analyses on treatments for depression: a cross-sectional study

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Background: Well conducted meta-analyses (MAs) can provide best evidence for supporting treatment decision making. Nevertheless, trustworthiness of conclusions can

be limited by lack of methodological rigor. Depression is one of the most common mental disorders. Identifying effective antidepressive interventions from high methodological quality MAs is of great help for the management of this disorder. **Objectives:** To assess the methodological quality of MAs on depression treatments. **Methods:** A cross-sectional study on the bibliographical and methodological characteristics of MAs on depression treatment trials was conducted. Two electronic databases (Cochrane Database of Systematic Reviews and the Database of Abstracts of Reviews of Effects) were searched for potential MAs. Methodological quality was assessed using the validated AMSTAR tool by two reviewers independently. **Results:** Two-hundred and sixty-four MAs were appraised, with only 18.9% being an update of a previous review. Only 25.4% took into account risk of bias among primary studies when formulating conclusions. In 88.3% of MAs, conflict of interests were not declared fully and the issue is more prevalent among MAs published more recently, or with corresponding authors from Europe or North America. Publication bias was not evaluated in 54.5% of MAs, and only 16.3% searched non-English databases. Harms were not reported in 26.8% of the MAs on pharmacological treatments. **Conclusions:** Methodological quality of included MAs is low. Future MAs should strive to improve rigor by considering of risk of bias when formulating conclusions, reporting conflict of interests and treatment harm explicitly, preventing language and publication biases, and ensuring timely updates.

P18: Epidemiological characteristics and methodological quality of meta-analyses on diabetes mellitus treatment: cross-sectional study

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Background: Well conducted meta-analyses (MAs) are considered to be one of the best sources of evidence. However, MAs with methodological flaws may introduce bias and mislead evidence users. The aim of this study is to investigate the characteristics and methodological quality of MAs on diabetes mellitus (DM) treatments. **Objectives:** To assess the characteristics and methodological quality of MAs on DM treatments by conducting a cross-sectional study. **Methods:** The Cochrane Database of Systematic Review and Database of Abstract of Reviews of Effects were searched for relevant MAs. We used AMSTAR to assess the methodological quality of the included MAs. Logistic regression analysis was used to identify association between characteristics of MA and AMSTAR results. **Results:** A total of 215 MAs including 4364 primary studies and 13,402,401 participants were included. Over half of the MAs (66%) only included type-2 DM patients and 129 MAs (60%) were focused on pharmacological treatments; 91% of MAs performed a comprehensive literature search and 87% provided characteristics of included studies. The included MAs generally had a poor performance on the remaining AMSTAR items, especially in assessing publication bias (35%), providing lists of studies (21%) and declaring sources of support comprehensively (6%). Only 60% of MAs mentioned harms of interventions. MAs in which the corresponding author came from Asia performed less well in providing MA protocols than those from Europe. **Conclusions:** Methodological quality of MA on DM treatments was unsatisfactory. There is considerable room for improvement, especially in assessment of publication bias, provision of lists of studies and declaring sources of support comprehensively. It is also recommended that MA authors also report harms of treatment.

P19: Characteristics and methodological quality of meta-analyses on hypertension treatments: a cross-sectional study

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Background: Hypertension is one of the top contributors to the global disease burden. Identifying effective interventions for hypertension is a major global public health challenge. Evidence from systematic reviews (SR) is of great importance for the management of hypertension. Methodological quality of meta-analysis on hypertension treatments can affect treatment decisions. **Objectives:** To investigate the methodological quality of meta-analyses of hypertension treatments. **Methods:** We searched the Cochrane Database of Systematic Reviews and the Database of Abstracts of Reviews of Effect. SRs with at least one meta-analysis on hypertension treatment effect were considered eligible. We assessed methodological quality with the validated AMSTAR (Assessing the Methodological Quality of Systematic Reviews) tool. **Results:** We identified 158 meta-analyses on hypertension treatments, with

32 (20%) being Cochrane meta-analyses and 16 (10%) being an update of a previous meta-analysis. Overall, methodological quality was unsatisfactory in the following aspects: comprehensive reporting of the sources of support (2%), provision of included and excluded list of studies (23%), inclusion of grey literature (27 %), and inclusion of protocols (33%). The 126 non-Cochrane meta-analyses had poor performance on almost all the methodological items except for providing characteristics (64%) and assessing the scientific quality (61%) of included studies. Among non-Cochrane meta-analyses, those that focused on non-pharmacological treatments were more likely to consider the scientific quality of included studies when drawing conclusions; meta-analyses published recently were better at using appropriate statistical methods and assessing publication bias. The 32 Cochrane meta-analyses generally had good methodological quality except for comprehensive reporting of the sources of support. **Conclusions:** Our results highlight the need for cautious interpretation of these meta-analyses, especially among physicians and policy-makers when guidelines are formulated. Future meta-analyses should address the shortcomings in these methodological items.

P20: Characteristics and methodological quality of meta-analyses on stroke treatments: a cross-sectional study

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Background: Methodological limitations among meta-analyses (MAs) can impact trustworthiness of conclusions, and subsequently affect the quality of treatment decision making. **Objectives:** The aim of this study was to evaluate the methodological rigor of MAs on stroke treatments. **Methods:** A cross-sectional study was conducted. MAs on stoke treatments published between 2000-2014 were retrieved from databases. The methodological quality of the included MAs was assessed using the validated AMSTAR instrument. Association between characteristics of MAs and their individual score in each AMSTAR item was analyzed with regression analysis. **Results:** We included 179 MAs, of which 83 (46%) were Cochrane Reviews. Most of them (65%) focused on non-pharmacological treatments. The included MAs generally did well in providing information on conflict of interests (84%); performing a comprehensive literature search (80%); using appropriate methods to combine results (75%); and assessing and documenting the scientific quality of primary studies (77%). However, only 40% assessed publication bias; 48% conducted duplicate study selection and data extraction. About half (49%) provided characteristics of the primary studies, or mentioned harms of the treatment (46%). Cochrane Reviews generally had good methodological quality. Results from regression analyses showed that more recently published MAs, those produced by Asian authors, and those focused on non-pharmacological treatments, were associated with better methodological quality. **Conclusions:** Overall, the methodological quality of included MAs was mediocre. Improvements are needed in assessing publication bias, conducting duplicate literature selection and data extraction, providing characteristics of included studies, and providing information on harmful effects of treatment.

P21: Workplace interventions for reducing sitting at work

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Background: The number of people working whilst seated at a desk keeps increasing worldwide. This contributes to increased cardiovascular disease, obesity and diabetes. Therefore, reducing and breaking up the time that people spend sitting while at work is important for health. **Objectives:** To evaluate the effects of workplace interventions to reduce sitting at work compared to no intervention or alternative interventions. **Methods:** We conducted electronic searches of MEDLINE, CENTRAL, CINAHL, OSH UPDATE, Embase, PsycINFO, ClinicalTrials.gov and WHO search trial portal. We included RCTs, cluster-RCTs, quasi-RCTs and controlled before-and-after studies. Two review authors independently screened studies for eligibility and completed data extraction and risk of bias assessment. **Results:** We found very low quality evidence from three non-RCTs and low quality evidence from three RCTs, with 218 participants, that people who used sit-stand desks, sat for between 30 minutes and two hours less during the working day than they did when they used conventional desks. Sit-stand desks also reduced total sitting time and the duration of sitting episodes of 30 minutes or longer. Standing more did not produce harmful effects in the studies, such as musculoskeletal pain or a decrease in productivity. Other interventions aimed at reducing inactivity such as taking a walk during breaks at work did not change the length of sitting time at work. We also found low quality evidence that counselling may lead to a modest reduction in sitting time, (around 30 minutes on average). There were a number of limitations in the included studies that reduced our confidence in the validity and applicability of the results from the trials. The quality of evidence was low for most of the interventions looked at, mainly because the studies were poorly designed and recruited small numbers of participants. **Conclusions:** There is very low quality evidence that sit-stand desks may reduce sitting time at work in the short or medium term, but there is no long-term evidence. The effects of policy changes, information, and counselling on sitting time at work were inconsistent.

P22: Rethinking the content of questionnaires when assessing barriers to guideline implementation: a scoping review

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Background: It is important to tailor guideline implementation by first assessing potential barriers. Questionnaires are one tool for assessing barriers. Physicians are often the target of questionnaires and we lack knowledge of the types of questionnaires used for this purpose. **Objectives:** To describe the characteristics of questionnaires used to assess physician-reported barriers of guideline implementation. **Methods:** We conducted a scoping review and searched MEDLINE and Embase from 2005 to 2014. We included English language studies that described guideline implementation barrier questionnaires. Triplicate study screening and data extraction occurred. Data were extracted on study characteristics, clinical topic, respondent setting and specialty, mode of administration, response options, underlying theory, validation and content (barrier) domains based on the Flottorp et al. framework (1). Findings were reported as frequencies and percentages. **Results:** Among 174 unique questionnaires, half addressed overall management of a disease with the most common diseases surveyed being cancer and cardiovascular disease (20%, 18%, respectively). Online administration increased over time as did the number of questionnaires published. No questionnaires were based on theory and fewer than one-third were validated prior to use. All but one questionnaire (99.4%) addressed individual health professional barriers, in particular, self-reported behaviour. The remaining six barrier domains and 40 sub-domains were included in few questionnaires, and only ten included a free-text response option to probe for barriers. This did not change over time. **Conclusions:** Questionnaires did not adequately assess guideline implementation barriers. Further research is needed to develop and validate a guideline barriers questionnaire. The selection and tailoring of guideline implementation interventions is not informed by valid information about barriers. Guideline developers and implementers may need a standardized questionnaire that could be adapted for their constituents. (1) Flottorp SA, et al. Implement Sci 2013; 8:1–11.

P23: Clinical practice guidelines: how they are produced in Poland

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Background: Clinical practice guidelines (CPG) provide physicians with recommendations on the management of their patients. They could be used to implement evidence-based clinical practice, but to do so, they should meet certain quality criteria. **Objectives:** The aim of this project is to assess how CPG are produced in Poland and to assess their quality. **Methods:** We searched medical databases and websites of medical societies to identify CPG produced by Polish medical societies in 2015 (not adapted or endorsed). We retrieved full texts of identified CPG and two reviewers assessed their validity independently. We used AGREE II instrument to assess their quality. AGREE consists of 23 items organized within six domains (each item is rated on a 7-point scale: 1–strongly disagree to 7–strongly agree) and overall assessment rating. To analyse validity of documents we used a quality score algorithm recommended by AGREE. In addition we checked how many CPG cited Cochrane Reviews. **Results:** We identified 15 CPG produced or updated in 2015. The highest mean score was obtained in domain 4 'clarity of presentation' 77%, meaning that the guidelines were mostly clearly presented and easily identifiable. The lowest result was obtained in domain 6 'editorial independence' - 14%, meaning that most of the guidelines did not provide information about funding and potential author conflicts of interest. The average quality score of an overall assessment was 54%. Domain 3, 'rigour

of development', received mean score of 32%. Average total assessment of 15 guidelines was 4.27 points (range 2-6). Only three of the CPG cited Cochrane Reviews, and one of them was not the current version of the review. **Conclusions:** Methodological quality of the 15 Polish CPG was moderate and varied, both between guidelines and within guidelines. The weakest elements in most of them included information about editorial independence and the identification, evaluation, and synthesis of the scientific evidence.

P24: Training and supporting of Cochrane authors – Polish experience

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Background: Before Cochrane Poland was established there were 38 Polish authors of Cochrane Reviews. One of the aims of Cochrane Poland was to train and support potential reviewers in the skills needed for the development of Cochrane Reviews. **Objectives:** To describe our experience in building teams of systematic reviewers in Poland. **Methods:** We planned a two-step course for the authors. The first module was an introductory course, open for all interested, providing information about Cochrane Reviews, risk of bias assessment, title registration, protocol development and hands-on practical exercises including searching for evidence and a RevMan tutorial. We obtained funding for those courses, so they were free of charge. After this, Cochrane protocol workshops were available for people already involved in Cochrane Reviews. **Results:** So far we have conducted three editions of our introductory courses. Altogether we have trained over 90 people. As a result seven new topics for reviews are registered, 30 new authors from Poland have created accounts and almost 20 participants took part in protocol development workshops. Three of those protocols have been submitted for editorial approval. We observed that most people who wanted to be involved in Cochrane Reviews needed support in the registration process, finding a relevant Cochrane group, preparing a registration form. With protocol development process we noticed that despite hands-on exercises, reviewers had problems with translating the knowledge they gained into practical applications in their health problem. They needed constant support throughout protocol development. One of the barriers to becoming involved in a review expressed by some of the participants was the requirement of having experienced Cochrane authors on the team. However based on our experience without these people protocols and reviews may not be completed in a reasonable time. **Conclusions:** Our training courses resulted in an increase in the number of people who became interested and involved in Cochrane Reviews in Poland, but constant support for new Cochrane authors is needed in order to help them complete their protocols and reviews.

P25: The challenge of summarizing medical evidence for rare diseases using Cochrane inclusion criteria

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Background: Through Cochrane, we have recently reviewed treatment options for Gaucher disease (GD) - an ultra-orphan, rare metabolic disorder, caused by a deficient/malfunctioning enzyme. Untreated, GD may lead to significant disability and death. A breakthrough discovery 30 years ago revolutionized the lives of patients by providing the replaced enzyme. Despite the emergence of various treatment options in the last decade, there are no evidence-based recommendations regarding treatment regimens/drugs, and treatment costs remain very high. Other inborn metabolic disorders suffer from similar unanswered questions regarding treatment - currently, there are 17 published Cochrane Reviews on other rare inborn errors of metabolism, and 16 are listed as high priority titles for analyses (defined by the genetic disorders group together with the UK National Health Service (NHS)). **Methods:** Applying Cochrane criteria, eight randomized clinical trials (RCT) (300 participants) were filtered after an extensive searching of medical databases. Numerical data regarding organ volumes, disease activity markers and blood counts were collected, as well as data about possible biases. Different drugs and doses were compared. **Conclusions:** We contend that limiting analyses to RCTs in fields where these studies represent only small proportion of the total body of literature (such as in the case of rare diseases) may distort the conclusions and significantly constrain the recommendations that can be concluded. Therefore, despite being labelled as inferior to RCTs, inclusion of non-randomized trials should be positively considered when attempting to answer delicate questions (such as the optimization of treatment doses), when dealing with a high non-RCT to RCT ratio, or when discussing a disease affecting few patients (as in the case of rare diseases).

P26: Impact of pay-for-performance on diabetic patients and physicians: a systematic review

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Background: Pay-for-performance (P4P) has been widely adopted, and increasingly recognized in intervening management of chronic diseases. However, due to the heterogeneity of P4P settings as well as demographic differences, results are generally inconsistent and controversial. Previous reviews either failed to focus on P4P, studying the whole concept of financial incentive in the diabetes field or insufficiently synthesized results. **Objectives:** To explore whether P4P positively influences quality indicators of diabetes mellitus and the size of the effects and to evaluate the quality of the body of evidence for each relevant indicator using the GRADE system. **Methods:** Databases including Ovid MEDLINE, Embase, PubMed, the Cochrane Library were comprehensively searched for the effects of P4P programs in terms of patient outcomes and physician behaviours. Studies covering detailed data were included and synthesized. The quality of the body of evidence for each quality indicator was determined using the GRADE system. **Results:** From 492 identified articles, 16 interrupted time series studies, four controlled before-after studies and one quasi-experiment study were included. (Figure 1) Twelve studies were also included for quantitative analysis. Results of meta-analysis showed that P4P produced a generally positive effect in most indicators (e.g. patients with record of total cholesterol or blood pressure). However, these results were inconsistent. The percentage of patients with HbA1c ≤7% or 53 mmol/mol showed a pooled odds ratio of 0.98 in patients, but a pooled mean difference of 19.71% in the physicians. The odds ratios of receiving tests/reaching an outcome level were also diverse in patients (OR ranged from 0.98 to 3.32). Besides, process indicators had higher rates of improvement than outcome indicators. (Tables 1-6) **Conclusions:** P4P has variable impacts on patient outcomes of diabetes as well as physician behaviours, with various effects from negligible to strongly beneficial. Considering the low to medium quality of included studies, the conclusion should be cautiously interpreted.

Attachments: Figure1.pdf, Table1.pdf, Table2.pdf, Table3.pdf, Table4.pdf, Table5.pdf, Table6.pdf

P27: Sensitivity and precision of 'practice guideline[pt]' in PubMed

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Background: Practice guidelines are increasing year by year and those published in journals are indexed as the MeSH term 'practice guideline' by PubMed. Then people can search the guidelines using MeSH term 'practice guideline[pt]'. Theoretically, the sensitivity and precision of 'practice guideline[pt]' are high. Precision, especially, should be 100%. However, it is not known whether this is the case. **Objectives:** We aim to identify the sensitivity and precision of 'practice guideline[pt]' in PubMed. **Methods:** We retrieved guidelines published in 2013 from PubMed through 'practice guideline [pt]' and selected the top 10 journals that published the guidelines as the sample for screening the guidelines. We handsearched the 10 journals for guidelines published in 2013. Finally, we calculated the sensitivity and precision of 'practice guideline[pt]'. **Results:** The 10 sample journals were as follows: Chest, Annals of Internal Medicine, Obstetrics & Gynecology, Circulation, Journal of the National Comprehensive Cancer Network, Fertility and Sterility, Lancet Oncology, South African Medical Journal, Journal of Obstetrics and Gynaecology Canada, European Urology. There were 216 guidelines published in the 10 journals in 2013. We identified 129 guidelines from 151 records retrieved using 'practice guideline[pt]'. The sensitivity and precision were 60% and 85% respectively. **Conclusions:** Approximately 40% of guidelines would be omitted and about 15% irrelevant records are increasing through 'practice guideline[pt]' in PubMed. 'practice guideline[pt]' is not a good strategy for retrieving guidelines in PubMed. A search strategy for guidelines needs to be developed.

P28: How to search practice guidelines efficiently: systematic review

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Background: Guidelines are defined as systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. Developing guidelines is expensive in terms of human resource and money. Therefore, if we complete the dissemination, implementation and application of guidelines, it will achieve the value of guidelines. However, the retrieval of guidelines is very important for their dissemination and implementation. The AGREE enterprise recommends we search for guidelines using seven international guideline databases including NGC, NICE, SIGN, GIN, Canadian Medical Association Infobase, National Health and Medical Research Council (NHMRC), and eGuidelines. However, there are critical eligibility criteria for including guidelines in those databases. Therefore, if we only search the guideline databases, we will miss some guidelines. Then, the AGREE Enterprise still recommends searching PubMed in order to avoid omitting guidelines. However, there is no standard search strategy in PubMed for guidelines. **Objectives:** To investigate the search strategy from reviews of guidelines to summarize a new search strategy. **Methods:** We searched PubMed for reviews of guidelines. The search strategy is 'Guidelines as Topic' [MeSH] Filters: Meta-Analysis; Review; Systematic Reviews. Two reviewers screened the reviews of guidelines and abstracted data independently using a standard form. Disagreements were solved by discussion or the third reviewer. **Results:** A total of 37,336 records were retrieved from PubMed. After removing 59 duplicates, 36,656 were excluded on the basis of the title or the abstract; full-text was necessary for evaluation of the remaining 621 articles. Finally, 250 articles were included. We are abstracting the data, and the final results will be published later. **Conclusions:** An appropriate search strategy for guidelines will be helpful for dissemination and implementation of guidelines, and benefit the guideline developers, guideline targeting audiences, methodologists focused on guidelines, etc.

P29: Students 4 Best Evidence: a network for students interested in evidence-based healthcare - where are we now, nearly 4 years on?

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Background: Students 4 Best Evidence (S4BE) is an online community for, and by, students interested in evidence-based healthcare. It aims to help students, from school-age to university, learn more about evidence-based practice and the methodological concepts underpinning it. The site engages students through relevant, useful resources and provides a space for students to communicate their knowledge by interacting with fellow students and writing their own blogs. This includes blogs such as 'A beginners guide to interpreting odds ratios, confidence intervals and P values', which has been viewed over 100,000 times since its publication in August 2013. **Objectives:** Since its launch in 2013, S4BE has grown year-on-year, with increases in the number of students subscribed to - and blogging for - the site; the number of partner organisations supporting S4BE; and the number of individuals engaged with the community through social media. With the aim of strengthening the S4BE community further, this poster will introduce the community to those who are less familiar with S4BE and, for those who are familiar, provide an update on the community's activities. **Conclusions:** S4BE is committed to improving understanding of, and interest in, evidence-based practice and its importance among students, including the next generation of Cochranites. By highlighting the current work of S4BE and ideas for the community's future, we'd like to welcome more students, individuals who work with students, and potential partner organisations to get involved with S4BE.

P30: Attribution of multiple literature databases in systematic reviews for public health guideline development

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Background: Since 'Minds Handbook for Clinical Practice Guidelines Development 2014' was published, clinical practice guidelines (CPG) based on systematic reviews for clinical questions that necessitate comprehensive literature searches have become common in Japan. However, it is unclear which and/or how many literature databases should be used or to what extent refinement of search queries according to retrieval results is satisfactory for systematic reviews for public health guidelines. **Objectives:** NICE guidance (PH19, 2009) examining interventions for long-term sickness and incapacity for work was used as a reference to investigate the performance of bibliographic databases in identifying the included studies and the most effective combination of databases required to retrieve all included studies. **Methods:** Authors searched the yield of included studies from three databases: MEDLINE, PubMed, and Embase and calculated the precision of each search strategy. We investigated differences between the presence of a record in a database and its retrieval and number needed to read (NNR). We applied a filter to pick up only randomized controlled trials. **Results:** Thirty-two out of 45 included studies were present in MEDLINE, 32 in PubMed and 29 in Embase. Combinations of PubMed and Embase identified 36 studies, most effectively. Only 12/45 studies had articles whose full texts were available free. NNR for MEDLINE was the lowest at 74.2 (2373/32), but 300.5 (9616/32) for PubMed. NNT for Embase after removing studies included in MEDLINE too, called 'only Embase', was 54.2 (275/5). Six studies were not found using our retrieval system, although all of them were observational studies. **Conclusions:** Systematic reviews could produce biased conclusions if a search to identify eligible studies is not comprehensive. Compared to 80.3 (2331/29) for a simple Embase search, a combination of MEDLINE and 'only Embase' seemed to be more effective. In a systematic review of a range of interventions that were topics of one of NICE guideline regarding workplace health, at least two databases and reference checking were required to retrieve all included studies.

P31: Challenges in conducting an overview of reviews evaluating diagnostic accuracy and predictive ability of frailty screening tools: a practical example

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Background: Within the context of the project 664367/FOCUS funded under the European Union's Health Programme (2014-2020), we have conducted an overview of systematic reviews (SRs) to examine diagnostic accuracy and predictive ability of available screening tools for frailty. This review process was based on Joanna Briggs Institute (JBI) procedures. Of 420 records identified through searching in databases for published and unpublished studies, 20 full-texts were assessed for inclusion criteria and then 10 for risk of bias (RoB). We encountered various limitations when we started to appraise the methodological quality of the SRs eligible for inclusion. **Objectives:** To describe the potential bias of the SRs eligible for inclusion in one overview of SRs related to diagnostic accuracy and predictive validity of screening tools for frailty. **Methods:** Detailed analysis of the RoB by applying the 11 items of the JBI critical appraisal checklist for systematic reviews and research syntheses to the SRs eligible for inclusion and by data extraction based on the JBI data extraction form for review of systematic reviews and research syntheses. **Results:** One of the 10 analyzed SRs was a Cochrane SR, and nine were non-Cochrane and non-JBI SRs. In the Cochrane Review only the likelihood of publication bias was not controlled. With regard to the remaining nine SRs: in two the inappropriate definition of inclusion criteria was identified; in five the reference standard using for comparison of the index tests was not considered; in two the critical appraisal of the included studies was missing, and in one an inappropriate tool for this purpose was used. None of these nine SRs evaluated likelihood of publication bias. Related to data extraction, we identified cases of bias in the selection of the reported results, lack of uniformity of provided statistics, and inconsistency in conferring significance to the obtained results. **Conclusions:** RoB were mainly identified in the SRs that did not follow standardized international collaboration procedures. There is a need for wider use in future SRs of standardized procedures in order to improve the quality of evidence synthesis.

P32: Shared decision making and decision aids in MEDLINE

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Background: Shared decision-making (SDM) is an approach in which clinicians and patients communicate together using the best available evidence to make decisions. Decision aids (DA) are tools designed to facilitate SDM in healthcare decisions. **Objectives:** To evaluate the frequency and categories of terms related to SDM and DA in MEDLINE from inception to date. **Methods:** We used search strategies for SDM and for DA use (Fig 1) to assess temporal trends and patterns of categories by article type, gender, age group, subject, journal category and medical specialty. **Results:** Both DA and particularly SDM began a steady growth in the new century (Fig 1). In Table 1 we described the proportion of reported categories for SDM (n = 6533) and DA records (n = 758). Not every study reported was classified within a category, i.e. only 53% of SDM studies and 63% of DA studies were linked to a medical specialty. The proportion of randomized controlled trials and systematic reviews are low, the gender distribution is balanced, the extreme age groups are less well represented, and surgery, family medicine and internal medicine are the most frequent medical specialties. A minority included the terms 'web-based/electronic formats'. **Conclusions:** Although there has been a marked increase in MEDLINE records related to SDM and DA in the past 15 years, the absolute number still seems low, and the hard evidence evaluating them as interventions is even lower. Very few medical specialties seem to use or report on these topics. Notably, only a minority use web-based or electronic formats.

Attachments: Figure 1.jpg

P33: At what point in the life cycle of technologies are HTA reports requested? An analysis of 130 HTA reports in Argentina

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Introduction: Health technologies (HT) have a natural life-cycle with five stages: research/development, experimental, innovative, general use, and obsolescence/replacement. Health Technology Assessment (HTA) can be useful in all these stages. Objective: To describe when in the life-cycle of a technology the HTA is requested, based on the experience from an independent Argentinian HTA agency, the Institute for Clinical Effectiveness and Health Policy (IECS), a member of INAHTA (The International Network of Agencies for Health Technology Assessment). **Methods:** We analyzed all the reports performed by IECS for a consortium of public, social security and private health care institutions in Argentina and Uruguay during 2014 and 2015. Two independent researchers evaluated the reports and classified the life-cycle stage of each HT. Discrepancies were solved by consensus. We considered three categories of HT: experimental stage, non-experimental (innovative, general use stage, non-effective) and obsolescence/replacement (Table 1). **Results:** We evaluated 130 HTA reports related to drugs (38%), medical procedures (31%) and diagnostic technology (31%) (Table 2). None were requested at the research/development or obsolescence/replacement stages, 44% concerned the experimental stage and 56% the non-experimental stage. HTAs for drugs and medical procedures were more frequently at the non-experimental stage, and 45/73 (45%) of non-experimental HTs were considered to be non-effective (Figure 1). We found that 93/130 (72%) HTs were approved by at least one regulatory agency. The quality of the evidence measured by GRADE was high in 34%, moderate in 30%, low in 30% and very low in 6%. Nine were HTAs for orphan diseases. Considering all the HTAs, only 49/130 (38%) had a positive or positive with restrictions for coverage recommendations. **Conclusions:** Nearly half of the HTs performed by the main HTA agency in Argentina were evaluated at an experimental stage, when there is no evidence for routine use. Only slightly more than a third of the HTs were finally recommended for wider use.

Attachments: Table 1 & 2.jpg, Figure 1.png

P34: Association between cigarette smoking prevalence and income level: a systematic review and meta-analysis

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Background: Previous evidence has associated socioeconomic status and smoking. Objective: To assess the association between socioeconomic status and smoking prevalence worldwide. **Methods:** Systematic review and meta-analysis of observational studies (Mantel-Haenszel random-effects models) summarizing adjusted odds ratios (ORs) and 95% confidence intervals (CI). Heterogeneity was assessed by the I2 statistic. We performed subgroup analyses for continents, World Health Organization (WHO) regions, country mortality, gender, age, risk of bias and study decade. Independent reviewers selected studies, assessed potential bias and extracted data. We searched MEDLINE, Embase, the Cochrane Central Register of Controlled Trials (CENTRAL), SocINDEX, African Index Medicus, and LILACS, and other sources for studies from 1989 to 2013 reporting direct measurements of income and current cigarette smoking. Funding: WHO. **Results:** We retrieved 13,583 articles, included 201 and meta-analyzed 93. Median smoking prevalence: 17.8% (95% CI 3% to 70%). Lower income was associated with higher smoking prevalence. The direction of the association was consistent across all subgroups and was statistically significant for most of them (Table 1). Analyzing three categories of income, prevalence was highest in the lowest income levels compared to the middle, followed by the middle level compared to the highest either considering all studies or subgroups by gender and age group (Table 2). **Conclusions:** Our results show that current cigarette smoking is significantly associated with lower income worldwide and across subgroups with a dose-response relationship.

Attachments: Table 1.jpg, Table 2.jpg

P35: The reporting quality of acupuncture-related infections in Korean literature: a systematic review of case studies

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Background: Acupuncture is generally accepted as a safe intervention when it is administered in appropriate clinical setting by well-educated and experienced practitioners. However, case studies on adverse events (AEs) or complications relevant to acupuncture practice have been published frequently, and recently. **Objectives:** In this study, we reviewed observational studies, including case studies and case series, in the Korean literature to assess their reporting quality, and suggest recommendations for future ones on acupuncture-related infections. **Methods:** Electronic databases including MEDLINE, Embase, the Cochrane Library, Korean Studies Information Service System (KISS), DBpia, National Digital Science Library (NDSL) and the Korean National Assembly Library were searched up to May 2015. A combination of keywords including 'acupuncture' and 'infection' was used for searching the individual databases. **Results:** A total of 23 studies were selected from the 2739 literature articles we identified from the electronic database searches to May 2015. From reviewing the infection cases, we found that most case studies did not report enough information to permit a judgement of causality between acupuncture and the adverse event - as well as appropriateness of the acupuncture practice - to be made. In addition, acupuncture experts rarely participated in the reporting of these acupuncture-related AEs or complications. **Conclusions:** Based on these limitations, we suggest a tentative recommendation for future case studies on acupuncture-related infection. We hope that this recommendation will contribute to the improvement of the reporting quality of acupuncture-related AEs (or complications) in the future.

P36: Interventions to improve neonatal and child survival

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Background: Evidence-based interventions and strategies are needed to improve child survival in countries with a high burden of neonatal and child mortality. Several systematic reviews have been published that have looked at the impact of single interventions for reducing these deaths; however, there is no overview on those systematic reviews. **Objectives:** The objective of this overview is to identify the effective interventions that can improve neonatal and child survival. **Methods:** This overview included all published Cochrane and non-Cochrane systematic reviews of experimental and observational studies on antenatal, natal, postnatal and child health interventions aiming to prevent neonatal/perinatal and child mortality. The methodological quality of the reviews was assessed using the AMSTAR criteria and the quality of the outcomes reported was assessed using the GRADE approach. Based on the findings from GRADE criteria,

interventions were summarized as effective, promising or ineffective. **Results:** The overview identified 148 Cochrane and non-Cochrane systematic reviews on 61 reproductive, maternal, newborn and child health interventions. Of these, only 57 reviews reported mortality outcomes. Using the GRADE approach, corticosteroids for preventing neonatal respiratory distress syndrome in preterm infants; early initiation of breastfeeding; kangaroo care for preterm infants; and vitamin A supplementation for infants from six months of age, were identified as effective interventions for reducing neonatal, infant or child mortality. **Conclusions:** Implementing these effective interventions will improve neonatal and child survival around the world. Choosing which interventions to implement will depend on resources available in individual countries.

P37: Health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review of observational and qualitative studies

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Background: Lack of seeking appropriate care for ill mothers and neonates contributes to high mortality rates; therefore, a major challenge is the appropriate mix of strategies for demand creation as well as provision of services. **Objectives:** To review observational and qualitative studies to identify factors associated with delays that lead to serious maternal and neonatal morbidity and mortality **Methods:** Systematic review of observational and qualitative studies to identify factors and barriers associated with delays in seeking health care. **Results:** A total of 151 observational and qualitative studies met the inclusion criteria. The review of observational and qualitative studies identified several social, cultural and health services related factors that contribute to delays in seeking health care. The review identified that timely recognition of danger signs, autonomy of decision making, availability of finances, accessibility of the health facility, and perceived quality of care are the necessary considerations when making the decision to seek formal care. **Conclusions:** Effective implementation of identified strategies after controlling for other factors of delays would lead to significant improvement in mortality, morbidity and care seeking outcomes. Funding: This review was part of doctoral thesis which was funded by University of Adelaide, Australia.

P38: Overview of meta-analyses of NOACs versus warfarin in patients with atrial fibrillation

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Background: New oral anticoagulants (NOACs) have been launched as an alternative to warfarin. Since there is big interest in the clinical usefulness of NOACs versus warfarin, numerous network meta-analyses have been published. **Objectives:** To overview the meta-analysis publications and explore the varying elements in their conclusions. **Methods:** We searched MEDLINE for meta-analyses comparing NOACs with warfarin. Of 49 identified citations, only nine were irrelevant. So our sample consisted of 40 meta-analysis articles. Study characteristics such as nationality, journal, number of included studies and number of participants in meta-analysis, comparison arms and conclusions were collected from the abstract of each publication. **Results:** The meta-analyses were published from December 2010 onwards. Fifteen (38%) of the 40 meta-analyses came from the USA, followed by Italy (n = 5, 13%), UK, Germany, France, Canada (n = 3, 8% each). Six articles (15%) came from the American Journal of Cardiology, followed by the International Journal of Cardiology (5 articles, 13%) and PLOS One (3 articles, 8%). Most meta-analyses included fewer than 10 studies (n = 25, 63%), and 58% had more than 10,000 participants. Most (n = 21, 53%) compared any NOAC with warfarin, although 18 studies (45%) compared a single NOAC with warfarin, with 13 of them comparing dabigatran with warfarin. There were 18 meta-analyses favoring NOACs, 11 showed a similar result, and six showed worsening with NOACs. In half of these trials the worsening with NOACs was related to myocardial infarction. A proportion showed the proportion of outcomes favoring NOACs was gradually increasing (37% for 2013 or earlier, 45% in 2014, and 56% in 2015). **Conclusions:** Forty meta-analyses comparing NOACs with warfarin have been published since 2010. Some journals published multiple articles, despite a similar objective.

P39: Cochrane Reviews to support clinical guidelines: the opportunities and challenges of collaborating with guideline developers

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Objectives: Bridging the gap between research and healthcare policy is challenging. As part of our NIHR (National Institute for Health Research) Cochrane programme grant we will produce Cochrane Reviews tailored to the needs of UK clinical guideline developers. **Methods:** A total of 45 new or updated Cochrane Reviews will be produced as part of this three-year project. Topics have been identified by the Royal College of Obstetrics and Gynaecology (RCOG) and the National Collaborating Centre for Women's and Children's Health (NCC-WCH) who develop guidelines for NICE (National Institute for Health and Care Excellence), to dovetail into planned guideline development in four areas where evidence continues to accrue (1) management of breech presentation (2) multiple pregnancy (3) induction of labour (4) diabetes in pregnancy. Opportunities and challenges: All reviews to include a section on implications for practice, confirming support for existing standards or providing a basis for new care standards; Updating several reviews on a topic enables us to standardise outcome measures and improve the consistency between reviews in the same topic area; Guidelines may focus on different PICO questions to the ones posed by Cochrane Reviews; Additional products including 'Summary of findings' tables, GRADE evidence profiles, improved Plain language summaries, and infographics will distil the message of reviews, increase accessibility, and make them more useful to guideline developers; A fast-tracked peer review and editorial process will ensure rapid publication, so evidence will be up-to-date when guidelines are produced.

P40: The safety and effectiveness of autologous platelet-rich plasma therapy for lateral epicondylitis: a systematic review

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Background: Lateral epicondylitis, is a common musculoskeletal disorder for which a safe and effective treatment strategy remains unknown. **Objectives:** To evaluate the safety and effectiveness of platelet-rich plasma (PRP) therapy for lateral epicondylitis. **Methods:** The literature review covered the period from 10 September 2015 to 7 October 2015, and eight Korean databases and foreign databases including Ovid-MEDLINE, Embase, and Cochrane Library were used. The outcomes of interest were pain (as measured by visual analogue scale (VAS) or Nirschl score), functional scores (as measured by Disabilities of the Arm, Shoulder and Hand Scale (DASH) or others), quality of life and complications. Two reviewers independently assessed the quality of the included studies and extracted data. The quality of the studies was assessed according to the Scottish Intercollegiate Guidelines Network (SIGN) tool. **Results:** Eleven studies fitted the inclusion criteria. Of these, seven were randomized controlled trials (RCTs) and four were prospective cohort studies. Some studies showed that the VAS for pain improved significantly from pre-injection to the follow-up in the PRP and control groups. Complications outcomes were rare. However, the results of pain (Nirschl score), function score were inconsistent, and superiority of PRP over control treatments could not be conclusively demonstrated. **Conclusions:** PRP is a safe and promising treatment of lateral epicondylitis. However, its superiority over other treatment remains unproven. Also there are no established protocols (e.g. volume, number, interval of injection) for PRP treatment. Therefore more studies are needed to confirm effectiveness of PRP.

P41: Getting read: using a journalistic newsletter format in a long-term endeavour to promote critical thinking among healthcare decision-makers and health professionals

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Background: For over 20 years, a free quarterly 16–24-page newsletter called Science & Practice has been disseminated to healthcare staff and decision-makers by SBU, the Swedish Agency for Health Technology Assessment. Using a journalistic format to promote critical thinking, systematic reviews, risk of bias and critical thinking have been recurrent themes in the newsletter. Reader surveys have been performed repeatedly in random samples of major target groups to monitor attitudes and self-reported reading behaviour. **Objectives:** To investigate target groups' attitudes toward SBU as a source of health evidence and to evaluate readers' views and self-reported reading of SBU's free quarterly newsletter Vetenskap & Praxis (Science & Practice). **Methods:** A mail survey followed by three reminders was sent to healthcare decision-makers and health professionals in Sweden 2008, 2010 and 2014, both readers and non-readers. Stratified random samples from these years came from 1000, 1833, and 2000 individuals. Responders could remain anonymous. **Results:** Weighted total response rates were 60%, 63% and 47%. A majority reported practical benefits of SBU's results. The major source was SBU's free newsletter, rated as good or very good. A majority reported that they read at least something in every issue. Self-reported web searching for medical information showed no increase since 2008. Few agreed that the newsletter should be available online only. **Conclusions:** A free, printed newsletter targeting health professionals and policy-makers, using journalistic tools and a long-term approach, can achieve substantial readership and result in awareness of systematic reviews of health interventions and critical analyses of benefits, risks and costs. Further analyses are needed to investigate specific impact on attitudes, knowledge and behaviours, depending on context and modes of presentation.

P42: Two years down, one to go: an NIHR programme grant in numbers

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Background: Cochrane's *Strategy to 2020* and Production Models place more emphasis than ever on producing priority systematic reviews to a high standard as quickly as possible. Cochrane Airways started a three-year NIHR programme grant (PG) in May 2014 to produce 25 priority asthma reviews. We presented results of the model at the end of year 1, and have updated and extended the analyses another year on. **Objectives:** To assess an NIHR programme grant as a production model. **Methods:** We used Archie data to track the 25 titles and conduct analyses of median production and editorial times. We collated data about patient and public involvement (PPI), number and geography of contributing authors, resources, and impact. **Results:** All 25 titles have been registered, 24 have progressed to protocol submission, 17 to protocol publication, 14 to review submission, and nine to full publication. Provisional analyses show protocols take a median 1.7 months to prepare and 2.5 months to edit, and full reviews take six and four months. Median time from registration to full publication of the nine published reviews was 12 months. The grant reviews have involved 47 authors, from the UK (32), Australia (10), Canada (3), Japan (1) and Egypt (1); one from a lower- or middle-income country (LMIC) and 22 who are new to Cochrane. Involving new authors in the north west of England through collaboration with the Lancaster Health Hub has promoted more widespread understanding and application of evidence in an area where health outcomes are among the poorest in the UK. The grant funds two systematic reviewers (1.0 and 0.2 full time equivalent) plus 0.5 days/week Co-ordinating Editor support. Reviews incorporated key outcomes and 10 priority questions derived from a PPI asthma workshop (18 participants) and online survey (57 respondents). There is some evidence of early impact, mostly through guidelines. **Conclusions:** The model continues to be an efficient way of producing priority reviews quickly. Resource implications may be a barrier to implementing the model more widely, and improvements are needed to enhance impact and inclusion, especially from authors in LMICs.

P43: Standardizing outcomes in Cochrane Pregnancy Childbirth Systematic Reviews

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Background: Cochrane Pregnancy and Childbirth (CPC) are currently looking at ways to improve the consistency of outcomes in their reviews. One way to achieve this could be through the adoption of core outcome sets (COS). The first step is to map out COS development in pregnancy and childbirth. The Core Outcome Measures in Effectiveness Trials (COMET) database is the most comprehensive source of information relating to COS in healthcare. One of the aims of the COMET initiative is to link development and use of COS with the outcomes specified and reported in Cochrane Reviews. **Objectives:** To identify existing/planned COS in pregnancy and childbirth. To conduct a survey of current CPC reviews to identify whether COS are used as a basis for defining outcomes in the methods or in the 'Summary of findings' (SoF) table. **Methods:** We searched the COMET database (24 January 2016) to identify COS in pregnancy and childbirth. We summarised the number of published or ongoing COS. We undertook a descriptive survey of current CPC reviews and examined how many used a COS to inform the outcomes of the review and those in the SoF table. **Results:** Out of all records in the COMET database 4% (30/723) relate to pregnancy and childbirth. Forty per cent (12/30) of this work is completed and 60% (18/30) is ongoing. In nearly half of all work identified, a CPC editor or author is involved in its development. Only 2% of reviews (12/522) reported that they used a COS in determining which outcomes to specify in the methods of the review. None of the CPC reviews stated specifically that they used a COS to guide selection of outcomes to present in the SoF table. **Conclusions:** Clearly work is ongoing in the development of COS within pregnancy and childbirth. However, CPC systematic reviews rarely refer to a COS as a source for determining outcomes. None refer to their use in determining outcomes in the SoF table. A key final stage in COS development is implementation. It is imperative that once developed, COS are used by CPC systematic reviews. We propose a number of ways in which implementation could be achieved.

P44: A tale of two databases: a comparison of Embase versus Scopus

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Background: Embase is a bibliographic database covering international biomedical literature from 1947 to the present day. Scopus, likewise, is a bibliographic database, which claims to index more than 60 million records, including over 21,500 peer-reviewed journals and articles-in-press. As they are both produced by Elsevier, would the coverage be identical and is it necessary to search both databases when carrying out a search for a systematic review? **Objectives:** To investigate the coverage, to determine the degree of overlap and the unique contributions of Embase and Scopus. **Methods:** As a case study we used the search carried out for a systematic review investigating validated existing track and trigger scores for Paediatric Early Warning Systems. The total number of studies included in the review will be examined to determine: 1) which results were retrieved from Embase or Scopus; 2) whether each record was unique to that database; and 3) whether there was an overlap between the two databases. **Results:** We will present the results of the searches and the records identified. Preliminary results reveal that 32 out of 34 included studies (48%) resulted from either the Embase or Scopus search. This in itself is an interesting finding. **Conclusions:** The findings will have implications for those developing search protocols and enable us to draw conclusions about whether it is essential to search both databases.

P45: Is it necessary to search multiple databases for a focussed clinical question?

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Background: A search strategy for a systematic review is intended to be comprehensive and identify all relevant articles for a focussed question. We are currently carrying out a review funded by the National Institute for Health Research, to identify the evidence base for the core components of an effective Paediatric Early Warning System. **Objectives:** To identify and compare information sources and to evaluate their contribution to studies which

were included in the review. **Methods:** We searched across a set of 10 databases from their inception to identify relevant studies in all languages. In addition, we searched trial registers, a range of relevant websites and key journals. The search retrieved 3618 papers in total which was imported into EndNote. After manual deduplication and removing clearly irrelevant records, 2116 papers remained for screening of title and abstract. From these papers, 553 were screened in full text and 61 papers selected for potential inclusion. **Results:** We will provide data on the resources from which we retrieved the 61 papers and if the study is unique to a particular database. From our findings we will discuss whether it is essential to search multiple databases or comply with the set of core databases recommended in Methodological Expectations of Cochrane Intervention Reviews (MECIR). **Conclusions:** The results will be useful in providing guidance for information specialists and systematic reviewers when planning their searches and writing their search methodology.

P46: The National Institute for Health Research Complex Reviews Support Unit (NIHR CRSU): supporting successful delivery of complex reviews

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Background: The questions and decisions involved in medical research are becoming increasingly complex and require more complex evaluation and synthesis of existing evidence. These require novel and sophisticated methodological approaches in synthesising different types of data, in evaluating multidisciplinary and complex interventions, and in synthesising appropriate data for further analysis, such as economic evaluations. In response to this, the National Institute for Health (NIHR) Research Complex Reviews Support Unit (NIHR CRSU) is a new initiative, funded by NIHR to support and encourage successful delivery of complex reviews of importance to the UK National Health Service (NHS), and to contribute to building capacity and capability within the research community. NIHR CRSU is led by the University of Glasgow, in collaboration with the University of Leicester and the London School of Hygiene and Tropical Medicine. **Objectives:** The primary objective of the unit is to build a successful working relationship with NIHR in supporting the UK NHS in delivering clinically and cost-effective services that are evidence-based. The CRSU will focus on providing timely and appropriate support for the delivery of complex reviews that are funded and/or supported by NIHR. These include Cochrane Reviews, reviews funded by the Systematic Review Programme and other NIHR programmes, and other NHS and NHS supported sources. The unit will also work closely with NIHR to support scoping and prioritising of future complex reviews. **Methods:** The collaboration of the three academic institutions forming NIHR CRSU, makes available a wide range of expertise in diagnostic test accuracy (DTA) reviews, network meta-analysis (NMA), individual participant data (IPD) meta-analysis, economic evaluation, realist synthesis, qualitative reviews, use of routine data, non-randomised studies, prognostic reviews, prevalence reviews and causal pathway analysis. Through a programme of workshops and 'Seminars with cutting edge methods', alongside direct support to individuals and groups, the CRSU will provide advice and support to unexpected challenges arising in complex reviews.

P47: Pharmacological interventions for management and prevention of delirium in intensive care patients: a protocol for an overview of systematic reviews

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Background: The prevalence of delirium in intensive care unit (ICU) patients is high. Delirium has been associated with ICU morbidity and mortality including more ventilator days, longer ICU stay, worse long-term mortality, and cognitive impairment. The burden of delirium for patients, relatives and societies is, therefore, likely to be significant. Today systematic reviews of randomised clinical trials are produced in large scales making it difficult to get a quick evidence-based insight and overview. A preliminary search identified several systematic reviews investigating the effects of pharmacological interventions for the management and prevention of delirium in ICU patients. The conclusions of the reviews showed conflicting results. Despite this unclear evidence, antipsychotics and in particular haloperidol is often the recommended pharmacological intervention for delirium in ICU patients. **Objectives:** The objective of this overview of systematic reviews is to assess critically the evidence of systematic reviews of randomised clinical trials on the effect of pharmacological management and prevention of delirium in ICU patients. **Methods:** We will search for systematic reviews in the following databases: the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, PsycINFO, Science Citation Index, Latin American and Caribbean Health Sciences Literature (LILACS), CINAHL and Allied and Complementary Medicine Database. Two authors will independently select references for inclusion using Covidence, extract data and assess the methodological quality of the included systematic reviews using the ROBIS (risk of bias in systematic reviews) tool. Any disagreement will be resolved by consensus. We will present data as a narrative synthesis and summarise the main results of the included systematic reviews. In addition, we will present an overview of the bias risk assessment of the systematic reviews. For systematic reviews deemed to be low risk of bias, we will assess risk of bias in the included trials. Our conclusion will be based on systematic reviews assessed low risk of bias.

P48: Epidemiology characteristics, methodological assessment and reporting of statistical analysis of network meta-analyses in the field of cancer

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Objective: To investigate epidemiology characteristics, methodological quality and statistical reporting of network meta-analyses (NMAs) in the field of cancer. **Methods:** Twelve databases were searched from inception to 9 July 2015, to identify any NMAs (including adjusted indirect comparison) in the field of cancer in English or Chinese languages. We assessed general characteristics, reporting of the literature search, reporting and quality of statistical analysis, and assessed the methodological quality using a modified AMSTAR checklist. Reporting quality of statistical analysis and methodological quality was stratified by general characteristics, and analysed by Chi-square test using STATA version 12.0. **Results:** From 6408 citations retrieved, we identified and included 102 NMAs in the field of cancer, including 92 NMAs published in English and 10 in Chinese. Forty-three per cent of the included NMAs had been published since 2014; 98 NMAs involved 24 different cancers, and four NMAs did not specify the types of cancer. Non-small cell lung cancer was the most common cancer to be studied in the included NMAs (19%). NMAs were most often performed by researchers based in China (28%). The median publishing period was 101 days (inter-quartile range (IQR): 47 to 187 days). The median total AMSTAR-score was 8.00 (IQR: 6.00 to 8.25). Methodological quality and statistical reporting did not differ substantially by selected general characteristics. **Conclusions:** The methodological quality of NMAs in the field of cancer was acceptable. However, some methodological flaws have been identified in the published NMAs, especially regarding searching of literature, assessment of scientific quality, appropriate consideration of scientific quality in formulation of conclusions, the methods used to synthesize findings of studies, and assessment of publication bias.

P49: Using the AMSTAR checklist for network meta-analysis: does it fit?

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Background and methods: It has been considered that network meta-analyses (NMAs) would be the next generation evidence synthesis toolkit, which, when properly applied, could serve decision-making better than the conventional pairwise meta-analysis. However, NMAs are subject to similar methodological risks as standard pairwise systematic reviews. Because of their methodological complexity, it is probable that NMAs may be more vulnerable to such risks. Therefore, it is important to assess the quality of published NMAs before their results are implemented into clinical or public health practice. Currently, there is no consensus about how to assess the methodological quality of NMAs. AMSTAR is widely used to evaluate the scientific quality of traditional systematic reviews or meta-analyses, but it is still unclear whether AMSTAR can be applied to NMAs. Therefore, we applied AMSTAR to NMAs in the field of cancer, and reported our experience in terms of applicability, reliability and feasibility. **Results:** From 6408 citations retrieved, we identified and included 102 NMAs in the field of cancer. The inter-rater reliability was high, albeit items 1 (provide

an ‘a priori’ design), 8 (scientific quality used in formulating conclusions), and 9 (appropriate method to combine studies) scored as 'moderate'. However, there was a high heterogeneity between the two pairs of reviewers. In terms of feasibility, a modified AMSTAR should be considered to apply to NMAs, especially regarding items 1 and 9; each review taking 10 to 20 minutes to complete. **Conclusions:** Revisions and extensions of AMSTAR might be considerable to apply to NMAs.

P50: Online survey to identify methods used in meta-analysis to handle missing continuous outcome summaries in stroke rehabilitation systematic reviews

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Background: Conventional methods for meta-analysis of continuous outcomes, based on the mean and standard deviation (SD), are often difficult to apply where; 1) outcomes have a skewed distribution, and 2) the mean and SD are not reported. Systematic review authors must then either seek the missing information from the trialists, omit the trial from the meta-analysis or use other statistical summaries if the trial is to be retained in the meta-analysis. **Objectives:** We aimed to identify methods to assist systematic review authors in producing the best possible summaries of the evidence. The frequency with which missing mean or SD values occurred, and the methods used to address the issue were investigated in an online questionnaire of Cochrane Stroke Review (CSR) authors. **Methods:** We approached authors of CSRs of rehabilitation interventions. Lead and second authors (plus the contact author, if different) of each review were asked to complete a questionnaire. Data were analysed descriptively to summarise the extent of unreported mean and SD data in CSRs and the methods used to handle this. **Results:** The online survey was sent to 141 reviewers for 70 CSRs (Fig 1). Sixty-three responses (44% of 141) covered 53 CSRs (76% of 70). Most review authors (58 of 63) knew about analyses performed in the review; 56 had aimed to analyse continuous outcomes. Nearly all authors responded that mean, SD and sample size were to be extracted as part of the planned analysis; unreported mean and SD were encountered by most authors. Despite missing summary data, a meta-analysis was often performed. The majority of review authors contacted trialists to request missing items; however, most reported that trials were omitted from their analysis due to missing mean or SD. **Conclusions:** Most reviewers omitted trials from meta-analyses due to missing summary data. In addition to the guidance on handling missing SD values available in the Cochrane Handbook for Systematic Reviews of Interventions, use of other available methods for imputing the mean and SD will help review authors maximise the information included in meta-analyses.

Attachments: MASK_Figure.pdf

P51: Enhancing state policymakers’ ability to use research evidence

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Background: The Reforming States Group, a bipartisan organization of legislative and executive branch leaders from most USA states, requested assistance educating colleagues about evidence-informed policymaking. The Center for Evidence-based Policy at Oregon Health & Science University and Milbank Memorial Fund collaborated to develop a two-day Evidence-informed Health Policy (EiHP) workshop. Objective: Build capacity within state governments to use research evidence in health policymaking. **Methods:** Workshop objectives are to: 1) introduce concepts essential to using evidence in policy decisions (e.g. study design, risk of bias, relative versus absolute risk), 2) foster relationships among policymakers and key staff to support evidence-informed policymaking, and 3) introduce resources for finding evidence summaries (e.g. Cochrane). For each state, a senior official convenes legislative and executive branch members with influential roles and identifies important health issues for the state. Workshop faculty use these issues in the workshop to demonstrate practical applications of research to policy decisions. Workshop evaluations include ratings of amount learned and benefit versus time invested. In 2015, a qualitative evaluation was done of responses to open-ended questions (e.g. what worked, what didn’t, use in policymaking) and interviews of workshop faculty. **Results:** Twelve states and 263 policymakers participated in workshops and most completed evaluations. On a scale of 0 = nothing to 6 = a lot learned, the average was 5.4. Participants felt better equipped to find and use evidence and challenge claims made by others. Some found the content too detailed. Two states requested refresher sessions, 3 requested assistance with evidence resources, and several requested help in communicating research information to constituents. Creating workshops of varying lengths (2 hours to 2 days) for different policymaker audiences occurred in response to the evaluations. **Conclusions:** EiHP workshops introduce state policymakers to concepts needed to acquire, appraise, and apply evidence and an opportunity to strategize about implementing these processes in their work.

P52: Getting Cochrane Hypertension evidence into Wikipedia

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Background: As more people seek health information online and take responsibility for their own health, it is crucial that they and their healthcare professionals are able to find credible and evidence-supported medical content. The place people are most likely to look for this information is Wikipedia. Through its partnership with WikiProject Medicine, the Cochrane Hypertension Group is trying to ensure that all health information about hypertension contained in Wikipedia is as accurate as possible. **Objectives:** We sought to identify any dissimilarity between Cochrane Hypertension's library of systematic reviews and related Wikipedia pages, and to ensure that Wikipedia accurately reflected the evidence from the Hypertension reviews. **Methods:** We analyzed 47 systematic reviews from the Cochrane Hypertension library. Each was compared to one or more Wikipedia articles that held information pertinent to the content of the reviews. Many of these articles made claims that were unsupported by clinical evidence. We corrected any information that was incorrectly cited or provided insufficient or inaccurate evidence. **Results:** We made 34 edits to Wikipedia articles covering a wide spectrum of medical content. These included not recommending systolic blood pressure targets below 140 mmHg and accurately reflecting the evidence for and against dietary salt-reduction, amongst others. Thirty of the edits remain unchanged at the date of writing and will help to ensure the dissemination of accurate information on hypertensive interventions and treatments. **Conclusions:** Our initial experience in getting Cochrane Hypertension evidence into Wikipedia was rewarding and mutually beneficial. Since Wikipedia information is constantly evolving, it is essential that we maintain, and continue to evaluate, this project.

P53: Prophylactic management of postpartum haemorrhage in the third stage of labour: an overview of reviews

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Background: Postpartum haemorrhage (PPH) is a direct cause of maternal death worldwide. PPH usually occurs during the third stage of labour; most women receive some prophylactic management that includes pharmacological and non-pharmacological interventions. **Objectives:** We summarize systematic reviews that assessed the effects of PPH prophylactic managements during the third stage of labour. **Methods:** We searched MEDLINE, Embase, and the Cochrane Database of Systematic Reviews to identify all relevant systematic reviews of randomized controlled trials of prophylactic managements for PPH in the third stage of labour compared with no treatment, placebo, or a different management. Two review authors independently extracted data and assessed methodological quality using AMSTAR and the quality of the evidence using the GRADE approach for primary outcomes. We summarized results narratively. **Results:** We identified 26 systematic reviews: 16 Cochrane and 10 non-Cochrane. Cochrane Reviews were high quality; non-Cochrane reviews quality varied. The following third-stage interventions suggested effective reduction of the incidence of severe PPH: active management of the third stage of labour compared to physiological management; active management compared to expectant management; administration of oxytocin compared to placebo, and use of tranexamic acid compared to placebo. Some third-stage management reduced the need for blood transfusion: active management compared to physiological management; active management compared to expectant management; oral misoprostol compared to placebo, and tranexamic acid compared to placebo. **Conclusions:** Most methods of effective PPH prophylactic management were supported by evidence, however the evidence was of limited to low or moderate quality. High-quality studies are needed. The outcome measures of the included systematic reviews varied. It is recommended that the outcome measures of trials about prophylactic PPH intervention align with the World Health Organization guideline.

P54: Endorsement of the PRISMA statement and the quality of systematic reviews and meta-analyses published in nursing journals: a cross-sectional study

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Background: The PRISMA statement is an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses. Several studies have examined the endorsement and adherence of PRISMA statement in different medical specialties, but none has been conducted in nursing journals. **Objectives:** The objectives of this study are twofold: 1. to investigate the number of nursing journals that have endorsed or recommended the use of the PRISMA statement for reporting systematic reviews, and 2. to examine adherence to the statement in published systematic reviews in nursing journals. **Methods:** Nursing journals listed in an ISI journal citation report were divided into two groups by the endorsement of PRISMA statement in their 'Instruction for Authors'. We searched for systematic reviews and meta-analyses, published in 2014, from three databases: 37 systematic reviews and meta-analyses were randomly selected in each group. The adherence to each item in the PRISMA statement was examined and summarized using descriptive statistics. The quality of the systematic reviews was measured by AMSTAR. The differences between the two groups were compared using the Mann-Whitney U test. **Results:** Thirty (28%) out of 107 nursing journals recommended or required authors to follow the PRISMA statement when they submit systematic reviews or meta-analyses. The median adherence to the 27 items of the PRISMA statement for reviews published in journals with and without PRISMA endorsement was 64.9% (interquartile range (IQR) 17.6% to 92.3%) and 73.0% (IQR 59.5% to 94.6%), respectively. No significant difference was observed in any of the items between the two groups. **Conclusions:** The adherence of systematic reviews in nursing journals to PRISMA is comparatively lower than those in other specialty journals. Nonetheless, the adherence level of nursing journals to PRISMA statement does not vary significantly whether the journals endorse/recommend the guideline, or not.

P55: Food-based dietary guidelines: methods used to synthesise evidence and grade recommendations

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Background: Evidence-based guidelines are informed by rigorously conducted systematic reviews and use structured consensus frameworks, such as GRADE, to grade evidence quality and strength of recommendations. Given advances in these methods there is a need to evaluate methods used to develop dietary guidelines for population health. **Objectives:** To describe the methods used for evidence synthesis and grading of recommendations in national food-based dietary guidelines (FBDGs). **Methods:** One author handsearched the Food and Agriculture Organization's FBDGs database (14 January 2016). We included the latest versions of FBDGs in any language, published from 2010 onwards; aligned with the WHO definition of a guideline; and aimed at a general healthy population. We also included referenced documents on guideline development methods. One author extracted information on: country; publication date; type of evidence reviewed; methods used to conduct systematic reviews, rate the strength of recommendations, and manage conflicts of interest (COI). Data extraction was checked by the same author and questions were resolved through author discussions. **Results:** We included 30 of 79 eligible FBDGs (18 English, 12 other languages). Most were based on other countries' guidelines (16/30) and published systematic reviews or reports (13/30). Three guidelines commissioned systematic reviews. Most guidelines reported methods used to define evidence review questions (28/30), but few reported methods used to search (5/30), extract data (2/30), evaluate methodological quality (6/30), or synthesize evidence (1/30). Most used consensus to rate recommendations (27/30) and four used structured consensus frameworks. Few reported COIs (4/30) or funding sources (9/30). **Conclusions:** Our study highlights discrepancies in FBDG development across countries and a dependence on other countries' guidelines likely due to resource constraints. Governments and research organizations should implement efficient, explicit and reproducible methods for dietary guideline development that balance rigor and pragmatism.

P56: Analysis of the evidence sources of recommendations in integrative medicine guidelines

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Background: Clinical practice guidelines (CPGs) of integrative medicine are critical documents guiding clinical practice to optimize the medical service. The reliability and practicality of recommendations from CPGs depend largely on the quality of the evidence. **Objectives:** To analyse the evidence sources for recommendations in guidelines of integrative medicine. **Methods:** CNKI, Wanfang, CBM and VIP databases were searched systematically from inception to January 2015; a supplementary search of China Guideline Clearinghouse (CGC) was conducted and the references of included guidelines was checked. Two reviewers independently selected guidelines and extracted data, any disagreement was solved by discussion or consulting a third reviewer. Microsoft Excel 2013 was used for data abstraction and analysis. **Results:** A total of 41 guidelines was included. A total of 375 references were cited to support recommendations, with 8.3 (0 to 68) in each guideline on average, and seven guidelines had no supported reference. Recommendations in integrative medicine guidelines contained two parts - traditional Chinese medicine (TCM) and western medicine. The evidence status was: recommendations of TCM had 118 references in 17 (41.46%) guidelines, and no reference was found in 24 (58.54%) guidelines; recommendations of western medicine had 257 references in 24 (58.54%) guidelines, and no reference was found in 17 (41.46%) guidelines. For the types of evidence: recommendations from TCM and western medicine were supported by: guidelines (15 versus 46), SRs (9 versus 16), RCTs (33 versus 62), cohort studies (0 versus 2), case series/reports (5 versus 17), reviews (19 versus 49), monographs or textbooks (18 versus 16), others (19 versus 49) including comments, experience summaries, animal experiments etc. **Conclusions:** Developers of integrative medicine guidelines paid insufficient attention to evidence when developing recommendations.

P57: The development of reporting guidelines for acupuncture systematic review

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Background: Acupuncture is becoming increasingly popular around the world, and the number of acupuncture systematic reviews/meta-analyses(SR/MAs) is increasing rapidly. However, the reporting quality of SR/MAs is poor and no criteria can be used to standardize their reporting at present. **Objectives:** To develop an extension of the PRISMA statement for acupuncture to improve the reporting quality of acupuncture SR/MAs. **Methods:** We applied a four-step method including: 1. assessment of acupuncture SR/MAs and relevant reporting guidelines; 2. investigation the information needed from the perspective of clinicians, researchers, masters and doctors; 3. employ three rounds of a Delphi process to select items; and 4. conduct a face-to-face meeting. **Results:** Seven initial items were collected. A total of 269 respondents were surveyed and 251 (93%) with complete data were analyzed at the second step. This showed a low satisfaction with the reporting quality of acupuncture SR/MAs. Ten items from the previous steps were circulated to those participating in the Delphi process - we invited 34 experts and 29 agreed to participate. We have finished the first two rounds of the Delphi process, and the third round and face-to-face meeting will be conducted in the following two months. The final items will be presented at the Colloquium. **Conclusions:** With comments from evidence users and a review of acupuncture SR/MAs, we captured the main problems and found that the reporting quality of acupuncture SR/MAs cannot satisfy evidence users. Development of a reporting guideline with rigorous methods might help to improve the problem.

P58: The grading systems of quality of evidence and strength of recommendation in Traditional Chinese Medicine guidelines

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Background: Assessing the quality of evidence and strength of recommendation with appropriate grading systems can promote the development of scientific recommendations, and help guideline users implement recommendations reasonably. **Objectives:** To collect traditional Chinese medicine (TCM) guidelines systematically and investigate the status of the quality of evidence and strength of recommendation grading. **Methods:** Systematically we searched Wanfang, VIP, CNKI, and CBM databases for TCM guidelines published in journals, and supplemented searches for guidelines published in the form of books through Google, Amazon and Dangdang; we also searched the references of TCM guidelines. Two reviewers independently conducted literature screening and data extraction, and any disagreements were solved by discussion. Excel 2013 was used to conduct data analysis. **Results:** A total of 61 TCM guidelines with reference lists were included, of which 33 were published in journals, and 28 published as monographs. A total of 43 (70%) guidelines reported the quality of evidence and strength of recommendations with a total of 10 grading systems: 31 (73%) used classification recommendation of TCM, 31 (73%) used the GRADE (approach, four (9%) used the international standard or its adaptation, five (11%) used other standards. Levels and symbols for the quality of evidence and strength of recommendations varied greatly between the 10 different grading systems: levels for quality of evidence ranged from three to ten, and strength of recommendations from two to six; furthermore, six or seven types of symbols were employed to indicate evidence quality and recommendation strength. **Conclusions:** Currently, grading systems for quality of evidence and strength of recommendations varies greatly in TCM guidelines. The systems are very different in terms of grade levels and symbols, which could cause problems with correct interpretation of the recommendations.

P59: Network meta-analyses of Chinese patent medicine quyuji combined with western medicine for unstable angina

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Background: Network meta analysis (NMA) is a recent technique in the field of medicine. It allows several interventions to be compared together. Different medicines can be ranked according to different outcomes. **Objectives:** To assess the clinical effects of the Chinese patent medicine Quyuji combined with western medicine for unstable angina (UA), in order to provide a reference for the choice of medicine. **Methods:** In December 2015, we searched the following electronic databases: Chinese Biomedical Literature Database, Chinese Journal Full-Text Database, Wanfang Data, PubMed, Cochrane Library and Embase. We included randomized controlled trials (RCTs) on UA treated by Quyuji combined with western medicine. Relevant information was extracted into a spreadsheet by two authors independently. Related items were used to assess the quality of RCTs; data were analyzed by WinBugs and Stata software. **Results:** We found a total of 954 articles, and included 56 RCTs (with 5864 participants) - that investigated 10 types of Chinese patent medicine - for analysis. Seven (12.5%) of the RCTs described authentic randomization, none of the RCTs described the methods of allocation concealment or blinding. Three (5.36%) of the RCTs selectively reported outcomes. NMA showed that compared with NaoXinTong capsules, SheXiangBaoXin pills and NuoDiKang capsules can improve clinical symptoms; compared with YinDanXinNaoTong soft capsules, NuoDiKang capsules can improve clinical symptoms; compared with NaoXinTong capsule, SheXiangBaoXin pills and NuoDiKang capsules can improve ECG signals; compared with TongXinLuo capsule, FuFangDanShen drop pills, NaoXinTong capsules, YinDanXinNaoTong soft capsules and ShenSongYangXin capsules, YiXinShu capsules can improve ECG signals. **Conclusions:** NMA showed that NuoDiKang capsules, YiXinShu capsules and SheXiangBaoXin pills had the better effects in clinical symptoms and ECG signals. However, the quality of methodology remains poor. Top-level design of clinical trials should be highlighted in further research, the CONSORT statement should be adopted to improve the quality of RCTs.

P60: Evidence-based medicine academic league: a hub of Brazilian Cochrane Centre for translation issues

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Background: In 2013, Cochrane Brazil (CB) formally created a project to translate Abstracts and Plain language summaries (PLS) of Cochrane Systematic Reviews (SR) into Portuguese. In an effort to speed up the process and increase the number of translations, Brazilian Cochrane Centre (BCC) created and organized a net of collaborative volunteer hubs. The 'newer' hub is the Evidence-based Medicine League from Escola Paulista de Medicina at Universidade Federal de São Paulo. **Objectives:** To present the process and practical issues about the partnership between a medical academic league and CB focused on translation of Cochrane SR. **Methods:** The translation process will include the following steps. 1: Attendance of a one-hour training on translation and style techniques offered by one CB member of the translation team. 2: Perusal of the 'Manual for a Good Translation into Portuguese'. 3: Identification of a SR of interest in the main priority list maintained by BCC. 4: Providence of a draft translation document in 15 days. 5: To incorporate the suggestions in the document. 6: If additional suggestions are still necessary, the student will have a personal talk with a translation team member in order to present his or her difficulties and clarify any areas of doubt. **Results:** Annually, 10 to 20 completed translations are expected to be delivered by each student. Considering that there will be eight to 10 new students each year, we expect 80 to 200 translations from this 'newer' hub of Cochrane Brazil. It is important to highlight that the Evidence-based Academic Medicine League will have a recognition of note on the website of Cochrane Brazil. Moreover, a certificate will be offered to those who complete 20 translations in a one year period. **Conclusions:** This partnership could be an model option for other Cochrane Centres, with some advantages: immersion of health students in the culture of Cochrane SR, development of their capabilities and skills in the English language and improvement of knowledge about evidence from Cochrane SRs.

P61: Cochrane Consumers and Communication: Integrating knowledge translation throughout the review cycle

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Background: Effective knowledge translation (KT) strategies are vital for closing the knowledge-to-action gap, and subsequently improving health outcomes. In contrast to traditional KT strategies, which tend to focus solely on disseminating review findings, the Cochrane Consumers and Communication Group (CCCG) integrates KT throughout the review cycle. By using an integrated KT approach, we aim to make our reviews more solution-focused, with findings that are more relevant and accessible to our key knowledge users (e.g. consumers, health professionals or policy makers) and the wider public. Examples of our integrated KT strategies: Our approach involves collaborating with knowledge users across both the 'knowledge creation' and 'action' phases of our reviews. In the 'knowledge creation' phase, we include key users (e.g. consumers, clinicians and policy-makers) in setting priorities for future review topics. This has involved undertaking an international survey and a face-to-face priority setting workshop. In the 'action' phase, we produce evidence summaries (Evidence Bulletins), designed in partnership with knowledge users (e.g. policy makers or consumer representatives) to disseminate to our target audience. The Bulletins contain a 'relevance' section to help users to adapt and translate the research to their own context. We also develop resources to help consumers appraise and use the evidence from our reviews, including both face-to-face training and online video resources. Additionally, we convene brainstorming sessions with key knowledge user groups to gain feedback to ensure our work is closely related to their needs. We are currently building on this work, by developing resources and piloting methods to support knowledge users (particularly consumers) to co-author reviews. **Conclusions:** CCCG has developed novel ways of implementing KT strategies throughout the review cycle. This helps to ensure our reviews match the needs of our key users better, so reducing the knowledge-to-action gap.

P62: Inter-rater reliability of AMSTAR: is it dependent on the pair of reviewers?

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Background: A recent systematic review found AMSTAR but not R(evised)-AMSTAR, to have good measurement properties, including inter-rater reliability. However, inter-rater reliability is mainly assessed with only two reviewers and without information about their level of expertise, both of which may influence inter-rater reliability. This has not been investigated in prior studies of evidence-based health care. **Objectives:** To examine differences in the inter-rater reliability of AMSTAR depending on the pair of reviewers. **Methods:** We sampled 16 systematic reviews (eight Cochrane Reviews and eight non-Cochrane reviews) randomly from the field of occupational health via MEDLINE and CDSR. Following a calibration exercise with two systematic reviews, five reviewers independently applied AMSTAR and R-AMSTAR to all 16 systematic reviews. Responses were dichotomized ('yes' scores versus any other scores) and reliability measures were calculated applying Holsti's method (r) and Cohen's kappa (κ) for all potential ten pairs of reviewers. **Results:** Inter-rater reliability ranged between r = 0.83 and r = 0.98 (median r = 0.88) with Holsti's method and κ = 0.55 and κ = 0.84 (median κ = 0.64) applying Cohen's kappa for AMSTAR, and between r = 0.82 and r = 0.92 (median r = 0.87) and κ = 0.60 and κ = 0.77 (median κ = 0.65) for R-AMSTAR. The same pair of reviewers yielded the highest inter-rater reliability for both instruments (independent of the reliability measure). Cohen's κ pairwise reliability measures showed a strong correlation between AMSTAR and R-AMSTAR (Spearman r = 0.68). **Conclusions:** Inter-rater reliability varies heavily depending on the pair of reviewers. Our range for Cohen's κ reflects the range from several studies reported in the literature for AMSTAR. Conducting reliability studies with only one pair of reviewers might not be enough. Further studies should include more reviewers and probably also pay attention to their level of expertise. Although we observed a wide range of measures, our study also supports the findings of prior studies that the AMSTAR tool has a good inter-rater reliability.

P63: Framework for translating knowledge into practice for diabetes prevention and control

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Background: Emerging challenges in diabetes prevention and control call for a paradigm shift in our models for translating knowledge into practice from a linear, unidirectional, researcher-driven model where practitioners must wait for research grants to conclude, to an integrated, interactive, multidirectional model in which practitioners are actively engaged at each stage of a cyclical process of knowledge creation. **Objectives:** To construct a dynamic framework for diabetes prevention and control that integrates the research-to-practice and practice-to-research translation routes into a multidirectional exchange. Method: We reviewed published frameworks and consulted with colleagues. We conducted a comparative analysis and drafted a new framework to meet emerging diabetes prevention and control needs. **Results:** An integrated model, as opposed to the traditional end-of-grant model, more effectively bridges the gap between generating evidence and putting results into practice. While a research-driven model keeps decisions on one side of the equation, an interactive model can help ensure that policymakers and practitioners are more engaged in the research process, aid researchers in developing clear and actionable messages while increasing knowledge uptake among practitioners. Furthermore, a cyclical model elucidates the fact that translation is never finished but remains an iterative process of innovation. Finally, a multidirectional model allows for channels of information exchange among participants, including researchers, policymakers, practitioners, stakeholders, and the public. This exchange can create a sense of ownership and supportive partnerships in the process of knowledge creation, which in turn can empower community-based mobilization and engagement. **Conclusions:** The new integrated, interactive, cyclical, and multidirectional framework responds to the call for a paradigm shift and addresses the limitations of existing models. It may also encourage citizens to work together in overcoming translation barriers while improving the impact of diabetes prevention and control interventions at an individual, community, system, and society level.

P64: Analysis of prospective/retrospective registration trends on the Australian New Zealand Clinical Trials Registry (ANZCTR) from 2006-2015

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Background: Prospective trial registration is the process whereby key details about a planned clinical trial are made available on a recognised clinical trial registry before enrolment of the first participant. It is now widely recognised as a key strategy to increase research transparency by minimising publication bias and selective outcome reporting bias. The Australian New Zealand Clinical Trials Registry (ANZCTR) was established in mid-2005 and is one of 16 registries recognised by the International Committee of Medical Journal Editors (ICMJE). **Objectives:** The key objectives of this study were to: 1. identify the proportion of prospective versus retrospective clinical trial registrations on the ANZCTR from 2006-2015; and 2. analyse prospective registration compliance on the ANZCTR by various key metrics, such as sponsor, funder, intervention type and sample size. **Methods:** A descriptive analysis of trial registration data was undertaken. Data from interventional studies registered on the ANZCTR from 1 January 2006 until 31 December 2015 were included. **Results:** Compliance with prospective registration of interventional studies increased from 47% in 2006 and plateaued at approximately 60% from 2012-2015 (Fig 1). Patterns of compliance were relatively consistent across sponsor and funder types (industry versus non-industry), type of intervention (drug versus non-drug) and size of trial (n < 100, 100-500, > 500). However, primary sponsors from Australia/New Zealand were approximately twice as likely to register prospectively (67%) as those from other countries with an ICMJE approved registry (34%) or those from countries without a registry (29%) (Table 1). **Conclusions:** More stringent enforcement of prospective registration by journal editors, ethics committees and other regulatory bodies is needed to increase rates of trials registered prospectively. Differences in prospective registration rates by primary sponsor country may be due to priority given to Australian and New Zealand trials on ANZCTR and/or non-acceptance of retrospective registrations by some ICJME-recognised registries.

Attachments: Figure 1.pdf, Table 1.pdf

P65: Realist review and synthesis of policy intervention studies aimed at reducing exposures to environmental hazards

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Background: Exposure to pollution is a significant risk to human health. However few studies have attempted to identify the types of policy interventions that can effectively reduce the health risks of pollution exposure. **Objectives:** The study objective was to conduct a realist review of policy interventions conducted or aimed at reducing chemical exposures in humans or the environment where exposure was measured. **Methods:** A literature search identified published articles that assessed policy interventions using exposure data. Two coders independently extracted data from the studies, assessing methods, context, details of interventions, outcomes, and risks of bias. Data were analyzed iteratively and manually to identify the most effective and transferrable types of interventions. The reasons for variability in the success of different interventions were explored. **Results:** The review found that regulatory interventions that eliminate point sources of pollution were most effective in reducing exposure to environmental hazards. Regular monitoring to provide environmental and human exposure data may also be needed in order to assess compliance with the regulatory standards. Educational and economic interventions were less successful. **Conclusions:** Although regulatory interventions appear to be the most effective, our findings are limited by the details on implementation provided in the included studies. Information on contextual factors that influence implementation would assist with future reviews and could help identify other effective interventions.

Attachments: realist.figure2.pdf, Table 1.pdf

P66: How often are patient-important outcomes represented in neonatal randomized controlled trials? An assessment of Cochrane Neonatal reviews

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Background: Research findings based on patient-important outcomes (PIO) provide more clinically-relevant conclusions than those from surrogate outcomes. It is unclear to what extent PIOs are represented in randomized controlled trials (RCTs) in Neonatology. **Objectives:** We determined the proportion of PIOs in the neonatal RCTs in Cochrane Neonatal reviews. **Methods:** We analysed RCTs included in the published Cochrane Neonatal reviews up to January 2016 by extracting up to five outcomes per study. Two reviewers independently determined whether each outcome was a PIO. A Neonatologist acted as an arbiter for unresolved cases and randomly cross-checked 5% of the selection for accuracy. We defined PIOs as outcomes that matter to patient care, such as clinical events, carer perception or certain physiological parameters that were widely incorporated in the guidelines as key treatment indicators. We reported descriptive statistics and performed ordinal regression using the number of PIOs (0 to 5) as the dependent variable and year of publication as a covariate (SPSS 22, Chicago, IL, USA). **Results:** We extracted 6441 outcomes in 1770 RCTs published between 1952 and 2015 in 275 Cochrane neonatal reviews. A total of 4990 (78%) outcomes were considered PIOs. Among the studies, 426 (24%) included five or more PIOs, 247 (14%) included four PIOs, while 957 (54%) included one to three PIOs and 140 (8%) did not include any PIO. There were more dichotomous than continuous PIOs (risk ratio (RR) 1.36, 95% confidence interval (CI) 1.33 to 1.40), and slightly more subjective than objective PIOs (RR 1.12, 95% CI 1.03 to 1.22). A significant association between the year of publication and its likelihood of including more PIOs was observed (adjusted OR 1.03, 95% CI 1.02 to 1.05). **Conclusions:** The large and increasing representation of PIOs over the years suggests an improving awareness by the trialists on the need for such outcomes in neonatal trials to justify the efforts and resources. There remains a concern that a small proportion of trials had no PIOs included.

P67: How conclusive are Cochrane Neonatal reviews?

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Background: The conclusiveness of a systematic review influences the strength of practice recommendations. A study in 2006 showed that two-thirds of Cochrane Neonatal reviews were conclusive. Ten years later, with many new and updated reviews, it is unclear whether the finding has changed. **Objectives:** We determined the proportion of Cochrane Neonatal reviews that were conclusive, and assessed whether the size of the evidence gathered affected the conclusiveness of the review. **Methods:** We analysed published Cochrane Neonatal reviews up to issue 12, 2015, focusing on the main intervention-outcome combination. Two authors independently evaluated the abstract conclusions and selected one out of five possible options: clearly beneficial, clearly non-beneficial (conclusive), perhaps beneficial, perhaps non-beneficial and unclear either way (inconclusive). We performed logistic regression to examine the association between the number of included studies and cumulative sample size and the likelihood of a review being conclusive (SPSS 22, Chicago, IL, USA). **Results:** Overall, 319 reviews were assessed. Excluding 43 empty reviews, 103 reviews (37%) were conclusive (beneficial: 63 (23%), non-beneficial (40 (15%)) and 173 (63%) were inconclusive (perhaps beneficial: 80 (29%), perhaps non-beneficial: 5 (2%), unclear either way: 88 (32%)). Reviews with more studies were more likely to be conclusive (OR 1.07, 95% CI 1.03 to 1.12 for each added study, P 0.001), but no independent association was observed between cumulative sample size and conclusiveness of a review (P 0.30). Among reviews published pre-2000, 70% were conclusive, compared to 35% post-2000. **Conclusions:** The majority of Cochrane neonatal reviews are inconclusive. The major decline in the proportion of conclusive reviews post-2000 was not clearly attributed to the size of evidence. Our findings suggest that in Neonatology, incremental benefits of newer interventions over older ones may no longer be clear-cut. Clinical decisions may increasingly depend on the clinical context, individual perception of benefit and harm, and values and preferences of those involved in the care of neonates.

P68: The ability of aggregate data meta-analysis in predicting individual patient data meta-analysis

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Background: Aggregate data meta-analyses (ADMAs) are easier and less resource-consuming to conduct than individual-patient data meta-analyses (IPDMAs). The latter, however, is generally considered to have scientific advantages over the former, particularly in controlling for confounding and assessing interactions. **Objectives:** We compared the overall results of the IPDMAs with those of their prior corresponding ADMAs to see how often the former were predicted by the later. We also explored factors that may make a difference between their results. **Methods:** IPDMA articles were identified with a comprehensive search of PubMed, Embase and the Cochrane Database of Systematic Reviews. The ADMA articles published immediately prior to the IPDMA and matched in the research topic according to the patient, intervention, comparator, outcome and setting (PICOS) were then identified from PubMed and references of each IPDMA identified. We considered that the matched meta-analyses agreed with each other if the direction of the summary effect was the same in both the ADMA and its matched IPDMA. Sensitivity analyses were conducted by changing the definition of agreement slightly. Factors that might influence the agreement were investigated. **Results:** We identified 829 IPDMA articles published and indexed before 9 August 2012. We identified a matched ADMA article for 129 (16%) of these 829 IPDMA articles, and this resulted in a total of 204 pairs of the ADMA and IPDMA matched to the same topic. Agreement in the direction of effect was observed in 187 (92%) of the 204 paired meta-analyses. The ADMA was more likely to agree with its corresponding IPDMA ($P \leq 0.05$) when grey literature was searched, data were requested from authors, intention-to-treat analysis was used, and the overall result in ADMA was statistically significant. **Conclusions:** Most ADMAs can provide a valid result on the direction of effect by summarizing grouped data from published primary studies, but should make greater efforts to search for grey literature, request necessary data from original authors, and use intention-to-treat analysis to increase its validity further.

P69: Decision-makers' perceptions and use of HTAs produced by an Argentinean agency: a qualitative study and a survey

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Introduction: Health Technology Assessment (HTA) can be useful to inform decision-makers about the introduction, use, and dissemination of health technologies. The Institute of Clinical Effectiveness and Health Policy (IECS) is an independent Argentinean academic institution, which for more than 10 years has produced HTAs for a consortium of public, social security and private healthcare organizations in Latin-American (LA). Evidence about decision-makers' perceptions and use pattern of HTAs in LA is scarce. **Objectives:** To explore the knowledge, attitudes, practices and expectations of decision-makers that use the HTA reports produced by IECS. **Methods:** Qualitative research will be carried out using focus groups and complemented with an online survey. Focus group participants will be purposively selected by the research team from different institutions that may differ in kind (social security-private), size and geographical areas. Data collection will be carried out during a regular national consortium meeting that decision makers will attend. At least three groups with six to eight participants will be done, data collection will continue until informational saturation is reached. A semi-structured guideline will explore the following domains regarding HTA documents: knowledge; attitudes (barriers and facilitators in their use); usage patterns (frequency of queries, how, when and why they are consulted, from which medium, which sections are used); expectations (preferences, needs and requirements). The focus group will be audiotaped and transcribed verbatim in preparation for the analysis. Qualitative data will be analyzed using thematic analysis. Data codes will be developed based on the themes from the guide and supplemented by additional codes identified by using a grounded theory-based approach to capture emergent themes. Atlas-TI Version 7, will be used to support the analysis. The qualitative approach will inform the development of a survey to be applied nationwide to all consortium members. Descriptive statistics will be used to analyze frequencies of the survey. **Results:** Results will be presented at the Colloquium.

P70: Effect of exercise training on reducing cardiovascular risk in patients with CKD: a systematic review and meta-analysis

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Background: Inadequate physical activity is related to impaired cardiovascular reserve capacity and higher mortality in early years. While cardiovascular disease (CVD) is the leading cause of death in chronic kidney disease (CKD) populations, the effect of regular exercise on this group is unclear. **Objectives:** To assess the effects and safety of regular exercise in non-dialysis CKD populations with regard to physical fitness, cardiovascular and renal outcomes. **Methods:** We searched for randomized controlled trials (RCTs) that addressed the effects of regular exercise in non-dialysis CKD patients in CENTRAL, Embase, PubMed, Web of Science, and four Chinese databases (CBM, CNKI, CQVIP, WANFANG), up to June 2015. Study selection, data extraction and scientific quality assessment were performed independently by two researchers. Continuous outcome data were presented as mean difference (MD) or standardized mean difference (SMD) with 95% confidence intervals (CI). **Results:** We identified 14 RCTs with 473 participants. Types of exercise included aerobic, mixed and resistance training. Most studies exercised three times per week at moderate intensity, for 20-60 minutes per session, over 3-18 months. Thirty-six per cent of studies were classified as being at low risk of bias, another 36% as being at unclear risk, and 28% as high risk. Regular exercise showed benefits in cardiovascular function (mean blood pressure, 1 RCT, 27 participants: MD -7.99 mmHg, 95% CI -11.41 to -4.56; pulse wave velocity, 1 RCT, 18 participants: MD -2.6 m/s, 95% CI -4.46 to -0.74) and physical fitness (aerobic capacity, 10 RCTs, 249 participants: MD 2.29 mL/kg/min, 95% CI 1.18 to 3.39; walking capacity, 4 RCTs, 128 participants: MD 31.89 m, 95% CI 8.02 to 55.77; muscular strength, 1 RCT, 26 participants: MD 121 kg, 95% CI 78.74 to 163.26). There was insufficient evidence on outcomes of kidney function (glomerular filtration rate and serum creatinine). None of trials reported the incidence of CVD and mortality. **Conclusions:** Regular exercise may reduce cardiovascular risks by improving cardiovascular function and fitness. Effect on long-term outcomes needs to be tested by future studies.

P71: Effectiveness of nurse-led discharge care programme on unplanned readmission in patients with sub-acute conditions: a systematic review

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Background: Reducing unplanned readmission is one of the most important issues to prevent unnecessary medical costs. Although various nurse-led discharge care programmes have been implemented to reduce rehospitalization, there is a lack of evidence of effectiveness of the interventions. **Objectives:** This study is to identify the effectiveness of a nurse-led discharge program on unplanned readmission in patients at home. **Methods:** PubMed, Embase, the Cochrane Central Register of Controlled Trials (CENTRAL) and CINAHL were used to search for randomized controlled trials (RCT) with 'nurse-led discharge programme' and 'unplanned readmission', published in English between 2005 and 2014. Two reviewers performed critical appraisal of the retrieved studies using Cochrane's tool for assessing risk of bias. Data were analyzed using Review Manager (RevMan) software 5.2. **Results:** Ten studies were analyzed (five studies were in heart failure, two in colorectal cancer, two in various diagnoses and one in stroke patients). The main components of nurse-led discharge care programmes were care planning, patient education, home visits and telephone visits. Among the ten studies, three studies measured unplanned readmission at 30 days while others were at various time points. These three studies were included in a meta-analysis. The bias most often identified in the included studies was performance bias: blinding of participant and personnel was not found in eight studies (Figure 1). The odds ratio (OR) of 30 day unplanned readmission for a nurse-led discharge program versus usual care was 0.71 (95% confidence interval 0.53 to 0.95; P = 0.02). I2 score was 0% which means the analyzed studies were homogeneous (Fig 2). **Conclusions:** The results indicate that nurse-led discharge programmes are effective and produce a 29% reduction in unplanned readmissions. However, few studies were included in the analysis and blinding of participants and personnel was at high risk of bias. Therefore, we suggest well-designed RCTs should be conducted in this area.

Attachments: Figure 1.PNG, Figure 2.PNG

P72: The development of knowledge translation tools for parents in pediatric acute care

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Background: With increasing demands for family-centred care and patient-oriented health research, strategies are needed for meaningful engagement among researchers, practitioners and health consumers (i.e. patients, caregivers) to effectively bridge the research-practice gap in pediatric acute care. Developing knowledge translation (KT) tools for parents has been proposed as an effective and engaging method of providing complex, evidence-based child health information to support health decision making. **Objectives:** To develop and pilot test three KT tools, two videos and one eBook, for parents about pediatric croup and acute gastroenteritis (AGE). **Methods:** Relevant systematic reviews were identified and literature searches conducted at three-month intervals from September 2014 to March 2016 to update the evidence underpinning the KT tool content. Qualitative interviews were conducted with parents in the emergency department to understand their experiences and information needs of these conditions. Thematic analysis was conducted to inform the KT tool storyline. Feedback surveys on tool prototypes were conducted with clinicians and parents. Quantitative and qualitative survey data were analysed and incorporated into KT tool revisions. Pilot testing of the final products is currently underway in urban, rural and remote regions. **Results:** One new study per condition was incorporated into previously published meta-analyses with no significant changes to intervention efficacy. Composite narratives were constructed from thematic analysis to highlight decision making complexities and emotional aspects of caring for an ill child. Prototype feedback refined tool length, aesthetics, character representation, and additional clinical information. Pilot testing results will be available for presentation in Fall 2016. **Conclusions:** By merging rigorous science with parental narratives, these KT tools provide an engaging approach to share systematic review results with the lay public. There is great potential to use this method to develop a number of KT products focused on different conditions and/or interactions between patients/families and the healthcare system.

P73:Living systematic reviews for up-to-date evidence: case studies on pediatric croup and acute gastroenteritis

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Background: Croup and acute gastroenteritis (AGE) are two of the most common pediatric illnesses; both are marked by high emergency department utilization and clinical practice variation. We implemented living systematic review (LSR) methodology to determine up-to-date evidence in these fields and to inform the development of knowledge translation tools for health consumers. **Objectives:** To monitor emerging evidence on intervention efficacy for pediatric croup and AGE. **Methods:** A research librarian comprehensively searched four databases at three-month intervals from September 2014 to March 2016 to update systematic reviews on interventions for croup (n = 4) and AGE (n = 4). Using Covidence, two independent reviewers completed primary and secondary screening (using predetermined criteria), quality assessment (using the Cochrane 'Risk of bias' tool), and data extraction. Primary and secondary outcomes were meta-analyzed by pooling the new data with previously published meta-analyses. **Results:** For croup, one study (n = 174 participants) out of 163 studies, was included and contributed to a systematic review that originally contained eight studies (n = 225 participants). The study contributed to the primary outcome, but none of the secondary outcomes. There was no change in results; the primary outcome remained statistically significant. For AGE, one study (n = 123 participants) out of 776 studies was included and contributed to a systematic review that originally contained six studies (n = 1170 participants). The study contributed to the primary and all three secondary outcomes. There was no change in results; all outcomes remained non-significant. We identified three relevant studies that did not assess any outcomes of interest. **Conclusions:** LSRs are a promising new approach to updating systematic reviews; however, over the course of 18 months, we found little additional evidence with no substantial changes in results. The optimal time intervals for running searches in LSRs will likely vary for different clinical fields. Additional case studies will help define methods in the emerging area of LSRs.

P74: Randomized clinical trials: advantages and limitations of using parallel-group design or cross-over designs in the field of methylphenidate for ADHD

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Objectives: Methylphenidate is the most commonly used drug for attention-deficit hyperactivity disorder (ADHD) in children and adolescents. Several randomized clinical trials have assessed the effects of the drug using either parallel-group or cross-over designs. We investigate advantages and limitations of these two designs for the assessment of methylphenidate for ADHD in children and adolescents. Furthermore, we investigate the risks of carry-over effect when using the cross-over design. **Methods:** The methods used followed the Cochrane Handbook. Data from randomized clinical trials were included. Authors of cross-over trials where only end-of-period data were available were contacted to obtain data from all intervention periods. Meta-analyses were conducted and the results were presented in forest plots, and Chi^2 and I^2 were applied as tests for statistical heterogeneity. **Results:** A total of 147 (n = 7134) cross-over trials and 38 (n = 5111) parallel-group trials were included. Differences in intervention effects were tested by comparing parallel-group trials to the first-period of cross-over trials and by analysing the first-period of cross-over trials pooled with parallel-group trials and comparing them to end-of cross-over trials (Chi^2 = 3.67, df = 1; P = 0.06; I^2 = 72.8%; 75 trials). The risk of carry-over effect was tested by comparing first-period to the end-of-trial period in cross-over trials (Chi^2 = 2.47, df = 1; P = 0.12; I^2 = 59.6%; 4 trials). Parallel-group trials are closer to the real world scenario, and offer better evaluation of the benefits.
Conclusions: Based on the results, both parallel-group trials and cross-over trials are suitable for investigating methylphenidate for children and adolescents with ADHD. The choice of design is, however, important to consider as the parallel-group design offers clear and more realistic benefits. Furthermore, data from cross-over trials are more difficult to include in systematic reviews.

P75: Methylphenidate for attention deficit hyperactivity disorder (ADHD) in children and adolescents: assessment of harmful effects in non-randomized studies

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Introduction: The use of methylphenidate for ADHD in children and adolescents has increased during the past decade. However, in our systematic review of randomized clinical trials (RCTs), we found that the very low quality of the evidence made it uncertain as to whether methylphenidate offers more benefits than harms compared with placebo or no treatment. Because of the limitations of identifying and reporting adverse events in RCTs, a thorough systematic assessment of harms reported in non-randomized studies is needed. Aim: To assess the harmful effects of methylphenidate for children and adolescents with ADHD in non-randomised studies. Methods and results: This review is being conducted according to Cochrane guidelines for systematic reviews and based on a comprehensive search for literature in scientific medical databases, unpublished data from the US Food and Drug Administration and European Medicines Agency, and data received from pharmaceutical companies. The primary outcome is the number of serious adverse events as defined within international guidelines. The secondary outcomes are all other adverse events. We included 322 studies in total: cohort studies, case-control studies, follow-up periods from RCTs, cross-sectional studies and single participant studies. Through data obtained from non-randomised studies, the review identifies rare adverse events, as well as long-term harms. Depending on study design, measures of prevalence, incidence and risk ratio are used to estimate harms. Results are interpreted according to the study design, and different subgroup analyses are conducted according to co-occurring conditions, sex, age, and type of ADHD. This review is one of the first Cochrane Reviews to evaluate bias by using the Cochrane Risk of Bias Assessment Tool: for Non-Randomized Studies of Interventions (ROBINS-I). **Discussion:** The study will contribute to a wider knowledge on harms of methylphenidate usage for children and adolescents with ADHD. We will present the results of both primary and secondary outcomes. Furthermore, we will discuss the methodological topic of bias and confounding in studies assessing harms from the use of methylphenidate.

P76: Would evidence make a difference in people's willingness to pay for and actual use of anti-hypertensive medication?

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Background: Would provision of evidence always make a meaningful difference in care? This was examined in two studies with regard to anti-hypertensive medications in China. **Objectives:** To compare the effect of evidence-based counselling on the public's willingness to pay for anti-hypertensive drugs themselves with the actual drug-taking behaviour of insured patients. **Methods:** A survey was conducted for people's willingness to pay for anti-hypertensive drugs before and after counselling. A randomized controlled trial was conducted in mild hypertensive patients to evaluate the impact of counselling on their drug-taking behaviours in a setting where these medications are covered by insurance. The counselling included the five-year cardiovascular disease (CVD) risk, number needed to treat to benefit (NNTB) for preventing one CVD event in five years and information on costs and harms. **Results:** A total of 1080 residents were included in the survey and 210 patients in the trial. Patients' willingness to pay for anti-hypertensive drugs themselves dropped from 95% before counselling to 23% immediately after counselling. The trial showed, after six months of counselling, both the rate of medication use and of good adherence showed little or moderate difference between the counselling and control groups (medication use: 65.0% versus 57.9%, P = 0.290; good adherence: 43.7% versus 40.2%, P = 0.607). **Conclusions:** There is a sharp contrast in the effect of evidence on people's willingness to pay for and actual use of anti-hypertensive medications. The payment method is likely to be the most important determinant for use of medications. These findings raised a question about whether insurance policies and clinical guidelines have faithfully reflected patients' opinions and challenged the usefulness of informed decision-making in patients with comprehensive insurance to cover the medication.

P77: Rating the quality of evidence using GRADE approach

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Background: Person-centered care (PCC) is a holistic and integrative approach designed to maintain well-being and quality of life of people with dementia and to address the incidence of need-driven challenging behaviours as an alternative to conventional care. **Objectives:** The aim of this review is to provide the most reliable summary of the effect of PCC targeted toward people with dementia. **Methods:** Records from six databases were obtained. The search included randomized controlled trials (RCT) and non-RCT studies, published in English, providing PCC interventions for people with dementia living in long-term care facilities and in the community. To enhance applicability of study findings, we used the GRADE system to evaluate the evidence level of the included outcomes. **Results:** This review included 19 intervention studies consisting of 15 RCTs and four non-RCTs. When PCC was compared to usual care in the RCTs, significant effects were found in favour of PCC for agitation (GRADE evidence: low), neuropsychiatric symptoms (GRADE evidence: low), quality of life (QoL) (GRADE evidence: low), and depression (GRADE evidence: very low). Greater effectiveness of PCC was identified, when it was implemented in people with less severe dementia and led by external experts. PCC was more effective in short-term interventions for agitation and long-term interventions for QoL. **Conclusions:** PCC interventions can be considered especially for individuals who have a diagnosis of early-stage dementia. Short-term interventions with more frequent exposure to PCC activities ensured a higher engagement of the person with dementia in programs, and produced a better outcome in the reduction of agitation. For QoL and depression in particular, PCC interventions can prevent further deterioration caused by depression, leading to an improved level of QoL in individuals with dementia. More rigorous studies of this subject are warranted so that future interventions provide nurses with a clear understanding of the effectiveness of PCC.

P78: Solutions to challenges of quality evidence production from traditional medicine research: second thoughts from developers of an evidence-based decision aid

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Background: In 2014 we developed an evidence-based patient decision aid (PDA) for whether patients should take Tongxinluo capsule (a Chinese patent drug) or isosorbide dinitrate for angina, and validated it in 54 patients. Despite this the PDA was considered to be of 'moderate' quality according to IPDASi v4.0 (International Patient Decision Aids Standard instrument), the quality of clinical evidence was 'very low' as assessed by GRADE v3.2.2. **Objectives:** Drawing on our experience of generating evidence from primary research in traditional medicine (TM), we aim to propose solutions to the current challenges of evidence production. **Methods:** The PDA development team reviewed the process of evidence production and feedback from the validation study, identified problems encountered, and brainstormed possible solutions. **Results:** We found that empirical evidence in TM, such as clinical experience supporting the use of an intervention, cannot be objectively graded or adequately used together with research evidence. Secondly, the conduct and reporting of clinical research was too low in quality to generate convincing evidence. One research project estimated that 7% of randomized controlled trials (RCTs) published in Chinese journals are real RCTs. Thirdly, it is debatable whether we should provide 'very low' quality evidence to patients, as they have other factors to consider before making a choice. **Conclusions:** Possible solutions include: 1. Reinforce the implementation of CONSORT for TM and STRICTA (Standards for Reporting Interventions in Controlled Trials of Acupuncture), and develop standards for the conduct and reporting of TM clinical research; 2. Implement trial registration and results submission in TM, with a publicly accessible database; 3. Formulate regulations for applicants of approved new drugs to report original data of clinical research used to support its approval to market; 4. Produce evidence based on utility as clinical decision-making involves multiple choices. Up-to-date methods such as network meta-analysis are recommended to compare multiple interventions on outcomes such as efficacy, safety, economics, acceptability, and time costs.

P79: Health Technology Assessment in India: a beginning for healthcare decision making

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Background: Evidence-informed prioritization of interventions is essential for achievement of health policy goals in low- and middle-income countries like India. At present healthcare decision-making in India is not driven by evidence. With the Right to Information Act and the Lokpal Bill coming into practice, evidence-based policy-making has become crucial. The Department of Health Research is committed to formalising a platform for Health Technology Assessment in the current five-year plan to fill the evidence-practice gap and promote informed decision-making. **Objectives:** To assess progress made towards a functional Health Technology Assessment (HTA) mechanism in India. Method: A multidisciplinary national consultative process has begun at the Department of Health Research (DHR), with the participation of the Ministry of Health & Family Welfare, and institutions like the South Asian Cochrane Centre, Translational Health Science & Technology Institute, National Health Systems Resource Centre under National Health Mission Program, Schools of Public Health and the WHO Country Office. A roadmap has been chalked out to establish a Health Technology Assessment board in India with overall governance structure, defined roles for institutional partners to assess economical, societal and ethical impact of technologies, and build a strong public interface. A national innovation portal and a network of knowledge translation centres are being rolled out. **Results:** The HTA compendium has been established, 15 disease conditions have been identified for development of drugs, devices and vaccines on a priority basis, based on feedback from State Government and civil societies. Early in this process, as a dry run for assessment of imaging equipment, treatment protocols for snake bite and cervical cancer screening have been initiated. **Conclusions:** Establishment of a functional HTA is expected to improvise health policy decision-making in India. It would lead to rational drug pricing, uniformity in clinical practice guidelines, and prioritization in implementation of proven interventions given the budgetary constraints.

P80: Systematic reviews of traditional Chinese medicine in Chinese should urgently introduce a registration system

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Background: With the introduction of evidence-based medicine in the area of traditional Chinese medicine (TCM), systematic reviews (SR) and meta-analysis (MA) shown a good development momentum in terms of quantity, depth, breadth and influence, but some problems exist. **Objectives:** We aimed to identify the current main problems of Chinese TCM SR/MA and find the solution by analyzing all related published literature systematically. **Methods:** Systematic searching of CNKI, VIP, Wanfang database, CBM, PubMed, Web of Science (WOS), the Cochrane Library and the PROSPERO registry platform was carried out to include all published TCM-SR/MAs in both Chinese and English. After excluding irrelevant research, cited information was recorded according to data from the Chinese Science Citation Database (CSCD) and WOS, and methodological quality, authors' information, outcomes, registration state and adverse reactions were collected and analyzed by our group with Excel. **Results:** A total of 2460 TCM-SR/MAs have been published in the last 19 years. Although the number of Chinese SR/MAs was 4.03 times (1971:489) greater than that in English, the total number of citations was only 1.75 times (8465:4825) and even less than a half (4.29:10.10) in average. No Chinese SR was cited abroad. 148 researches were finished by single researcher and the most prolific author published 21 literatures alone. Adverse reactions to Chinese patent drugs were mentioned in only 5% (34/618). The effectiveness assessment of several varieties was published more frequently and the highest rank was 38 times. The average number of outcomes reported about the four most common diseases was 18, and PRISMA and GRADE were less adopted. However, other 43 registered TCM-SR/MAs did not show the problem above. **Conclusions:** Limited access, low methodological quality and selective reporting of Chinese TCM-SR/MA need to be solved. A proper registration system is recommended for further standardization and regulation.

P81: Found in translation: translation of clinical trial reports for inclusion in Cochrane Airways' systematic reviews

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Background: One of the ways in which the Cochrane Airways editorial base is able to offer support to our review author teams is to provide help obtaining translations of trial reports which may be eligible for inclusion. We keep a list of contacts who provide volunteer translation services, for which they are acknowledged in the final review and on our website. We have maintained a 10-year log of author translation requests including the language of the report, translator details, and the target review. **Objectives:** 1. Using data collected over a ten-year period: a. analyse frequency of completed trial report translations by language; b. track the subsequent inclusion of translated trial reports in Cochrane Airways Reviews. 2. Present the geographical spread of our translators. **Methods:** This is a retrospective study of translation data recorded by Cochrane Airways over a 10-year period (January 2005 to December 2015). All translation requests were logged in a spreadsheet with the following information: review code; author and journal of the report; language of report; name of translator; date sent for translation; date received; and free-text comments. Translations are often sought from multiple translators to increase the chance of a positive response. A copy of the spreadsheet will be used for this analysis. We will extract the following information: total number of requests listed; requests remaining after duplicates removed; number of requests put on hold/not fulfilled; the total number of translations obtained; and language frequency. We will then check the target reviews to ascertain if the translated trial report was documented, and whether the study was subsequently included or excluded. We will extract the country of residence of our translators from our contact list to show geographical spread. **Results and conclusions:** We will present the range of languages of the trial reports we have been able to obtain translations for, and the impact these trial reports have had on our reviews over this 10-year period. We will display the geographical spread of our translators graphically.

P82: Reported estimates of diagnostic accuracy in ophthalmology conference abstracts are not associated with full-text publication

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Background: Conference abstracts describing studies of therapeutic interventions with statistically significant results are more likely reach full-text publication in a peer-reviewed journal, which may introduce reporting bias for those trying to synthesize the available evidence. Whether such bias also exists among diagnostic accuracy studies is largely unknown. **Objectives:** To assess whether conference abstracts describing diagnostic accuracy studies that report higher accuracy estimates are also more likely reach full-text publication. **Methods:** We identified abstracts describing diagnostic accuracy studies, presented between 2007 and 2010 at the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO). We extracted reported estimates of sensitivity, specificity, area under the receiver operating characteristic curve (AUC) and diagnostic odds ratio (DOR). Between May and July 2015, we searched MEDLINE and Embase to identify corresponding full-text publications; if needed, we contacted abstract authors. Cox regression was performed to estimate associations with full-text publication, where sensitivity, specificity and AUC were logit transformed, and DOR was log transformed. **Results:** Among the 24,497 abstracts presented at ARVO between 2007 and 2010, 399 were included in our study. A full-text publication was found for 226 of 399 (57%) abstracts, with a median time from presentation to publication of 17 months (inter-quartile range 8 to 29). There was no association between reported estimates of sensitivity and full-text publication (hazard ratio (HR) 1.09 (95% confidence interval (CI) 0.98 to 1.22)). The same applied to specificity (HR 1.00 (95% CI 0.88 to 1.14)), AUC (HR 0.91 (95% CI 0.75 to 1.09)) and DOR (HR 1.01 (95% CI 0.94 to 1.09)). **Conclusions:** Almost half of the conference abstracts describing diagnostic accuracy studies presented at the annual ARVO meeting did not reach full-text publication. We found no evidence of reporting bias, as abstracts reporting higher accuracy estimates were not more likely to reach full-text publication.

P83: Unpublished systematic reviews and financial support: a meta-epidemiological study

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Background: The international prospective register of systematic reviews (PROSPERO) was launched in February 2011 to reduce publication bias of systematic reviews (SRs). A questionnaire survey sent to SR researchers in 2005 indicated the existence of unpublished SRs and potential influence of lack of funding on non-publication. Before PROSPERO, there were no specific international registration systems for SRs; no-one could survey this feature of unpublished SRs. PROSPERO had over 13000 records in April 2016. Here, we investigate the publication status of PROSPERO-registered SRs and the relationship of financial support to publication. **Objectives:** To investigate the proportion of unpublished SRs to registered protocols and the influence of financial support on their publication. **Methods:** We investigated current publication status of registered SRs in the first year of the PROSPERO launch. We also searched for published SRs not reflected in PROSPERO publication status using Google and Google scholar. The association between publication and existence of funding or conflicts of interest were investigated using logistic regression analysis. **Results:** We identified 326 records in PROSPERO from February 2011 to February 2012. The records did not include Cochrane protocols. Among them 100 (31%) SRs were not published in April 2016. Funding for SRs (odds ratio (OR) 1.84 (95% confidence interval (CI) 1.13 to 3.00)) related to the publication of SRs. We did not find significant effects of author-reported conflicts of interest on publication (OR 2.11 (95% CI 0.69 to 6.42)). We found that 26 records were not published, although the authors reported the completion of the reviews in PROSPERO. **Conclusions:** We found a non-negligible proportion of unpublished SRs more than 50 months after their protocol registration. Although we did not investigate the potential effect of publication bias (effect of clinical significance of each SR results), these unpublished SRs may produce it. Lack of funding may hinder publication of SRs.

P84: Effects of acupressure on quality of life and sleep in end-stage renal disease: a systematic review and meta-analysis of randomized controlled trials

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Background: Sleep disturbance is a common symptom in patients with end-stage renal disease (ESRD). Acupressure is a widely used to assist with numerous symptoms in different diseases. **Objectives:** We investigated whether acupressure could manage sleep problems and improve quality of life in patients with ESRD. **Methods:** We performed a systematic review and meta-analysis of published randomized controlled trials (RCTs) to evaluate the effectiveness of acupressure in quality of sleep and quality of life of ESRD patients. We searched the following electronic databases: PubMed, Embase, CINAHL, SCOPUS, and the Cochrane Central Register of Controlled Trials (CENTRAL), for relevant articles published before March 2016, with no language restrictions. The outcomes included depression, quality of sleep and quality of life. **Results:** Six RCTs were identified with 415 patients. Five studies evaluating whether acupressure affected the quality of sleep found that sleep disturbance decreased significantly in the acupressure groups, with a weighted mean difference of -3.69 and a 95% confidence interval (CI) of -5.66 to -1.73. Two studies assessed the quality of life (SF-36), and found that both the physical and mental component scores increased significantly in the acupressure groups, with weighted mean differences of 3.24 (95% CI, 0.43 to 6.06) and 5.01 (95% CI 2.34 to 7.69), respectively. Two studies assessed depression symptoms, and found that these decreased significantly in the acupressure groups, with a weighted standard mean difference of -0.32 (95% CI -0.62 to -0.02). **Conclusions:** The current evidence from RCTs supports the use of acupressure to improve quality of sleep and quality of life. However, inconsistencies in the protocols for the various studies confounded our intended evaluation of the effect of acupressure in patients with ESRD.

P85: Evidence Aid special collection for refugee health

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Background: In 2015 over one million people arrived in Europe by sea, mostly originating from Syria. In the same year 3771 people went missing or died attempting to reach safety in Europe. In 2016 people continue to make the hazardous journey across the sea and at the beginning of February 67,072 people made it across, while 357 were reported dead or missing. **Objectives:** To build collections of healthcare evidence to provide those addressing the health of refugees with some guidance. The collections of evidence are divided between an Evidence Aid resource housed onevidenceaid.org, and a Cochrane Evidence Aid Special Collection, housed oncochranelibrary.com. **Methods:** Both collections focus on some of the most relevant medical conditions as perceived by experts involved in guideline development or on the frontline, directly addressing the healthcare needs of refugees and asylum seekers. In the first instance, the work-group (which included Kevin Pottie, Leo Ho (MSF), Evidence Aid and Cochrane) decided to address the following priority conditions (this may be expanded at a later date): common mental health disorders (including PTSD and depression); vaccine preventable diseases; skin conditions (including impetigo, scabies and cellulitis); tuberculosis; sexual and physical violence. **Results:** The collection, 'The health of refugees and asylum seekers in Europe' was published 12 February 2016. It hosts curated resources from the Cochrane Library and other research outputs, categorized into guidelines; systematic reviews; articles; and other information. The Cochrane Library special collection, 'Health of refugees and asylum seekers in Europe' was published 15 April 2016. **Conclusions:** Since publication, the refugee health collection on evidenceaid.org has received almost 600 pageviews, ranking it third amongst most viewed pages, after the homepage and the resources tab, for that period. On average, users have been spending 2:30 minutes on the page, suggesting the content is commanding attention. We will continue to encourage an evidence-based response to this crisis, and will report on usage of both collections at the Colloquium in Seoul.

Attachments: refugee_1_small.jpg

P86: Comprehensive author training for improving risk of bias assessment

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Background: A key component of systematic reviews of healthcare interventions is assessing the risk of bias in included randomized controlled trials (RCTs). Conducting a reliable risk of bias assessment requires effective training. **Objectives:** To assess the effectiveness of comprehensive training in improving risk of bias assessment. **Methods:** Medical students with no prior formal training in systematic reviews were recruited to participate in a non-randomized study. All participants received a 90-minute workshop by an expert Cochrane author using Cochrane standard author training material. The workshop was in the form of 10-15 minute presentation segments blended with class discussion. Both groups received a PDF of Chapter 8 of the Cochrane Handbook as a study guide. The intervention group (comprehensive training) included 58 students who received a second workshop (90 minutes) that was entirely dedicated to practice using Review Manager and a published RCT. The final phase of the comprehensive training was on the job work. Each student assessed the risk of bias in one RCT included in an ongoing systematic review. After completing the training course, participants of both groups took an exam by completing a Cochrane 'Risk of bias' assessment for a published trial. The examiner developed an answer key and marked all answers. We used SAS University Edition to calculate the odds ratio (OR) and its 95% confidence interval (CI) to measure the effect of intervention. **Results:** We included 82 participants. We provided standard training to 24 participants and comprehensive training to 58 participants. Comprehensive training improved skills of assessing the risk of bias compared to standard training (sequence generation: OR 3.05, 95% CI 1.07 to 8.67; allocation sequence concealment: OR 6.96, 95% CI 2.42 to 20.06; blinding of participants and personnel: OR 2.66, 95% CI 0.98 to 7.25; blinding of outcome assessment: OR 3.46, 95% CI 1.26 to 9.51; incomplete outcome data: OR 5.77, 95% CI 2.06 to 16.18; selective outcome reporting OR: 5.05, 95% CI 1.79 to 14.25). **Conclusions:** Comprehensive training results in large gains and help both new authors and editorial boards.

P87: Is consumer information about arthroscopy available in Australia adequate for optimal evidence-informed decision-making?

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Background: Australian and international data indicate continued use of arthroscopic treatment for knee osteoarthritis despite evidence this is a 'low-value' treatment. A paucity of easy to understand and reliable consumer information about knee arthroscopy may be one explanatory factor. **Objectives:** To determine whether consumer information about knee arthroscopy for osteoarthritis in Australia is adequate to inform good decision-making. **Methods:** We performed a critical appraisal of leaflets about knee arthroscopy for osteoarthritis and/or degenerative meniscal tears provided to patients by orthopaedic surgeons or easily accessible on the internet. Information relating to other knee conditions or solely focused upon postoperative care, and other forms of communication were excluded. Information sources were identified from Australian Commission on Quality and Safety in Health Care and internet searches conducted 20-28 May 2015. Search terms were ‘knee arthroscopy’, ‘knee pain’, ‘osteoarthritis knee’ and ‘meniscal tear’, and ‘orthopaedic surgeon’ linked to each capital city. Two independent reviewers selected documents for inclusion and extracted data. The main outcomes were reference to guidelines, presentation of the evidence base, and explicit advice against use of arthroscopic treatment for all/most people with knee osteoarthritis and/or degenerative meniscal tears. **Results:** Forty-nine documents were analysed in full and 44 provided limited information. None mentioned guidelines and only eight (5 limited, 3 full) made a clear recommendation against use of arthroscopy for all/most people with knee osteoarthritis. Of the 49 analysed in full, 11 (22%) specified an information source, three (6%) provided a specific reference to support advice, six (12%) provided information from research evidence to support their statements. While five referred to placebo-controlled trial evidence none gave a sense as to the quality and/or strength of the evidence. Overall, Wikipedia provided the most valid information. **Conclusions:** Consumer information about knee arthroscopy in Australia is variable and may be inadequate to inform optimal decision-making.

P88: Factors predicting benefit from maintenance therapy in advanced non-small cell lung cancer: a systematic review and meta-analysis

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Background: Previous meta-analyses have shown that maintenance therapy (MT) improves survival in patients with advanced non-small cell lung cancer (NSCLC). However, whether MT could improve overall survival is still unknown. **Objectives:** To conduct a systematic review and meta-analysis of the efficacy of MT with either a continuous or a switch strategy for patients with advanced NSCLC. **Methods:** We performed a literature search of online databases (MEDLINE, CENTRAL, and Scopus) and a manual search of relevant conference proceedings (ASCO, and ESMO). Trial registries were searched for ongoing and unpublished studies. Randomized controlled trials that reported the effect of MT on survival or progression-free survival in histologically or cytologically proven stage IIIB or IV NSCLC patients were included. Two reviewers independently evaluated the eligibility of the trials, extracted the data, and assessed risk for bias of the included studies. The primary outcome was overall survival (OS), and secondary outcomes included progression-free survival (PFS). Subgroup analyses were conducted by histological subtype, epidermal growth factor receptor (EGFR) mutation status, and response to induction therapy. **Results:** Fifteen trials involving 6396 participants with advanced NSCLC were included in this meta-analysis. Pooled results showed MT substantially improved OS (hazard ratio (HR) 0.85; 95% (confidence interval (CI) 0.80 to 0.91; I2 = 0%) and PFS (HR 0.63; 95% CI 0.56 to 0.72; I2 = 69%). Statistically significant improvement of both OS and PFS was observed in switch MT (HR 0.85; 95% CI 0.78 to 0.92; I2 = 0%) and continuous strategy (HR 0.86; 95% CI 0.76 to 0.97; I2 = 0%). Combination of two maintenance agents is superior to single agent in terms of PFS (HR 0.72; 95% CI 0.59 to 0.88; I2 = 69%), but not OS. Subgorup meta-analysis revealed that maintenance therapy yielded improved PFS for patients with adenocarcinoma (HR 0.52; 95% CI 0.43 to 0.63; I2 = 63%) than for non-adenocarcinoma (HR 0.73; 95% CI 0.62 to 0.86; interaction P = 0.008). **Conclusions:** MT for patients with advanced NSCLC significantly increases OS and PFS, irrespective of treatment strategy.

Attachments: screenshot_279.png

P89: Echinocandin for the prevention of invasive candidiasis in patients with hematologic malignancies

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Background: Patients with hematologic malignancies are associated with a high incidence of invasive candidiasis and a high risk of mortality. Azoles are the only antifungal prophylactic agents. Echinocandins are novel antifungal agents with antifungal activity against most isolates of Candida species and Aspergillus species. **Objectives:** The aim of this trial was to evaluate the effect of echinocandin for the prevention of invasive candidiasis in patients with hematologic malignancies. **Methods:** The following databases were searched: MEDLINE; PubMed and Cochrane databases. Interventions included echinocandin for patients with hematologic malignancies. The search to identify relevant randomized controlled trials (RCTs). Statistical analysis was performed with Review Manager Version 5.3. **Results:** We included five RCTs and 1632 participants. We pooled results from five studies. For the overall incidence of invasive fungal infections there was no significant difference between echinocandins and azoles (risk ratio 0.84, 95% confidence interval 0.71 to 1.01). **Conclusions:** This meta-analysis shows that the efficacy of echinocandins is similar to that of azoles when used in prophylactic regimens. Echinocandins could be another type of prophylactic antifungal agent for patients with hematologic malignancies.

Attachments: Incidence invasive fungal infections.png

P90: A network meta-analysis of prophylactic antibiotics for preventing post-caesarean endometritis

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Background: The caesarean section rate is increasing all over the world. Endometritis is the most common infection-related complication following caesarean delivery. **Objectives:** To compare the effect of prophylactic antibiotics for preventing post-caesarean endometritis via a network meta-analysis. **Methods:** Referring the same eligibility criteria as the Cochrane Review 'Different classes of antibiotics given to women routinely for preventing infection at caesarean section' (Gyte 2014), we included 19 randomized controlled trials comparing penicillins and cephalosporins given to women undergoing caesarean section and excluded trials that had compared antibiotics with placebo or antibiotics within the same class. In this study, six kinds of antibiotics were compared: first generation (C1), second generation (C2), and third generation (C3) for cephalosporins; penicillinase-resistants (P1), anti-Pseudomonas aeruginosas (P2), and extended spectrums (P3) for penicillins. After examining inconsistency between direct and indirect comparisons using the Lu-Ades model, C1 was chosen as the control group and odds ratios (ORs) and 95% confidence intervals (95% CI) for endometritis incidence of other antibiotics (C2, C3, P1, P2 and P3) were estimated in a random-effects model. **Results:** A total of 5606 women participated and experienced a 9.1% incidence of endometritis. The network of trials is shown in Fig 1. Statistically significant inconsistency of a network was not observed (P = 0.67). The observed preventive effects were shown in Fig 2 and ranked as P2 > C2 > P3 > C1 (reference) > C3 > P1. In particular, the effect of P2 was significantly higher than that of C1 (OR 0.58; 95% CI 0.38 to 0.87); similarly, the effect of C2 was significantly higher than that of C1 (OR 0.71; 95% CI 0.54 to 0.93). **Conclusions:** The effect of second generation cephalosporins or anti-Pseudomonas aeruginosa penicillin on the prevention of post-caesarean endometritis was significantly higher than that of first generation cephalosporins, which differs from current obstetrical care. This may have a large affect on future decision making in obstetric care.

Attachments: Figure final.pdf

P91: Identification, description, and quality assessment of controlled clinical trials published in orthopedics and traumatology journals from Latin America and Spain

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Background: Few orthopedics and traumatology journals from Latin America and Spain are indexed in major databases. Controlled clinical trials (CCT) published in these journals cannot be exhaustively retrieved using electronic literature searches. **Objectives:** To identify, describe and assess the quality of CCTs published in orthopedics and traumatology journals from Latin America and Spain. To submit these CCTs for inclusion in CENTRAL. **Methods:** Following Cochrane recommendations, we handsearched all eligible orthopedics and traumatology journals from their inception until July 2015. We conducted a descriptive analysis of the main characteristics of the identified CCTs, as well as a quality assessment using the Cochrane 'Risk of bias' tool. **Results:** We identified 52 CCTs in 24 eligible journals. Twenty-three (44%) of these CCTs had not been included in any major databases. Twenty (39%) of them were published in Mexican journals. Fifteen (29%) trials addressed issues related to knee or hip lesion management. The average sample size was 79 participants (range: 8 to 300). Over 50% of trials were considered to have unclear risk of bias in several domains, including random sequence generation, allocation concealment, and blinding. Forty-seven (90%) of the trials did not report source of funding. Twenty-five (48%) studies did not find statistically/clinically significant differences between the assessed interventions. No trials reported using the CONSORT statement to report findings. **Conclusions:** Orthopedics and traumatology journals from Latin America and Spain publish few CCTs. There are serious shortcomings in the reporting of results, which impedes proper assessment of the methodological quality of this body of evidence. We call for adherence to the CONSORT statement when reporting study findings in this and other fields. Almost half of the identified CCTs would not have been retrieved using an electronic search strategy, making handsearching an important tool for ensuring access to all published CCTs.

P92: Using Clinical Study Reports versus published articles in a Cochrane Review update

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Background: Cochrane Reviews typically include only journal-published randomized controlled trials. These publications often provide very little information on harms. The trial's corresponding clinical study reports (CSRs) are seldom included. This results in potential misrepresentation of efficacy and harm data that renders such meta-analyses potentially unreliable. **Objectives:** To document advantages and disadvantages of including information from CSRs of trials meeting the inclusion criteria as opposed to including only published journal articles in a Cochrane Systematic Review. **Methods:** Electronic databases are typically searched to identify primary studies that meet the inclusion criteria. However, for market approval purposes or for ongoing safety evaluation CSRs are required by regulatory authorities like the European Medicines Agency (EMA). For the 2016 update of a Cochrane Review, a formal request for all relevant CSRs was made to EMA under the Access to Documents Policy. **Results:** The advantages of including CSRs include: 1. comprehensive information is available on study methods; 2. availability of numerical data with standard deviation instead of graphs in published articles; 3. availability of data of all secondary outcomes as stated in the protocol; 4. opportunity for accurate assessment of risk of bias of each included study; 5. provision of detailed information for all-cause mortality, non-fatal serious adverse events and specific adverse events as opposed to very limited information in the published article. Disadvantages include: 1. CSRs are often more than a thousand pages in length; 2. it is difficult to identify the CSR as each included study had three different identifiers; 3. time consuming as requested CSRs were obtained in batches based on date of request and order in the queue; 4. not all CSRs were available for all included studies (five published trials were not registered in clinical trials.gov). **Conclusions:** Including CSRs of all included studies, when available, leads to a more comprehensive analysis and interpretation of benefits and harms of a drug therapy.

P93: Do systematic reviewers and clinical trialists in the same field consider similar outcomes to be important? A case study in HIV/AIDS

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Background: Systematic reviewers select outcomes they perceive as relevant; yet trialists addressing the same research question may not report similar outcomes. Understanding the amount and type of overlap in outcomes between reviews and trials could inform whether core outcome sets should incorporate outcomes examined in trials, reviews, or both. Objective: To examine overlap between outcomes examined in reviews addressing HIV/AIDS and trials included in them. **Methods:** Eligible reviews were completed, published Cochrane Reviews of HIV/AIDS examining at least one trial as of June 2013. We identified all outcomes (domains) examined in the reviews and the trials. We calculated the per cent positive agreement (PPA) as the proportion of all outcomes that occurred in both trials and reviews (Box). We predefined four intervention subgroups: clinical management, biomedical prevention, behavioural prevention, and health services. **Results:** Of 140 published Cochrane reviews of HIV/AIDS, 99 were completed and 84 included at least one trial. Most reviews (72/84; 86%) were published from 2008-2012. The 84 reviews included 524 trials; most (78%) published from 1993-2007. The 84 reviews examined 218 unique outcomes (median 7.5 outcomes each, interquartile range (IQR) 4-11). The trials examined 779 unique outcomes (median 8, IQR 5-12), 3.6 times the number of unique outcomes as the reviews (779 versus 218). PPA ranged from 20% for health services to 33% for clinical management. When comparing the most frequent outcomes within intervention subgroups (Table), trials more frequently examined interim, short-term, and safety outcomes (e.g. adherence, viral load, and adverse events (specified)); reviews more frequently examined long-term and perhaps more patient-important outcomes (e.g. quality-of-life, intervention acceptability). **Conclusions:** Although numbers of outcomes per review and per trial were similar, the outcomes were not. Differences in perspectives and goals between these two sets of researchers may explain the differences in outcomes they examine. Developers of core outcome sets should note that reviews and trials often provide complementary types of outcomes.

Attachments: Colloquium_2016_Saldanha_HIV outcomes V7 Box and Table.pdf

P94: What characteristics classify 'experience' with data abstraction?

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Background: Cochrane recommends that data abstraction should be done independently by at least two individuals. In practice, individuals with complementary levels of data abstraction experience are often paired for data abstraction. However, what data abstraction experience really means is unclear. **Objectives:** To identify characteristics that best classify an individual's level of experience in performing data abstraction for systematic reviews. **Methods:** We surveyed faculty, staff, and students at two schools of public health, two evidence-based practice centres (EPCs), and one Cochrane Centre who had abstracted data from at least one study for a systematic review. We asked questions on respondent's current status (faculty, staff, student, other), number of articles abstracted, number of systematic reviews published, and self-rated level of experience with data abstraction. Masked to their responses, we categorized each respondent as either a more experienced or less experienced data abstractor based on our subjective assessment of their quality of work. We then calculated the sensitivity and specificity of using 15 predefined items (or combination of items) and cut-offs in classifying data abstractor experience. We considered the items/combination of items with the highest total of sensitivity and specificity as having the best accuracy. **Results:** We included 45 participants; 23 were classified as less experienced and 22 as more experienced data abstractors. The item on having published three or more versus two or fewer systematic reviews had the best accuracy (sensitivity = 0.73 and specificity = 0.74) (Table). **Conclusions:** Among the items/combination of items, having authored three or more published systematic reviews was the most predictive of being a more experienced data abstractor, and may help other systematic review teams form pairs for data abstractors.

Attachments: Colloquium_2016_DAA Trial Data Abstractor Experience V5_Table.pdf

P95: Staff self-evaluation of skills in evidence-based medicine

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Background: Competency in evidence-based medicine (EBM) is needed to teach the practice of future physicians. Low competence of staff certainly will cause low competence in the medical students. Self-evaluation represents one way for assessing EBM competence. So far, staff claim to understand the principles of EBM. **Objectives:** To evaluate staff competence in EBM using a self-administered questionnaire and compare it with a self-explanation method. **Methods:** Fifty staff in the Faculty of Medicine, who were sampled randomly, completed the questionnaire which was distributed in closed envelopes. The questionnaire consists of seven essential principles in EBM, for which they rated their understanding of each of seven terms used in EBM as 'Would not be helpful for me to understand', 'I don't understand, but would like to', 'I already have some understanding', and 'I understand this and could explain to others'. For each question they were also asked to explain briefly in their own word about these principles. Analysis used descriptive analysis which then matched to their explanation for each principle. **Results:** In general 50% of the staff understood the principles of EBM and felt they had enough competence. However, when this was compared to the explanation, more than half of the staff did not write further information, and only one-fifth who wrote provided correct interpretations of EBM principles. **Conclusions:** Staff competence in EBM is not yet sufficient. Self-evaluation serves more subjective tools which should be interpreted carefully.

P96: Staying 'up-to-date' with bladder cancer research publication rates and scatter

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Background: The volume of literature, including publications describing urological, and specifically bladder cancer research, is increasing exponentially, and becoming more widely dispersed across different journals. **Objectives:** We aimed to identify the number of journals one would need to read to stay up-to-date with current bladder cancer evidence. **Methods:** We searched PubMed for all articles relating to bladder cancer systematic reviews (SR) and/or meta-analyses (MA) or randomised controlled trials (RCT) published in 2014 using a combination of Medical Subject Headings (MeSH) and free-text terms. The search results were exported to EndNote and Microsoft Excel. We screened the titles and/or abstracts of the search results, and excluded publications not focused on bladder cancer research or not relating to a SR, MA, or RCT. We calculated the least number of journals needed to read 25%, 50% and 75% of the articles describing SRs/MAs and RCTs in 2014. **Results:** The search identified 75 SRs/MAs published in 2014, spread over 38 journals. One journal contained 25% of the articles (Tumour Biology), eight journals contained 50%, and 20 journals contained 75%. Twenty-four journals contained only one SR/MA publication. The search also identified 37 articles relating to RCTs published in 2014, spread over 23 journals. Two journals contained 25% of the articles (most commonly: 1) European Urology; 2) The Journal of Urology), six journals contained 50%, and 14 journals contained 75%. Seventeen journals contained only one RCT publication. **Conclusions:** This study indicated that almost one article relating to a bladder cancer SR/MR or RCT is published every three days. Vast 'scatter' of such articles was observed; many journals published only one relevant article in a year. In order to read one half of the new bladder cancer research publication identified in this study, an individual would require access/subscriptions to 13 different journals. Using bladder cancer as one example, this study highlights ongoing challenges individuals face in staying 'up-to-date' with new evidence.

P97: Performance of the Framingham models and Pooled Cohort Equations for prediction of cardiovascular disease in the general population: a meta-analysis

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Background: Implementation of the Framingham risk models and Pooled Cohort Equations (PCE) is currently recommended in the USA for predicting 10-year risk of developing cardiovascular disease (CVD). These prediction models have been extensively validated in other individuals and settings. **Objectives:** To review and summarize the discrimination and calibration of three CVD prediction models systematically, and to determine heterogeneity in performance of these models across subpopulations or geographical regions. **Methods:** In December 2015, we searched MEDLINE, Embase, Web of Science, and Scopus for studies investigating the external validation of three CVD prediction models (Framingham Wilson 1998, Framingham ATP III 2002 and PCE 2013). We identified studies published before June 2013 from a previous review. Studies were eligible for inclusion if they validated the original prediction model without updating, in a general population setting. Critical appraisal was based on the CHARMS (Critical Appraisal and Data Extraction for Systematic Reviews of Prediction Modelling Studies) checklist. We extracted data on case-mix, essential study design characteristics, and model performance (quantified by the c-statistic and observed/expected ratio). Performance estimates were summarized using random-effects meta-analysis models that accounted for differences in case-mix to explore sources of heterogeneity. **Results:** The search identified 10,687 references, of which 1501 were screened in full text and 47 met our eligibility criteria. These articles described the external validation of Framingham Wilson (27 articles), Framingham ATP III (16 articles) or the PCE (10 articles). Discriminative performance (c-statistic) varied between 0.56 and 0.92. At the Cochrane Colloquium, we will present how case-mix differences (e.g. age, comorbidities, treatment) influence the performance of these models. **Conclusions:** The results of this study can help in identifying which of these three CVD models can reliably be used, whether there is heterogeneity in their performances, and whether there are subpopulations for which further research is necessary to improve CVD risk prediction.

P98: Relationship between the description of primary outcomes and significance of the results in trials with diet and lifestyle in pregnancy

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Background: The quality of outcome reporting in primary studies can significantly hamper the findings of a systematic review. The CONSORT statement specifies that outcomes should be described to allow their reproducibility, and that

treatment effects should be reported for all predefined outcomes. Nevertheless, a recent assessment of Cochrane Reviews showed ongoing problems with outcome reporting. Empirical evidence shows a strong association between statistical significance of outcomes and the likelihood of publication. Diet and physical activity-based interventions are extensively evaluated in randomised controlled trials (RCTs) for their effect on pregnancy outcomes (Figure 1). Gestational weight gain was reported in 80% of these trials; in one-third it was the primary outcome. However, data from less than three-quarters of the trials could be meta-analysed. **Objectives:** The aim of our work was to investigate if there is an association between the quality of reporting of the primary outcomes, the statistical significance of the treatment effect and its magnitude in RCTs investigating diet and physical activity-based interventions in pregnancy. **Methods:** We collected information on outcomes clearly defined as primary outcomes or used for power estimation in included trials. Outcome description, magnitude, and significance of the treatment effect (P value) and statistical method used were recorded. The precision of outcome description was assessed according to CONSORT requirements. We used multivariate analysis to evaluate the association between the covariates accounting for clustering of outcomes at the paper level, where more than one primary outcome was used. Results and discussion: Systematic reviews with meta-analysis of RCTs are considered to be the highest level of evidence synthesis when assessing the effectiveness of interventions. Therefore, it is important to identify any trends that are shaping outcome reporting. We will provide a detailed description of the associations and discuss the implication of our findings.

Attachments: Figure 1.pdf

P99: Implementing and disseminating knowledge in the care home setting: a systematic scoping review

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Background: Research continues to increase our knowledge of what can be done to improve the care of residents in care homes, but there is a persistent gap between this knowledge and the care that people receive. **Objectives:** To: 1. examine the extent, range, and nature of research on different ways of disseminating and implementing knowledge in terms of: a. the effectiveness of approaches, and b. the identification of factors that may help or hinder successful adoption, and 2. to map gaps in the existing literature. **Methods:** Fifteen electronic databases were searched from inception to July 2015 and supplemented by additional search methods. Quantitative and qualitative studies addressing dissemination or implementation within the residential care setting were included with no restriction on study design, date, or language of publication. Titles, abstracts, and full texts were screened independently by two reviewers. Data extraction (topic, study design, size and type of setting, type of dissemination or implementation strategy used, types of outcome reported) was performed by one reviewer using a piloted, bespoke data extraction form and checked by a second. Data were tabulated and synthesised descriptively using the 2015 EPOC (Effective Provision of Care) Taxonomy of health system interventions. The resulting evidence map was discussed and developed further with those involved in providing care within the residential care setting. **Results:** Of the 5374 citations screened, 225 met the inclusion criteria. Twenty-five papers focussed on the dissemination of knowledge; the remainder described implementation in areas of care including falls prevention (n = 13), pressure ulcers (n = 12), pain (n = 18), dementia (n = 20), continence (n = 14), nutrition/hydration (n = 12), and end of life care (n = 14). Further analysis of the types of implementation strategy used and the mapping of gaps in the evidence is underway. **Conclusions:** The review describes the range of dissemination and implementation strategies that have been utilised in care homes and highlights important gaps in the evidence.

P100: The landscape of systematic reviews in urology (1998 to 2015): an assessment of methodological quality

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Background: High quality systematic reviews (SRs) have a paramount role in informing evidence-based clinical practice. Cochrane has pioneered and disseminated many of the methodological underpinnings across all areas of medicine including urology. **Objectives:** To assess the quality of published systematic reviews in the urological literature outside the Cochrane Library. **Methods:** As an extension of an earlier-published study (MacDonald 2010), we systematically searched PubMed and handsearched the table of contents of four major urological journals from January 2013 to December 2015 to identify SRs related to questions of prevention and therapy. Two independent reviewers assessed the methodological quality using the 11–point AMSTAR instrument. We performed protocol-driven analyses for the 2013-15 time-period alone and in aggregate with earlier data for the 1998-2012 time-period.
Results: The updated literature search identified 490 studies of which 130 ultimately met inclusion criteria. The most common SR topic in 2013-15 was oncology (68; 52%) followed by voiding dysfunction (28; 22%) and stones/endourology (10; 8%). The mean AMSTAR scores ± SD for 2013-15 (n = 130), 2009-2012 (n = 113) and 1998-2008 (n = 57) were 4.9 ± 2.4, 5.4 ± 2.3 and 4.8 ± 2.5, respectively (P = 0.160). SRs scored highest for the description of the studies' baseline characteristics (118; 91%) and comprehensive literature search of two or more databases (105; 81%). They scored lowest on conflict of interest COI) reporting (6; 5%) and the inclusion of unpublished studies to avoid publication bias (10; 8%). **Conclusions:** There has been an exponential increase in the number of SRs published in the urological literature year by year, but a stagnation of methodological quality. One major distinction of non-Cochrane Reviews is the lack of transparent COI reporting. SR authors should apply established methodological standards to enhance the validity and impact of SRs

P101: Challenges in synthesising evidence from implementation and dissemination studies: experience from two systematic scoping reviews

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Background: Interest in implementation science is burgeoning. Alongside this there has been a proliferation of evidence syntheses of implementation and dissemination studies. A systematic scoping review of the methods used in implementation reviews conducted by our team in 2013 identified 166 eligible publications. Updating the searches for this review in 2015 resulted in the inclusion of an additional 208 publications. We have since conducted systematic scoping reviews to examine the extent, range, and nature of research on different ways of disseminating and implementing research findings in two topic areas – dementia care and care homes. **Objectives:** To use our experience to highlight and explore the challenges involved in synthesising evidence from implementation and dissemination studies. **Methods:** We conducted each review according to established methods for scoping reviews; protocols are available from the authors. Frequent face-to-face meetings were necessary at all stages of the project; particularly during the screening phase. The nature of the issues and challenges encountered was captured through note-taking and email dialogue during the review process and further reflective discussion took place in the preparation of this abstract. **Results:** Challenges encountered included: 1. confidence in the identification of papers for inclusion despite an extensive search strategy informed by previous reviews and expert advice; 2. consistent application of inclusion and exclusion criteria to the wide variety of study designs that have been used to study implementation and dissemination; 3. achieving team-wide consensus on a robust definition of implementation; and 4. the lack of distinction between the reporting of implementation and intervention effectiveness. **Conclusions:** Implementation science is an emerging field for which the parameters and boundaries are still being (socially) constructed. This lack of clarity means that a common language is lacking and reporting is often poor, making it hard for findings to be interpreted. Reflection on our experiences from these reviews will provide a basis for future methodological guidance.

P102: Medical students' attitudes towards research education and opportunities during their training: a cross-sectional survey at McMaster University

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Background: In 2014-15, as a quality improvement initiative on research education and opportunities, all students enrolled in the Michael G DeGroote School of Medicine in Ontario, Canada, were surveyed. **Objectives:** To determine student attitudes towards research training and participation. To assess demographic predictors associated with student interest and self-rated ability in performing research. **Methods:** Stakeholder consultation and literature informed a 13-item cross-sectional survey that we administered across three campuses. **Results:** The

response rate was 80% (496 of 619). Most (88%) endorsed prior research experiences and half reported completing a thesis. While some (32%) respondents were currently participating in research, most (86%) wanted more opportunities. Higher rating of their teachers' research knowledge was associated with greater research interest (odds ratio = 2.06, 95% confidence interval 1.36 to 3.12). In our adjusted linear regression model, attending central campus, prior thesis work and earlier years in training were significant predictors of higher self-rated research abilities. A novel module, simulating a clinical practice guideline panel, was considered as a feasible method to complement evidence-to-bedside research education across campuses. Student's written comments suggested that more staff, academic credit, and a centralized opportunity portal were important research facilitators. **Conclusions:** While distributed campuses may impact research education cohesiveness, there remains a high interest among students for research opportunities.

P103: A systematic review of COPD patients' values and preferences: what quantitative information can suggest outcome importance?

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Background: Consideration of people's values and preferences is essential in evidence-based decision-making. Systematic reviews of values and preferences are not yet common, and take different approaches. **Objectives:** To summarize the quantitative evidence of patient values and preferences on COPD and to discuss the definition, measurement techniques for values and preferences, and their applicability in decision making. **Methods:** We operationalized values and preferences as 'the relative importance patients place on the outcomes'. We used a specifically developed search strategy to search electronic databases including PubMed, Embase, PsycInfo, and CINAHL from inception to January 2015. Systematic review authors independently screened title and abstract records, and full text and resolved disagreements through discussion. We summarized the eligible studies into prespecified categories as utility or health state value, direct choice, non-utility measurement of health states, or qualitative studies. **Results:** We included 170 quantitative and 153 qualitative studies from the 33,601 records screened. The quantitative studies could be divided into sub-categories: direct measurement of utilities included eight standard gamble studies, five time trade-off studies, 51 visual analogue scale studies and 74 studies on indirect measurements, five willingness-to-pay studies and 12 studies asking patients to trade-off between options or rank them, nine preference trials, and 22 surveys asking what patients would prefer, or how important outcomes are. Other studies reported preference of other aspects, such as place of dying. Depending on whether to inform decision making in a clinical or public health setting, at an individual patient level or population level, the magnitude of relevance for one certain study would change. **Conclusions:** We summarized the evidence of patient values and preferences in COPD according to the definition of 'relative importance of outcomes' and developed a classification system for the large number of relevant studies. Our classification system may be helpful to other authors conducting systematic reviews of values and preference.

104: Quality of warfarin control and the risk of stroke, bleeding and mortality in patients with atrial fibrillation

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Background: Anticoagulant or antiplatelet agents have been shown to prevent ischemic stroke in patients with atrial fibrillation. The quality of warfarin control was assessed by time in therapeutic range (TTR). However, the association between TTR and stroke risk remains unclear. **Objectives:** A systematic review and meta-analysis was conducted to evaluate the association between anticoagulant agents and stroke, bleeding, and mortality. The cut-point of TTR was also evaluated. **Methods:** PubMed, the Cochrane Library, and the ClinicalTrials.gov registry were searched for studies published before April 2016. Individual effect sizes were standardized, and a meta-analysis was conducted to calculate a pooled effect size using a random-effects models. Secondary outcomes included the risk of bleeding or mortality and the pattern of TTR. **Results:** A total of 12 trials with 154,378 participants were reviewed. Significant risk of stroke reduction was observed in the anticoagulant groups (odds ratio 0.72, 95% confidence interval 0.67 to 0.78; I2 0%). The anticoagulant-treated group had higher risk of bleeding but this was not significant. The mortality rate was lower in the anticoagulant-treated group, but not significantly different. According to these trials, the TTR ranged from 30% to 100%. There was no consistent cut-point for the definition of high or low TTR. The results show that higher TTR was associated with lower risk of stroke and mortality. The trend of bleeding rate was higher in the low TTR group. **Conclusions:** The results suggest that use of anticoagulant agents and maintenance of higher TTR can effectively reduce the risk of stroke and mortality. The bleeding rate was not significantly higher when anticoagulant agents were used.

Attachments: FOREST PLOT.png, TABLE.png

P105: Individual patient data meta-analyses: distribution and epidemiological characteristics of published studies

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Background: Individual patient data meta-analyses (IPDMAs) offer advantages over traditional meta-analyses and are considered the 'gold-standard'. However, the general characteristics of existing IPDMAs are unknown and methodological features and success in obtaining IPD may affect the quality of meta-analyses. **Objectives:** To identify all published IPDMAs to date, and summarise the distribution and epidemiological characteristics. **Methods:** IPDMAs were sought by comprehensive searches of PubMed, Embase and the Cochrane Library on 9 August 2012. Two researchers independently screened articles and extracted data. Study characteristics were synthesised descriptively. **Results:** The earliest identified IPDMA was published in 1987 and, with an annual increase of approximately 3.7 articles, 97 were published in 2011. In total, 829 IPDMAs were identified, the majority of which related to malignant neoplasms n = 267 (32%) and circulatory diseases n = 179 (22%). Each IPDMA included a median of eight studies (interquartile range (IQR) 5 to 15) and included a median of 2563 patients (IQR 927 to 8349). Over half of IPDMAs successfully identified data from all identified studies (n = 496, 60%) and one quarter of studies (n = 207, 25%) sought data from 'grey literature'. However, a high proportion of IPDMAs (n = 229, 28%) did not use systematic methods to locate studies. **Conclusions:** IPDMAs have grown in popularity and have focused on cancer and circulatory diseases. Methodological approaches for sourcing relevant studies differ between IPDMAs, with some not using systematic search methods or including grey literature. Results from IPDMAs are likely subject to selection bias, publication bias and poor data availability and thus, findings from IPDMAs should not be unequivocally accepted by decision makers without awareness of these limitations and an understanding of the potential impact on findings.

P106: A quantitative assessment of the quality of randomized controlled trial reporting in the urologic literature

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Background: Randomized controlled trials (RCTs) are the gold standard format for clinical research, and clear reporting is vital to informing evidence-based practice. In 1996 the CONSORT statement was published to provide guidelines and standardization when reporting clinical trials. **Objectives:** We systematically assessed the quality of RCT reporting in 2013 as compared to RCTs in 2004 and 1996. Our objective was to quantify any improvement in the intervening time period. **Methods:** All RCTs published in four leading urology journals in 2013 were identified for formal review, and compared to a prior analysis of studies from 1996 and 2004 using the same inclusion criteria. Two reviewers abstracted data using a standardized evaluation form based on the CONSORT checklist. We calculated a summary reporting score (range 0 to 22) for each study and compared mean summary scores for 1996, 2004, and 2013. We settled disagreements by consensus and a third party referee. Chi-squared, Student's T test, and ANOVA were used to analyze the results. **Results:** A total of 82 RCTs published in 2013 met inclusion criteria and were compared to 65 and 87 studies from 1996 and 2004, respectively. The mean (± SD) CONSORT summary scores were significantly different between years, 15.6 (± 2.0) in 2013, 12.0 (± 2.5) in 2004, and 10.2 (± 2.3) in 1996 ($P < 0.01$). Provision of a flow diagram improved from 3% (1996) to 20% (2004) to 88% (2013; $P < 0.001$). Overall, reporting of important methodological criteria varied within journals, but improved substantially overall from 1996 to 2004 and from 2004 to 2013, with reporting of many key methodological criteria appearing in more than 50% of RCTs for the first time in 2013. However, many items continue to be underreported, including blinding of study participants and team member roles. **Conclusions:** The results of this systematic review suggest that RCT reporting in the urological literature has improved since the publication of the CONSORT statement, although many key methodological criteria remain underreported. Further efforts are needed to continue to improve the urological literature.

Attachments: Picture1.png

P107: The scope and impact of Cochrane Reviews related to cancer

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Background: Cancer is a major healthcare priority and the topic of large number of systematic reviews outside the Cochrane Library. Until the recent founding of the Cochrane Cancer Alliance, it has not been a focus area for Cochrane. **Objectives:** We performed this study to assess the current scope and impact of the Cochrane Reviews related to cancer. **Methods:** Based on a written protocol, systematically we identified all Cochrane Reviews in Archie published over a 10-year time period (March 2006 to March 2016) that pertained to cancer. Two reviewers independently applied predefined inclusion and exclusion criteria; discrepancies were settled by discussion and if necessary, third party arbitration. We excluded withdrawn, inactive and reviews at the protocol stage. We collected citation data using the Institute for Scientific Information Web of Science database. Analysis was performed on reviews that had a minimum follow-up period of 12 months. We performed descriptive statistics using SPSS Version 23. **Results:** From a total of 10,021 titles, we identified 1198 titles pertaining to oncology. Of these, 565 were published Cochrane Reviews, and 507 had at least 12 months of follow-up data. The main contributors were the Gynaecological, Neuro-oncology and Orphan Cancer Group (n = 124), the Colorectal Cancer Group (n = 66), and the Pain, Palliative and Supportive Care Group (n = 94). The overall median citation count was 6.0 (interquartile range (IQR) 2 to 18); 15.6% (79/507) of reviews had not been cited. Among review groups with at least 10 cancer-related reviews, the Pain, Palliative and Supportive Care, Urology, and Colorectal Groups had the highest median citation rates of 12 (IQR 2.5 to 24), 12 (IQR 5 to 30) and 11 (IQR 4 to 36), respectively. **Conclusions:** Citation analyses provide valuable insights into ongoing Cochrane activities that may help guide future investments. Increased efforts at topic prioritization and review dissemination are necessary to improve the impact of cancer-related Cochrane Reviews.

P108: Methodological quality of systematic reviews in Chinese herbal medicine for diabetic kidney disease

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Background: Systematic reviews (SRs) summarize research and provide important knowledge for informing healthcare decisions. This approach has practical importance in the discipline of Chinese medicine (CM) because of the large number of clinical trials. The methodological quality of SRs is not often assessed, but is important considering its impact on practice and research. **Objectives:** To appraise the methodological quality of SRs of Chinese herbal medicine for diabetic kidney disease (DKD). **Methods:** We retrieved Published SRs from five English and four Chinese databases up to April 2015. Two researchers independently screened the literature, extracted methodological characteristics and assessed the quality of eligible SRs, and applied the AMSTAR checklist. **Results:** Forty-seven SRs were identified and 45 were eligible for appraisal, including four SRs published in English. The average AMSTAR score was 3.73/11, and ranged from 1 to 8. Only three of 11 domains - assessing scientific quality, generating conclusions with quality consideration, and appropriately combining findings - showed requirements were met in > 50% of included SRs (Fig 1). None of the included SRs provided references for excluded studies, or addressed conflict of interest (COI) of included studies. Only four (8 %) SRs mentioned prior protocol design but did not give registration details. The process of duplicate study selection and data extraction was merely mentioned in 18 (40%) SRs. A comprehensive search was conducted in 19 (42%) SRs but only 10 (22%) did not limit by publication status; 33 (73%) SRs did not provide sufficient information on studies' characteristics, which compromised the transfer of results. Notably, 27 (60%) SRs did not assess publication bias appropriately and meta-analysis was misused in 18 (40%) SRs. **Conclusions:** The overall methodological quality of SRs in the field of CM for DKD was unsatisfactory. Clinicians and policy makers should apply the SRs result critically in practice. Areas of prior design, comprehensive searching, sufficient information reporting and COI clarifying need to be improved.

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P109: Short-term use of statins for prevention of delayed ischemic neurological deficits after aneurysmal subarachnoid hemorrhage (coil versus clip): meta-analysis

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Background: Statins have been shown to have neuroprotective effects, with reduced vasospasm and delayed ischemic neurological deficits (DINDs) following aneurysmal subarachnoid haemorrhage (SAH). However, the role of use of statins for functional outcome and survival after aneurysmal SAH remains controversial. **Objectives:** To assess quantitatively the effects of short-term use of statins on DINDs and functional outcome in patients with aneurysmal SAH by using a meta-analysis of the available evidence. **Methods:** We searched MEDLINE, Embase, and the Cochrane Central Register of Controlled Trials (CENTRAL) up to 8 December 2014 to retrieve relevant studies comparing the outcomes between immediate statin treatment in statin-naïve patients and untreated patients following aneurysmal SAH. Fixed-effect or random-effects models, as appropriate, depending on the degree of study heterogeneity, were applied to calculate summary measures. **Results:** Thirteen relevant studies, i.e. eight randomized controlled trials (RCTs) and five observational studies, with 2148 participants were finally included in our study. In the RCTs, which enrolled a total of 1150 participants (of whom 555 received statins), statins were found to reduce the occurrence of DINDs significantly (risk ratio (RR) 0.76; 95% confidence interval (CI) 0.61 to 0.94; P = 0.01), but not that of poor functional outcome (RR 1.01; 95% CI 0.87 to 1.16; P = 0.93) or mortality (RR 0.80; 95% CI 0.58 to 1.11; P = 0.18). In the observational studies 504/998 participants received statins. Statin use was not associated with any reduction in DINDs, poor outcome, or mortality. When the results of all studies were combined, statins had statistically significant effect only in reduction of DINDs (RR 0.82; 95% CI 0.71 to 0.94; P = 0.006). **Conclusions:** The present meta-analysis suggests that statin use may have potential benefit in the prevention of DINDs in patients with aneurysmal SAH. Based on the current findings, although not assessed in all studies, the role of statins for improving neurological outcome is limited. Further well-designed RCTs with modified protocols in selected patients are still needed.

P110: Reporting of financial and non-financial conflicts of interest by authors of 200 Cochrane and non-Cochrane systematic reviews: a methodological survey

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Background: Conflicts of interest have the potential to bias the findings of systematic reviews. **Objectives:** The objective of this methodological survey was to assess the frequency and types of conflicts of interest that authors of Cochrane and non-Cochrane systematic reviews report. **Methods:** We used standard systematic review methodology. We searched for systematic reviews using the Cochrane Database of Systematic Reviews and Ovid MEDLINE (limited to the 119 Core Clinical Journals and the year 2015). We defined a conflict of interest (COI) disclosure as the reporting of whether a COI exists or not, and used a framework to classify COIs into individual (financial, professional, and intellectual) and institutional (financial and advocatory) COIs. We conducted descriptive and regression analyses. **Results:** Of the 200 systematic reviews we included, 194 (97%) reported authors' COI disclosures, typically in the main document, and in a few cases either online (2%) or upon request (5%). Of the 194 Cochrane and non-Cochrane reviews, 49% and 33% respectively had at least one author reporting any type of COI (P = 0.023). Institutional COIs were less frequently reported than individual COIs, and Cochrane Reviews were more likely to report individual intellectual COIs compared to non-Cochrane reviews (19% and 5% respectively, P = 0.004). Regression analyses showed a positive association between reporting of COIs (at least one type of COI, individual financial COIs, institutional financial COIs) and journal impact factor, and between reporting individual financial COIs and pharmacological versus non-pharmacological intervention. **Conclusions:** Conflicts of interest, reported in close to half of published systematic reviews (typically many authors) constitute a potentially problematic source of bias in the conduct, reporting, and conclusions of systematic reviews. The association with journal impact factor suggests the possibility that authors

publishing their reviews in lower impact journals fail to report existing conflicts of interest. This raises the need for a wider and standardized reporting of conflict of interest disclosures.

P111: survey on the exposure to training, practice and perception of health reporting among journalists in Malaysia

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Background: Apart from the launch of Cochrane Malaysia in 2014 and one small mention of a Cochrane Review in the one of the English newspapers' reports (1), there has been virtually no coverage of Cochrane Reviews in any of the Malaysian media. We wanted to explore the reason for this. **Objectives:** 1. To determine exposure to training on health reporting, including duration and source of training. 2. To identify where Malaysian journalists reporting on health issues obtain their information and how they interpret the information obtained. 3. To determine their knowledge and use of Cochrane as a source of information. **Methods:** An online questionnaire was sent to contact emails of all major print newspapers in Malaysia and to the National Press Club of Malaysia in April 2016. **Results:** We received only 25 responses (20 usable responses) from 306 emails, mainly from English language newspaper journalists (75%) in senior positions (75%). Forty per cent regularly report on health-related issues; 95% did not have any formal training in health reporting or reading a medical research paper, but 50% were interested in workshops about health reporting. Most of the respondents did not know that systematic reviews were the most reliable source of information and 90% obtained their information by directly contacting healthcare professionals. Only one person had heard of and accessed the Cochrane Library and Cochrane evidence, but never used any of its contents. **Conclusions:** The response rate was extremely poor and further investigation is needed into why this was so. However, almost all of those who responded lacked any training on health reporting at all, but did express an interest in attending workshops. This is an ideal opportunity for Cochrane Malaysia to introduce Cochrane as source of trusted evidence, starting with this group of professionals. Reference: 1. http://www.thestar.com.my/news/nation/2015/10/28/doc-hard-to-prove-cause-of-symptoms/

P112: Reporting of financial and non-financial conflicts of interest by authors of 200 randomized controlled trials: a methodological survey

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Background: There is evidence that financial conflicts of interest (COI) may influence authors' conclusions in randomized controlled trials (RCTs). **Objectives:** The objective of this study was to assess whether, and what, COI authors of RCTs report. **Methods:** We conducted a survey using standard systematic review methodology. We searched MEDLINE's 119 Core Clinical Journals for RCTs published in 2015. We defined a COI disclosure as the reporting of whether a COI exists or not, and based our classification of COI on a comprehensive framework of the types of COI that exist in healthcare research, including individual COIs (financial, professional, scholarly, advocatory, personal) and institutional COIs (financial, professional, scholarly, and advocatory). We conducted descriptive and regression analyses. **Results:** Of the 200 RCTs identified, 188 (94%) reported authors' COI disclosures, mostly in the main document and several in online ICMJE (International Committee of Medical Journal Editors) forms. Of these 188 RCTs, 57% had at least one author reporting at least one type of COI in addition to at least one author reporting individual financial COI. In contrast, only 3% of RCTs reported non-financial COIs. Institutional COIs were less commonly reported than individual COIs. Trials that reported a contribution by a medical writer did not report the medical writers' COI disclosures. Regression analyses showed a positive association between reporting individual financial COI and a higher journal impact factor, a larger number of authors, being an author affiliated with an institution from a high income country, and for trials on a pharmacological intervention. **Conclusions:** More than half of published RCTs report that authors have COI, particularly financial types. Authors report individual and financial COI more frequently than institutional and non-financial conflicts.

P113: Analysis of participants with potential missing outcome data in 653 trials: a methodological survey

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Background: Trialists do not always report how they analyzed categories of participants that might have missing outcome data (e.g. those who withdraw consent, non-compliers) resulting in challenges in addressing missing participant data (MPD) in meta-analyses including those trials. **Objectives:** To describe how, in a sample of RCTs included in SRs, trialists reported on the analysis of categories of participants that might have MPD. **Methods:** We surveyed all trial reports included in 50 Cochrane and 50 non-Cochrane SRs published in 2012 and reporting a statistically significant pooled effect estimate for a dichotomous patient-important efficacy outcome. We followed standard systematic review methodology. We focused on 19 categories of participants that could potentially have MPD (Table 1). We considered participants as potentially having MPD if they fell into any of these categories and trialists explicitly reported that they were not followed-up, or if it was unclear whether they were followed-up. We analyzed: 1) how trialists analyzed those participants and 2) whether they justified the method used. **Results:** Out of 653 included RCTs, 400 mentioned one or more of the categories of potential MPD. We analyze here the 1202 instances in the 400 trials in which trialists mentioned the categories in Table 2. With regard to those 1202 instances, the trials did not report any handling method of MPD for 64%; reported using complete case analysis in 34%; and reported using another specific method for 2%. The trials presented a justification for their approach for addressing possible missing data in less than 2% of reports. **Conclusions:** Trialists' reporting of how they analyzed categories of participants that might have MPD is suboptimal. The most commonly reported approach was complete case analysis.

Attachments: 1- Table 1.pdf, 1- Table 2.pdf

P114: Priority setting for Cochrane Clinical Answers (CCAs)

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Background: Cochrane Clinical Answers (www.cochraneclinicalanswers.com) aim to place the results of Cochrane Reviews within the context of current clinical practice, and in doing so, increase the usage of reviews to inform healthcare decisions. With over 6000 reviews on the Cochrane Database of Systematic Reviews, and up to 50 new reviews being published every month, prioritising is an essential part of the CCA production process. Objective: To describe the criteria used to select Cochrane Reviews for CCA production. **Methods:** The CCA team developed a selection strategy based on criteria relating to: the relevance and generalisability of the clinical question; the currency of the review; the volume of evidence; and, sometimes, the analysis used in the review. **Results:** We will detail the selection criteria used by the CCA editors, along with the justification for those choices. Our selection criteria favours recent reviews with larger population sizes; this means that there tend to be more CCAs based on reviews from larger, higher producing Cochrane Review Groups (those with additional capacity to produce newer reviews and to update existing ones) and more CCAs about those disease areas with larger trials. **Conclusions:** Selecting reviews on which to base CCAs is a challenge. We aim to provide CCAs for those reviews that are likely to have high usage, and where interpretation of the evidence could be most beneficial for clinicians and other healthcare professionals who are expected to make decisions at the point-of-care.

P115: Evidence of uncertainty: an assessment of how many Cochrane Clinical Answers provide a clear confident answer to the question posed

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Background: To assist users in making informed decisions about what treatments to use, BMJ Clinical Evidence devised a categorisation system, which aimed to identify treatments that work (benefits outweigh the harms) and highlight treatments that do not work

(harms outweigh benefits). However, in 2016, the 'state of the evidence' for the around 3000 treatments assessed by Clinical Evidence using randomized controlled trial (RCT) evidence suggested that around 50% of treatments were categorized as 'unknown effectiveness' for specific indications. Cochrane Clinical Answers (CCAs) also aims to inform decision making by making Cochrane Review evidence more accessible and actionable and faces similar challenges regarding uncertainty. **Objectives:** To assess the 'state of evidence' for treatments assessed in 800 CCAs, using a similar categorisation to that devised by BMJ Clinical Evidence, in particular focusing on highlighting the proportion of CCAs affected by insufficient RCT data. **Methods:** An assessment of 800 CCAs covering a wide range of clinical disciplines, including Cardiology, ENT disorders, Emergency Care, Mental health and Pregnancy & Childbirth was performed. Each Answer was categorised for whether it provided guidance to: 'use treatment', 'use treatment but some caveats', 'do not use treatment', or 'treatment effectiveness unknown'. **Results:** Initial results based on 200 CCAs suggest some parity with the results of BMJ Clinical Evidence, with 29% of CCAs giving guidance to 'use treatment', 32% suggesting 'use treatment but some caveats' (as to how/when to use or doubts about the strength of the evidence), 2% suggesting 'don't use', and 38% with treatment effectiveness unknown; 800 CCAs will be assessed by August 2016. **Conclusions:** CCAs are a great tool to filter the vast amount of data from Cochrane Reviews and the RCTs they summarise to make it easier for healthcare professionals to apply high-quality evidence when managing patients. However, there are many questions for which we do not have a clear answer, where the main strength of CCAs is to highlight quickly that clinicians need to apply expert judgement and non-randomized evidence.

P116: The effective and safety of mailuoning injection for ischemic stroke: systemic review and GRADE approach

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Background: While mailuoning injection has been regarded as having a potential role in treating patients with ischemic stroke, the reported findings are inconsistent. These discrepancies may be a direct result of variations in the measurement of ischemic stroke or definitions of response to mailuoning injection treatment. **Objectives:** To assess the clinical effectiveness of mailuoning injection for patients with ischemic stroke. **Methods:** We searched the Cochrane Library, MEDLINE, Embase, CBM, Chinese TCM Database CNKI, VIP and WanFang Database, for randomised controlled trials (RCTs) of mailuoning injection and conventional treatment up to 31 January 2016. Studies in which patients suffered intracerebral haemorrhagic stroke were excluded. Two reviewers identified clinical trials for inclusion, assessed quality, and extracted data independently. **Results:** We identified eight relevant RCTs involving a total of 701 participants, who were divided into mailuoning injection groups (368 participants) and conventional treatment groups (333 participants). The results of meta-analysis showed that the mailuoning injection group experienced a significant difference in clinical effects after four weeks compared to the conventional treatment group (odd ratio (OR) 0.25, 95% confidence interval (CI) 0.12 to 0.52), as well as NPNI (number of patients with neurological improvement) after four weeks (OR 0.24, 95% CI 0.12 to 0.45) (Figure1). The effect on the activity of daily living and neurological function deficits scale could not be estimated in this analysis. Applying the GRADE approach, the overall quality of evidence in this review was graded as low to moderate (Tables 1 and 2). **Conclusions:** Given the moderate quality of the evidence, we tentatively recommend mailuoning injection (if available) as a therapy for ischemic stroke, though more high-quality randomised controlled trials are needed. Moreover, the safety as well as long-term outcomes of mailuoning injection for ischemic stroke should take priority in further trials.

Attachments: Figure 1.png, Table 1.png, Table 2.png

P117: STARD for registration: establishing guidance on where and how to register diagnostic accuracy studies prospectively

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Background: The advantages of prospective registration are multiple, and include the identification of unpublished studies. Many diagnostic accuracy studies remain unpublished, but so far these studies are rarely registered. This could be caused by the existing guidance for registering trials, which mainly focuses on comparative trials of therapeutic interventions or systematic reviews. **Objectives:** To develop guidance on where and how to register diagnostic accuracy studies, thereby facilitating and encouraging informative registration. **Methods:** Two surveys were developed based on multiple-choice questions, each with the option for further clarification in an open comment box. In survey 1, a representative of each Primary Registry in the World Health Organization's Registry Network (n = 15) and of ClinicalTrials.gov were invited to comment on their registry's policy for registering diagnostic accuracy studies. In survey 2, the STARD group members (STAndards for Reporting Diagnostic accuracy; n = 85) were invited to indicate whether or not 20 proposed protocol elements that specifically apply to diagnostic accuracy studies should be included in the registry record. A majority vote was defined as ≥ 2/3 agreement. **Results:** In survey 1, still open at the time of writing, 10/16 (63%) invitees replied; eight agreed that registration of diagnostic accuracy studies in existing trial registries is preferred over developing a registry specifically designed for these studies; five registries always accept registration of these studies, whereas five do so in some cases; one registry already provided guidance for registering these studies while eight would be willing to consider implementing a guidance document for registering these studies. In survey 2, 71/85 (84%) invitees responded. A majority vote was reached for 14 of the 20 proposed protocol elements but additional elements were also proposed. **Conclusions:** Many trial registries accept registration of diagnostic accuracy studies. The collected responses will help the development of a guidance document for registering such studies.

P118: Clinical trial registry searching: do Cochrane protocol search methods match good practice?

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Background: In systematic reviews, searching trial registries is important in detecting the risk of publication bias and indicating the breadth of ongoing trials. The Cochrane conduct and reporting standards recommend searching both ClinicalTrials.gov (CT.gov) and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) and reporting of search terms used (1,2). Compliance with these recommendations within Cochrane reviews is unknown. **Objectives:** To describe the current practices in searching trial registries in published Cochrane protocols. **Methods:** We conducted a preliminary audit of Cochrane protocols published in Issues 1 to 3 (2016) in the Cochrane Library. We extracted information on whether or not 1) the Methods section described searching CT.gov and ICTRP, 2) the Methods or Appendices reported the search terms used in CT.gov or ICTRP, and 3) the Methods or Appendices reported the search strings on either the basic or advanced search functions or both. Findings were reported as frequencies and percentages. **Results:** From 142 protocols identified, 44 were excluded due to being marked as withdrawn (36) or relating to either an overview (3) or a diagnostic test accuracy review (5). Of the 98 audited protocols, 88 (90%) mentioned searching both CT.gov and ICTRP in the methods section while six protocols intended to search either CT.gov or ICTRP. Of these 88 protocols, 30 protocols provided either search terms only (4) or search strings (26). The search strings provided in the protocols were in the form of: basic search only (8/26), advanced search only (12/26), basic or advanced search for each registry (4/26), or both basic and advanced searches (2/26). **Conclusions:** The majority of audited protocols described both CT.gov and ICTRP as part of their searching resources but did not frequently provide search terms/strings. As ongoing trial research assists us in assessing the overall completeness of the evidence, further improvements in detailing search strings for trial registries is needed.

Attachments: References.pdf

P119: Treatment of multiple test readers in diagnostic accuracy systematic reviews of imaging studies

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Background: Studies of diagnostic accuracy of imaging tests often contain multiple readers of the index test. This is done to assess inter-observer variability, or to

examine the impact of reader experience on test accuracy. Multiple readers can pose unique challenges in diagnostic accuracy systematic reviews of imaging studies. Guidance for handling multiple readers in such reviews currently does not exist. **Objectives:** To evaluate the handling of multiple readers in diagnostic accuracy systematic reviews of imaging studies. **Methods:** MEDLINE was searched for systematic reviews published in imaging journals between Jan 2005 and May 2015 that performed meta-analysis of diagnostic accuracy data. Handling of multiple readers was extracted and classified. We determined the incidence and reporting of multiple reader data in primary diagnostic accuracy studies from a random 10% subset of included reviews. **Results:** 28/296 (9.5%) included reviews specified how multiple readers were handled: 7/28 averaged the results from multiple readers within a primary study, 2/28 included only the best reader, 14/28 treated each reader as a separate data set, 1/28 randomly selected a reader, and 4/28 used another strategy. A sample of 27/268 of reviews that did not report methods for handling multiple readers yielded 442 primary studies. 270/442 (61%) primary studies had multiple readers: 164/442 (37%) reported consensus reading, 87/442 (20%) reported inter-observer variability statistics, and 9/442 (2%) reported independent datasets for each reader. Of these reviews, 26/27 (96%) contained at least one primary study with multiple readers, and 8/27 (30%) contained at least one primary study with independent data sets for multiple readers. **Conclusions:** Reporting how multiple readers from primary studies were treated in systematic reviews of imaging is uncommon. When reported, strategies vary widely; this is likely related to the lack of guidance and the lack of an optimal statistical method. Until such methods are developed, authors are encouraged to report the method used to analyze multiple readers so that the potential bias introduced by their chosen strategy is apparent.

P120: Characteristics of the reporting of funding by trial authors: a systematic survey of 200 randomized controlled trials

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Background: Systematic reviewers are expected to collect information about the funding of trials included in their reviews. **Objectives:** To assess the reporting of funding in randomized controlled trials (RCT). **Methods:** Using standard systematic review methodology, we surveyed clinical RCT reports published in 2015 in any of the 119 Core Clinical Journals. We extracted data on whether the authors disclosed trial funding. We assessed whether authors explicitly reported the source of funding and role of funder as involved or not involved in specific trial phases. We categorized the sources of funding as 'internal and external funding', 'including government', 'private for profit', 'private not for profit with evidence of support by private for profit that is a healthcare industry', 'private not for profit with evidence of support by private for profit that is not a healthcare industry', 'private not for profit with no evidence of support by private for profit'. We assessed whether trials on pharmacological or surgical interventions reported on who supplied the medication or device. **Results:** Of the 200 RCTs examined, 89% included a funding statement. Of these, 96% reported the existence of funding. The most commonly reported sources of funding were government and private for profit (58% and 40% respectively). The majority of RCTs (59% to 99%) did not provide a statement on the role of the funder. We identified descriptions of a total of 22 different roles of the funder. The most frequently reported roles related to the design of the study (42%); data collection (27%); data analysis or management (41%); manuscript preparation (32%); decision to submit the manuscript (15%), and conduct of the study (15%). Of 139 RCTs on pharmacological or surgical interventions, 29 (21%) reported information on the supplier of the medication or device. Based on the findings, we propose a framework for the reporting of funding. **Conclusions:** Although the majority of RCTs report trial funding, there is considerable variability in the funding disclosures. A standardized approach to reporting of trial funding would help systematic reviewers assess their significance better.

P121: Reporting of financial and non-financial conflicts of interest by authors of health policy and systems systematic reviews: a methodological survey

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Background: Transparency International defines conflict of interest (COI) as a "situation where an individual or the entity for which they work, whether a government, business, media outlet or civil society organization, is confronted with choosing between the duties and demands of their position and their own private interests". **Objectives:** Since conflicts of interest have the potential to bias decisions made by health policymakers and stakeholders, the objective of this study is to assess the frequency and types of COI disclosed by authors of systematic reviews on health policy and systems. **Methods:** We have initiated a methodological survey using standard systematic review methodology. We searched the Health Systems Evidence (HSE) database, which is a comprehensive and continuously updated database of systematic reviews for health systems and policy topics. We defined a COI disclosure as the reporting of whether a COI exists or not (i.e. includes a statement of the absence of COI). For the classification of COI, we have adapted a framework previously used in studies assessing COIs reported by authors of clinical systematic reviews and randomized controlled trials. We will refine the framework based on the findings of this study. **Results:** We are currently in the screening phase of the study. At the Colloquium, we will present the results of descriptive and regression analyses. **Conclusions:** The findings of this study will contribute to improving the reporting of conflicts of interest in systematic reviews of health policy and systems, which are increasingly providing the basis for decision-making by health policymakers and stakeholders.

P122: Future journalists learning about Cochrane and evidence-based health care (EBHC)

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Background: The mission of Cochrane South Africa includes dissemination of information on Cochrane and EBHC to broad stakeholders, including the public. An obvious dissemination channel is the media. We targeted journalism students to introduce them to EBHC, systematic reviews, the Cochrane Library and other resources. Objective: To increase the knowledge of journalism students about EBHC, systematic reviews and Cochrane. **Methods:** Emails were sent to 22 convenors of journalism and media studies courses. Responses were received from the main departments of journalism - the Universities of Stellenbosch (US), Rhodes and the Witwatersrand. The US indicated immediate interest in a workshop for their Journalism Honours students. This was used to pilot the concept and materials. Two two-hour sessions were organised at the Department of Journalism with a month's gap allowing students to complete an assignment. Learning techniques included interactive lectures, videos, case scenarios, exercises, demonstrations and group work. In session one students were introduced to a case scenario and coached on how to use the steps of EBHC to find the review; and, developed plans in groups for using the evidence for print media, TV, radio and Twitter. A media-tailored assignment was developed in which six topics were provided and the students were asked to prepare feedback on the steps undertaken to find the information, the findings, and their plan for using this in a story. At session two volunteers presented their work for discussion. The way forward: Introducing young journalists to EBHC and Cochrane may encourage the next generation of science writers to seek and use best evidence. This piloted programme can be shared with Cochrane trainers and rolled out to other media-training institutions.

P123: Measuring costs of randomized clinical trials: development of a standardized tool

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Background: High quality evidence from randomized clinical trials (RCTs) comes at high costs. In the resource restrained academic setting, thoughtful allocation of financial resources for an RCT is, therefore, a crucial task. However, published estimates of RCT costs and empirical evidence on cost drivers of RCTs in different disciplines and settings are sparse. A commonly accepted, standardized format for cost calculations and estimates of associated unit costs of RCTs would facilitate learning processes in effective budget planning for RCTs. **Objectives:** To: 1. create a comprehensive standardized list of direct and indirect RCT cost items; and 2. to determine the unit costs as well as the average/mean total cost of completed academic RCTs in Switzerland and internationally. **Methods:** Based on a systematic literature review (MEDLINE/Embase), a systematic search of the internet

(websites and any linked information), and templates from two institutions conducting clinical research in Switzerland, a comprehensive, standardized list of direct and indirect cost items associated with all phases of RCTs was compiled and validated by experts until consensus was reached. Thereafter, it was restructured into a user-friendly, adaptable tool. To determine the actual unit costs associated with each cost item in academia, experts from academic research institutions were surveyed and cost data was aggregated by disease area. **Results:** At the time of the Colloquium, we will present an evidence-based, validated, comprehensive, and user-friendly costing template for RCTs in the academic setting. Cost items are stratified by direct and indirect costs at the level of modules, work packages, and items. We will also present actual unit costs and cost ranges associated with RCTs stratified by disease area. **Conclusions:** To our knowledge this is the first study to develop a validated standardised tool for costing of RCTs and to systematically collect unit costs of academic clinical research. This evidence base will serve to identify major cost drivers, support efficient allocation of scarce resources, and improve trial planning for more cost-efficient academic research.

P124: Optimal long-term care strategies for elderly people in China: an overview of reviews

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Background: The number of elderly people, and their need for long term care (LTC), is increasing in China. China lacks skilled caregivers to face the increasing burden and special challenges. **Objectives:** To summarize evidence from, and assess the quality of, published systematic reviews evaluating the long-term care strategies for elderly people, and to provide the optimal policy options for healthcare of elderly people in China. **Methods:** We identified systematic reviews of randomised controlled trials or observational studies published in English and Chinese that evaluated the effectiveness of long-term care strategies for elderly people. We first searched the Health System Evidence (HSE), Epistemonikos, the Cochrane Library, MEDLINE, Embase, Web of Science, OVID EBM Reviews, the Campbell Library, CBM, CNKI and WanFang Data databases, and also handsearched the reference lists of the papers we found. The methodological quality of systematic reviews was independently assessed by two reviewers using the AMSTAR checklist. After group discussion, we provided the optimal policy options for elderly people in China. **Results:** We identified 4838 publications, of which 40 systematic reviews met our inclusion criteria. We provided four policy options based on 16 reviews after group discussion. One of the four policy options was: to choose an appropriate long-term care strategy according to specific situations. We will report other options at the 24th Cochrane Colloquium. **Conclusions:** Policy makers can make use of the results of overviews of systematic reviews to make effective policies on long-term care strategies for elderly people. Also, they should consider the potential implementation barriers by reviewing the literature and conducting policy dialogue.

P125: PCSK9 monoclonal antibodies for the primary and secondary prevention of cardiovascular disease

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Background: Despite the availability of effective therapies for reducing low-density lipid-cholesterol (LDL-C), atherosclerotic cardiovascular disease (CVD) remains an important source of mortality and morbidity. By inhibiting the proprotein convertase subtilisin/kexin type 9 (PCSK-9) enzyme, using monoclonal antibodies (PCSK9 inhibitors) further LDL-C reduction may be achieved, potentially decreasing CVD risk as well. **Objectives:** To quantify the short- (24 weeks), medium- (one year), and long-term (five year) effects of PCSK9 inhibitors on lipids, CVD risk, and safety. **Main results:** We included 17 studies, with data on 13,341 subjects, which consisted primarily of older patients (median age 60.21 years) with a history of CVD (73%), and elevated LDL-C (median 125.83 mg/dL). PCSK9 inhibitors were associated with a decrease in LDL-C (-45.70% (95% CI -52.40 to -39.01)), Apolipoprotein B (-35.15% (95% CI -43.86 to -26.45)) and lipoprotein [a] (-18.50% (95% CI -22.88 to -14.12)), and with an increase in HDL-C (6.44% (95% CI 4.57 to 8.32)), and apolipoprotein A1 (4.55% (95% CI 3.04 to 6.06)). This effect was consistent over 6 months and 1-year follow-up. PCSK9 inhibitors decreased all-cause mortality (OR 0.42 (95% CI 0.24 to 0.74)), which was potentially in part due to decreased odds of any CVD (OR 0.82 (95% CI 0.63 to 1.07)) or any MI (OR 0.73 (95% CI 0.45 to 1.21). Subjects randomized to PCSK9 inhibitors reported a higher incidence of any adverse event (OR 1.11 (95% CI 1.02 to 1.21)), partly due to an increase odds of influenza (OR 1.21 (95% CI 0.99 to 1.48)) or possibly myalgia (OR 1.10 (95% CI 0.90 to 1.35)). The risk of bias assessment was low for biomarker endpoints. However, due to the inclusion of open label trials the risk of bias was perceived to be higher for clinical endpoints such as CVD or adverse events. **Authors' conclusions:** Over short to medium follow-up PCSK9 inhibitors reduce LDL-C, apolipoprotein B, lipoprotein [a], and increased HDL-C and apolipoprotein A1. PCSK9 inhibitors seemed to reduced mortality risk, which was potentially related to a decrease in CVD risk; however, this needs additional confirmation in longer follow-up blinded RCTs.

Attachments: Document1.pdf, Document2.pdf

P126: HBsAg level is an important predictor of HCC in low risk HBV carriers: evidence-based analysis

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Ask an answerable clinical question: Hepatitis B virus (HBV) is one of the most common pathogens and infects about 4 million people worldwide. During its natural course, chronic HBV infection leads to the development of hepatocellular carcinoma (HCC). The risk of HCC increases when HBV DNA levels are more than 2000 IU/mL, and patients with low viral loads (HBV DNA < 2000 IU/mL) are usually defined as low-risk HBV carriers. However, results from a recent cohort indicated that the prognosis of low-risk patients is variable. The primary aim is to explore whether HBsAg level is associated with increased risk of HCC in low risk HBV carriers. **Acquire best evidence:** We converted the clinical question to P: low-risk HBV carriers; I: hepatitis B surface antigen; C: routine; O: hepatocellular carcinoma. The numbers of articles identified were: Up To Date: 0, Cochrane Library: 11, PubMed: 156, Ovid: 98 and Index to Taiwan Periodical Literature System: 81. **Appraise the validity and usefulness of the evidence:** We used the Critical Appraisal Skills Programme (CASP) to appraise these articles, and the articles of evidence level 1 are as follows: 1. Effect of serum hepatitis B surface antigen levels on predicting the clinical outcomes of chronic hepatitis B infection: a meta-analysis 2. High levels of hepatitis B surface antigen increase risk of hepatocellular carcinoma in patients with low HBV load. The results show that high HBsAg levels (>1000 IU/mL increase the risk of HCC occurrence (odds ratio 2.21, 95% CI 1.52 to 3.22; P < 0.01) compared with low HBsAg levels (< 1000 IU/mL). Apply the result in clinical practice: The elevated HBV DNA and HBsAg levels correlate with the development of HCC. HBV DNA level played a minimal role in predicting HCC in HBV carriers of DNA levels < 2000 IU/mL, whereas HBsAg level retained its predictive power. HBsAg level < 1000 IU/mL can be an indicator of lower risk of HCC. Patients with HBV DNA < 2000 IU/mL and HBsAg level below 1000 IU/mL were associated with a 2% incidence of HCC in 20 years compared with 8% for HBsAg level > 1000 IU/mL. In clinical practice, the monitoring of serum HBsAg levels may serve as a useful biomarker.

Attachments: HBsAg level is an important predictor of HCC in low risk HBV carrier evidence-based analysis.jpg

P127: Chinese doctors' awareness of evidence-based medicine and acquisition of evidence-based practice skills: the status quo

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Background: Since the introduction of evidence-based medicine (EBM) into China by forerunners from the West China Medical University in the 1990s, continuous efforts have been made to disseminate EBM and evidence-based practice (EBP) in the Chinese medical system. Before EBP becomes part of routine clinical encounters, doctors need to be conscious first of concepts, and then grasp skills. Knowing how this process has been achieved helps inform policy-makers and educator of the ways ahead. **Objectives:** To examine the status quo (current situation) of the Chinese doctors' awareness of EBM, their acquisition of EBP skills, and use of EBP in daily work. **Methods:** We searched two Chinese-language electronic databases for studies surveying the Chinese doctors' knowledge and skills of EBM or the extent to which they practice EBM in daily work. **Results:** Twelve cross-sectional surveys undertaken between 1999 and 2014 involving 5239 doctors were included. Qualitative synthesis of statistics showed that: 1. the Chinese doctors' general awareness of EBM has increased from 20% to around 60% over the past 15 years; 2. self-perceived acquisition of basic EBP skills such as formulating a clinical question, searching the literature and understanding risk ratios improved from none to 50%; 3. the development of EBM education was not balanced nationwide - for most doctors in provinces such

as Liaoning and Hainan the term EBM is still fresh; 4. EBP is far from being part of daily work for Chinese doctors, as experience-based medical decision-making dominates; 5. it is indicated the gap between evidence and medical practice based on experience might lead to divergent health outcomes and have significant implications. **Conclusions:** The development of EBM education in China is rapid, but imbalanced. Policy and education support is needed to implement EBP in the medical system. Moreover, tests for evaluating EBM knowledge and EBP skills should be developed to allow objective assessment of these abilities.

P128: Impact of National Institute for Health Research Cochrane Incentive Scheme on the time to deliver Cochrane Reviews

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Background: For the past decade, the Department of Health in England has funded an annual incentive scheme through the National Institute for Health Research (NIHR) whereby small payments (generally £5000 per review) were offered to Cochrane Review Groups for updating an existing Cochrane Review or preparing a new one to an agreed, accelerated timetable. Approximately 20 awards have been made per year, on the basis of 50-70 proposals. **Objectives:** To examine the impact of the awards through: 1. proportion of reviews completed to the agreed timetable; 2. comparison of time taken to complete reviews selected for an award versus those that were proposed but not selected; 3. case studies showing the impact of the funded reviews. **Methods:** The time from commissioning the selected reviews in each year to the publication of their next stage (updated or new, as appropriate) in the Cochrane Library will be compared for those selected for an award versus those that were proposed but not selected. The proportion of selected reviews that were completed to the agreed timetable will be presented, and contrasted with the proportion of the other reviews that were completed in a similar timescale. Examples of how funded reviews have influenced policy and practice in health and social care in the UK will be presented. **Results:** Analyses are ongoing and will be presented at the Cochrane Colloquium. Preliminary analysis suggest that the NIHR incentive awards might have had a substantial impact in reducing the time taken to prepare a new Cochrane Review or to update an existing one. **Conclusions:** Conclusions will be presented at the Colloquium, but are likely to highlight the benefits of this unique funding scheme for accelerating the production of Cochrane Reviews.

P129: Information needs and priority setting for Cochrane Insurance Medicine (CIM):an international stakeholder survey

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Background: In line with Cochrane's Strategy to 2020, and as a new Cochrane Field located in four countries, we need to learn more about the information needs of our international stakeholders. We need to accommodate our priorities to their information needs and provide tailored products for their work in areas such as disability evaluation, assessment of risks and prognosis, and return to work. **Objectives:** To perform an online survey to determine the current use of scientific information among professionals in insurance medicine (IM), their information retrieval behaviour, familiarity with evidence-based medicine (EBM), Cochrane, and information needs arising from their daily work. **Methods:** CIM-members with different backgrounds in IM from all member countries determined the focus of the survey and drafted questions based on Cochrane, EBM, and typical IM topics. The most appropriate questions were selected after consensus for the final survey. A preliminary version of the survey was tested at the 2015 Dutch International Congress on Insurance Medicine. The final survey was piloted among IM professionals from all countries in which the survey was anticipated to run, and refined according to feedback, resulting in a 26-item questionnaire with free-text options. We will disseminate the survey through two international networks: EUMASS (European Union of Medicine in Assurance and Social Security) and ICLAM (International Committee for Insurance Medicine, worldwide), and self-selected national organisations (e.g. German national pension scheme; The Finnish Social Insurance Institute). We anticipate completion of the survey in mid-July 2016. **Results:** We will present the results of our survey at the 2016 Cochrane Colloquium in Seoul. **Conclusions:** We expect to understand the pattern of evidence-seeking behaviour of our audience better, and the factors enabling and hindering the use of information. We will learn about medical areas and topics for which stakeholders require more and/or better evidence, and stakeholders' familiarity with and their expectations regarding Cochrane.

P130: How do authors of diagnostic test accuracy (DTA) reviews disseminate their findings after publication? A mixed methods study

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Background: Published literature shows that healthcare workers and decision makers find it difficult to read and understand diagnostic test accuracy (DTA) reviews. Review authors should think about their target audience, and strategies to reach that audience. **Objectives:** To identify strategies used by authors to communicate and disseminate the findings of DTA reviews after publication. **Methods:** We searched MEDLINE for English language DTA reviews published within the last five years that evaluated the accuracy of tests on any infectious disease. We designed an online questionnaire using the software SurveyMonkey and emailed the final questionnaire to the corresponding authors of the included DTA reviews, including two email reminders to non-respondents. We analysed the survey responses descriptively with the analyse function of SurveyMonkey. **Results:** Of the 186 authors of DTA reviews we contacted, 34 authors responded to this survey (18% response rate) and 22 are willing to be contacted for a follow-up interview. Most of the respondents were aware of efforts to disseminate their review findings after publication (n = 22, 65%). Of those who were not aware (n = 12, 35%), many felt that publication of their review was sufficient (54%). A majority of those who disseminated their findings initiated the dissemination (59%); mostly to clinicians (95%), fellow researchers (77%) and policy makers (59%). Many respondents did not tailor their review summaries to the target audience (52%) and were unsure if the audience understood their review findings (67%). Many respondents did not have a dissemination plan a priori (72%) and a majority (45%) stated that they found the assessment of methodological quality most difficult to explain. Few respondents used social media (29%). **Conclusions:** As most DTA review authors were unsure if their review findings would be understood by the target audience, a description of target audience and a dissemination plan should become part of DTA review or funding proposals. In this ongoing study, we plan to conduct a follow-up in-depth interview to everyone who indicated willingness to be interviewed in the survey.

P131: Teaching systematic review methods to a massive, open, and online audience

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Background: Massive open online courses (MOOC) have potential to educate a global audience in understanding the foundational methods of evidence-based healthcare. **Objectives:** To describe our experience of providing individuals worldwide with an educational opportunity to learn about systematic reviews and meta-analyses. **Methods:** Faculty and staff at Cochrane United States offered a MOOC entitled 'Introduction to Systematic Review and Meta-analysis' through Coursera, an educational technology company that launched in 2012. The course is open access and free of charge, and learners can enroll to become eligible for a verified certificate for USD 49 ('signature track'). We prepared nine one-hour video modules, which learners viewed and completed over a six-week period. We also prepared two peer-graded assignments. Two teaching assistants facilitated the discussion forum. At the end of the course, learners completed an anonymous survey that Coursera generated. The inaugural course took place between 13 July and 22 August 2015. **Results:** Over 12432 learners from 161 countries enrolled in the inaugural course. Most learners (80%) were based outside of the USA, and 44% were connecting from emerging economies. There were 669 participants (5%) on the signature track. Many learners used the discussion forums to find potential collaborators for their own systematic reviews; others shared further in-depth readings with their peers. A large proportion of survey respondents found the course 'extremely or very helpful' for advancing long-term careers. **Conclusions:** MOOCs provide open access and virtually free education to a large-scale audience. Our experience with this inaugural course has led us to offer the course on a high-frequency basis (beginning 21 March 2016), now

self-paced but structured by suggested deadlines to help keep learners on track. We will also ask to have our course available with subtitles in other languages. By increasing accessibility to information about how to conduct systematic reviews, we aim to impact synthesis and critical reading of the available evidence, and thereby promote an evidence-based approach to heath care.

P132: A systematic review on compliance with QUADAS-2 application guideline

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Background: QUADAS-2 is recommended for use in diagnostic accuracy (DTA) systematic reviews to evaluate the risk of bias and applicability of the primary studies. To ensure appropriate application, a four-phased approach has been recommended. However, in practice reviewers may use the standard signalling questions to assess the study quality directly without adopting the four-phase approach. This may bias the conclusion of quality assessment. **Objectives:** To investigate the compliance with the QUADAS-2 application guideline on the four-phase approach in DTA systematic reviews. **Methods:** We performed a comprehensive literature search in MEDLINE, Embase and Cochrane Library to identify eligible DTA systematic reviews using QUADAS-2. Reviews including less than 10 studies and protocols were excluded. Data on four key domains were extracted together with the information of QUADAS-2 implementation. The compliance rates were quantified and compared between Cochrane and non-Cochrane systematic reviews. **Results:** We identified 94 eligible studies, 18 of which were Cochrane DTA systematic reviews. Around 62% of the index tests were subjective assessments, of which 59% were diagnostic imaging tests. In contrast, most of the objective index tests were laboratory tests (75%). As suggested in the QUADAS-2 guideline, appropriate review-specific tailoring is essential for objective index tests as some of the signalling questions are not applicable. However, only 39% of the studies modified the appraisal questions accordingly. Furthermore, 37% of the studies failed to report a clear rating guideline. Generally Cochrane DTA reviews performed better compared to non-Cochrane reviews, in terms of clear description of rating guideline (prevalence ratio (PR) 1.57, 95% CI 1.22 to 2.03) and appropriate tailoring (PR 1.85, 95% CI 1.22 to 2.03). **Conclusions:** Although QUADAS-2 has been published for over five years, many reviewers still use its default version and do not adhere to the recommended four-phase approach. There is need for a greater awareness of appropriate implementation of QUADAS-2 amongst systematic reviewers, journal editors and peer reviewers.

P133: The pros and cons of including abstracts in systematic reviews: findings from the Multiple Data Sources Study (MUDS)

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Background: Only about 60% of RCTs reported in conference abstracts (abstracts) are published in full (e.g. journal articles) and publication is associated with positive trial results. Cochrane, the Institute of Medicine and others recommend searching for abstracts to include in systematic reviews to minimize reporting biases (i.e. by identifying otherwise unpublished trials and outcomes). Objective: Our objective was to examine abstract reporting in two case examples: gabapentin for neuropathic pain and quetiapine for bipolar depression. **Methods:** We conducted electronic searches of bibliographic databases and trial registers; handsearched conference proceedings and reference lists; used materials from litigation; and accepted ad hoc notification of reports. Two independent reviewers performed each of these tasks with disagreements handled by discussion: screening of citations, reading full text for eligibility, and extraction of data. Results were stored in Systematic Review Data Repository. We compared abstract data with aggregate data from public (e.g. journal articles) and 'hidden' sources (e.g. clinical study reports). **Results:** We identified 21 and seven trials about gabapentin and quetiapine, respectively. Sometimes we found it difficult to assign a report to one trial. Not all trials had been registered and no relevant data were present when they had. We identified one trial for each example only through ClinicalTrials.gov. We found one trial reported only in an abstract, and it lacked essential information about the intervention and comparator groups, risk of bias, and results. Most abstracts did not contain meta-analyzable data (16/20 gabapentin; 15/20 quetiapine), frequently containing little information about number of groups, participants, interventions and comparators, and study duration. Abstracts and journal articles sometimes reported different information about the same trial, leading to ambiguity about unique trial identification. **Conclusions:** In the two examples we examined, abstracts alone may present insufficient information to contribute to a systematic review or meta-analysis, and may contribute to double-counting of trials.

P134: Insurance medicine outcomes in Cochrane Reviews

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Background: Professionals in insurance medicine (IM) need easy access to scientific evidence to help them make informed decisions. Currently, IM professionals complain about challenges in retrieving relevant studies, including Cochrane Reviews. **Objectives:** To identify types and frequency of IM outcomes reported in Cochrane Reviews; and to suggest approaches to improve retrieval of Cochrane evidence for IM professionals. **Methods:** Based on the EUMASS (European Union of Medicine in Assurance and Social Security) classification of key topics in IM (sick leave certification; work disability assessment; return-to-work; assessment of causality), a group of IM experts defined, piloted and refined IM related outcomes. We classified them as narrow (e.g. return to work), broad (like hospitalisation) or cost-only (i.e. cost was the only IM outcome), depending on their proximity to the core content of IM. Next, we identified review groups with a focus related to IM. We screened to what degree reviews of these groups contained IM outcomes and whether these outcomes were primary (I°) or secondary (2°). We report frequency according to outcome (I°; 2°; narrow, broad) and review group. We tagged all reviews with the topic 'Insurance medicine' independent of outcome type. **Results:** We identified 486 of 1564 (31%) screened reviews from 15 review groups as relevant to IM and classified them by key topic. Narrow-IM outcomes were found in 30% (149/486) of reviews, 75 of which were I° outcomes. 281/486 reviews (58%) included broad-IM outcomes (I°: n = 61), 63/486 (4%) reviews considered costs only (I°; n = 5). Altogether, in 141/486 (22%) reviews the I° outcome was related to IM. Most reviews with IM outcomes came from the following groups Schizophrenia (n = 136/486), Heart (n = 54/486), Common Mental Disorders (n = 50/486), Neuromuscular (n = 45/486), and Back & Neck (n = 39/486). **Conclusions:** One-third of Cochrane Reviews with interventions in the proximity to IM include IM related outcomes, 22% as I°, 78% as 2° outcomes. Tagging with the topic 'Insurance Medicine' in the Cochrane Library would facilitate retrieval by IM professionals searching for such outcomes.

P135: Just because it's 'new' doesn't mean it's 'better' - an interactive method for teaching randomized trial design

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Background: Randomized trials underpin important healthcare decisions. A challenge that evidence producers face is that people without formal training may have difficulty understanding good design principles or interpretation of the evidence. Primary or secondary school may be an opportunity to teach basic concepts of randomized study designs. **Objective:** To teach middle school students about trial design and use evidence to determine whether KitKats sold in the USA or those sold in the UK are 'better'. **Methods:** To prepare for the class exercise, we removed KitKats from their wrapping, divided bars into 5.25 g morsels, and covered them in aluminium foil to mask the candy. Classes included students enrolled in three 8th grade science classes at a Baltimore public school. We started with a discussion of how to conduct a fair test. We randomized students to two groups: those assigned to consume USA KitKats first and those to consume UK KitKats first. Students drank a cup of water as a 'wash-out' before consuming the alternate candy. Using paper forms, students assigned each candy three separate scores for freshness, chocolate-iness, and deliciousness, using a Likert scale from 1 (lowest) to 5 (highest). **Results:** Sixty-three students and 12 facilitators participated. On average, students favored USA KitKats, rating them as fresher, more chocolatey and more delicious than UK KitKats, irrespective of treatment sequence. During the exercise, we discussed why students could not choose which KitKat to eat first (randomization), why the candies were wrapped in foil (masking), why they needed water between KitKats (washout) and how to define 'better' (outcomes). Despite our attempt at masking, some students noticed differences in logos and color. **Conclusion:** Follow-up discussion with the classroom teacher verified that this interactive exercise helped students understand the principles of conducting a randomized trial. Strengthening students' abilities to recognize reliable research and the potential for using trials to test treatments contributes towards sharing knowledge and minimizing challenges to evidence-based healthcare.

P136: Development of the Iberoamerican Clinical Trials and Journals Database: BADERI

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Background: The Iberoamerican Cochrane Centre (IbCC), in collaboration with the Iberoamerican Cochrane Network, promotes a project aiming to identify, via handsearching, controlled clinical trials (CCT) published in Spain and Latin America. The completion of this initiative entails some logistical challenges, such as coordinating handsearching teams in different countries and institutions, tracking completed work to avoid duplication, and classifying and storing the CCTs identified. **Objectives:** To develop an internet-based platform from which handsearching activities can be coordinated. **Methods:** BADERI was designed at the IbCC with the input of experts from different fields. The development of the platform was contracted to an IT company. We intended to create a free, internet-based tool that would serve as a repository of the journals that have been handsearched, the number of articles reviewed, and the CCTs identified and their main characteristics. All data had to be stored in a way that allowed future retrieval for analysis and submission to the Cochrane Central Register of Controlled Trials (CENTRAL), when appropriate. The development of BADERI was partially funded by the 2014 Cochrane Discretionary Fund. **Results:** BADERI is operative and can be accessed at www.baderi.com/login.php (login and password assigned upon request). Currently there are 5238 references to CCTs from 391 journals and 13 countries; 3384 of these references have been submitted to CENTRAL. BADERI grants users different capacities depending on the role they play: there are two global Administrators and several Local Administrators who oversee the work of reviewers (distributed per country and/or medical specialty). Progress reports are downloaded in Excel spreadsheets, which can be converted into PROCITE format. A search engine was built in for finding articles per topic (free text search of titles), author, or journal. **Conclusions:** BADERI is a valuable tool for coordinating and monitoring the handsearching activities currently underway while facilitating the participation of reviewers who work from remote locations.

P137: Identification of nursing journals in Spain and Latin America

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Background: An important proportion of biomedical journals from Spain and Latin America are not indexed in any major biomedical literature databases. It is therefore difficult to identify them in order to search comprehensively, electronically or by handsearching, for controlled clinical trials (CCT) that they have published. **Objectives:** To identify all nursing journals published in Spanish, both in Spain and Latin America, in order to analyze and describe their main features. **Methods:** All nursing journals that publish original clinical research papers were eligible. We searched MEDLINE, LILACS, SciELO, Latindex, and Redalyc, as well as databases and lists that focus specifically on Nursing journals (Cuiden Citación and the Pan American Health Organization Directory of Nursing Journals). The initial list of the identified journals was sent to active members of the Iberoamerican Cochrane Network in each country, who then reviewed national catalogues, library collections, and other sources in order to verify, correct, and complement the list of identified journals. **Results:** A total of 97 eligible nursing journals were identified. Most were from Spain (58, 60%), followed by Colombia (12, 12%), Mexico (9, 9%), Uruguay (4, 4%), Chile (3, 3%), Peru (3, 3%), Argentina (2, 2%), Costa Rica (2, 2%), Cuba (2, 2%), and Panama (2, 2%). Results will be presented by country, specialty, database, and activity period. **Conclusions:** There is a large number of nursing journals that may publish CCTs, however, most are not indexed in major bibliographic databases. This list of nursing journals we identified could be a useful resource when conducting handsearching activities in order to identify CCTs that otherwise would not be retrieved.

P138: The investigation on evidence support of proprietary Chinese medicine in 2015 National List of Essential Medicines

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Background: As one of the basic means for guiding clinical medication, the National List of Essential Medicines provides guidance for clinical physicians about the ways to take medicine. The 2015 National List of Essential Medicines contains 184 kinds of proprietary Chinese medicine, which accounts for 37.2% of all essential medicines. However, the situation of these proprietary Chinese medicine in the clinical guidelines is unclear. **Objectives:** To investigate the situation of the proprietary Chinese medicines in the 2015 National List of Essential Medicines in the clinical guidelines. **Methods:** 1. Analyze the classification of proprietary Chinese medicines and listing indications in 2015 National List of Essential Medicines. 2. Search CNKI, WANFANG DATA, CBM for clinical practice guidelines which were published in Chinese periodicals. 3. Look up relevant clinical practice guidelines, and analyze the situation of these proprietary Chinese medicines in clinical practice guidelines. All processes were completed independently by two researchers and then checked reciprocally. When meeting non-conformity, we would discuss or consult the third researcher. **Results:** The 2015 National List of Essential Medicines contains 184 kinds of proprietary Chinese medicines for treating 54 diseases. The results of the database retrieval contained 248 themes and 425 Chinese clinical practice guidelines. According to the results, only 34 (18%) kinds of proprietary Chinese medicines are recommended in the guidelines, and these are recommended 89 times. The five most frequently recommended medicines are: Shengmaiyin (nine times, 10%), Qingkailing injection (seven times, 8%), Huoxiang Zhengqi (six times, 7%), Liuwei Dihuang Wan (five times, 6%) and Xuefu Zhuyu Wan (five times, 6%). The top two proprietary Chinese medicines that correspond with clinical practice guidelines theme are Huoxiang Zhengqi (six times, 7%) and Liuwei Dihuang Wan (five times, 6%).
Conclusions: Only a minority of the proprietary Chinese medicines in the National List of Essential Medicines were recommended in relevant themed guidelines.

Attachments: The Investigation on Evidence Support of Proprietary Chinese Medicine in 2015 National List of Essential Medicines.pdf, The Investigation on Evidence Support of Proprietary Chinese Medicine in 2015 National List of Essential Medicines.pdf

P139: Utilization of trial registry records and randomized controlled trial study protocols in Cochrane Systematic Reviews of interventions: a content analysis

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Background: Trial registry records and published randomized controlled trial (RCT) study protocols can facilitate transparency in the conduct and reporting of clinical trials. Registry records and RCT study protocols can be employed in systematic reviews to minimize bias and assist in planning for updates. Searching trial registries is mandatory for Cochrane Systematic Reviews, but guidance on the utilization of RCT study protocols and trial registry records is limited. **Objectives:** To describe how trial registry records and/or published RCT protocols are currently utilized in Cochrane Systematic Reviews of interventions. **Methods:** We will search the Cochrane Database of Systematic Reviews for systematic reviews of interventions published within the past year. Only systematic reviews of RCTs examining the efficacy of an intervention will be included. Systematic review protocols, overview of reviews, and systematic reviews of non-randomized trials, diagnostic, prognostic or methods will be excluded. A stratified random sample (using a 95% confidence level to establish sample size) of the identified reviews will be selected for screening. Articles will be reviewed for inclusion by two independent reviewers and disagreements will be resolved by consensus. A content analysis will guide the text analysis. NVivo software will be employed for the analysis (e.g. count usages of RCT study protocols, trial registry records and related terms). The terms' location(s) within the systematic review (e.g. in the search methods) and textual excerpts will be documented for descriptive analysis. Results will be compared across Editorial Review Groups. **Results:** A total of 835 systematic reviews of interventions published in the past year were identified, with the highest number from the Pregnancy and Childbirth Group and none from the Urology Group. Further results are expected by the summer of 2016.

Conclusions: The results of this review will inform the reader about current practices for utilizing registry records and protocols in systematic reviews, as well as identifying methodological gaps.

P140: Experience of developing a discussion group to understand study methods: the BECA Group (Brazilian Evidence-based Critical Appraisal group)

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Background: Many researchers have difficulties understanding study methods and this can lead to uncertainties about the conclusions presented. Increasing knowledge about methodological aspects of studies is useful to understand and critically appraise the internal validity in scientific research. **Objectives:** We describe the experience of creating a group to promote the discussion of methodological issues in scientific studies. **Methods:** In June 2013, collaborators from Cochrane Brazil voluntarily decided to create a study group to improve their capacity to assess the methods of studies critically. The BECA Group (Brazilian Evidence-based Critical Appraisal Group) started meeting weekly at Universidade Federal de São Paulo for two-hour study and discussion sessions. The meetings were broadcast through Skype so that interested participants from other Brazilian cities and from Chile could join the discussions. **Results:** From June 2013 to April 2016, we promoted 77 meetings that addressed various topics such as: Cochrane 'Risk of bias' tables, stepped-wedge study design, the AMSTAR tool, network meta-analysis, confidence intervals and P values, equivalence and non-inferiority studies, GRADE, assessment of publication bias and MECIR (Methodological Expectations of Cochrane Intervention Reviews). An average of 10 researchers participated in each meeting (range 5 to 18). The vast majority of the participants were satisfied with the experience of the BECA group and would recommend it to their peers. At this time, there are four publications as result of the discussions and there are at least four more papers in development. **Conclusions:** The meetings led to increased knowledge about methodological aspects of studies and helped participants to improve their critical appraisal of scientific publications. The group is ongoing and seeking to increase the number of participants.

P141: Individualized support for reviewers provided by Cochrane Brazil

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Background: Over the past years, Cochrane Brazil (CB) has assisted authors to develop systematic reviews through individualized support sessions for those interested in learning and understanding the Cochrane methodology, in addition to providing support for authors of ongoing reviews who need CB to clarify issues during the review process. The support is conducted by the team of researchers affiliated to the CB, and it involves all steps of the systematic review process: PICO (participants, intervention, comparator, outcomes) definition, title registration, protocol elaboration, searches in databases, conducting the review, qualitative ('Risk of bias' and GRADE assessments), and quantitative (meta-analysis) data assessments. **Objective:** To describe the assistance that was provided at the CB to Brazilian researchers, for all development steps of a Cochrane Systematic Review, during an 18-month period between October 2014 and April 2016.
Results: One-hundred and thirty-six instances of assistance were provided during the period analysed. The most frequent types of assistance provided concerned: search strategy 36% (49/136), meta-analysis 18% (25/136), and PICO definition and title registration 16% (22/136) (Graph 1). **Conclusions:** Individual assistance conducted at the CB has helped the development and quality of Cochrane Systematic Reviews.

Attachments: Graph 1. Number and themes of assistances at CB (October2014 to April2016).pdf

P142: Risk assessment of isoflavones in food supplements: a graphical approach to qualitative synthesis

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Background and objectives: In 2015 the Panel on Food Additives and Nutrient Sources added to Food (ANS Panel) of the European Safety Authority (EFSA) completed an assessment on the potential harmful effect of isoflavones from soy, red clover and kudzu root contained in food supplements targeted at peri- and post-menopausal women on the three target organs: mammary gland, uterus and thyroid. **Methods:** A systematic-review of the evidence, including both human and animal studies, was performed. Owing to the large heterogeneity of the data a formal meta-analysis was considered not to be feasible. In many of the animal studies included in our review, other endpoints were measured for their primary objectives (e.g. bone mineral density, cognitive function, behavioural patterns, etc.) and effects on uterine weight were only recorded as an ancillary measure, in many cases simply to verify the oestrogenic property of the preparations tested. The systematic collection of data on this specific endpoint within our review allowed us to generate a dataset that could be transferred into a graphical representation of the results from 42 different studies. The studies were grouped according to the type of isoflavones tested and then sorted for their duration. **Results:** The graphical representation of this evidence synthesis is presented in Figure 1. A statistically significant increase in uterine weight versus ovariectomized (OVX) control group of animals was represented as a full orange dot, the size of the dot being proportionate to the relative effect on the uterine weight compared with the control group within the same study. The bars on the left side of the figure represent the duration of each study (in days). **Conclusions:** This graphical representation can be an effective way for synthesizing evidence from a large number of animal studies reporting on the same endpoints at comparable doses. In interpreting dose-response relationships however, caution should be exercised, since in some cases default values had to be applied to convert all the doses as originally reported in the publications to mg/kg bodyweight/day of isoflavones.

Attachments: Isoflavones.pdf

P143: The barrier of evidence-based knowledge, perceived competence and training course participation in clinical nursing instructors

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Background: Clinical nursing instructors are the bridge for new nursing staff to adapt to clinical work. However, despite being skillful clinically, many clinical nursing instructors are not necessarily subject to enhancing their self-knowledge and skills to meet the rapidly changing needs in clinical teaching, especially evidence-based concepts and strategies. **Objectives:** This study was to explore the barriers of knowledge, perceived competence and participation in courses in evidence-based medicine on clinical nursing instructors. **Methods:** This was a cross-sectional study. Participants were recruited from a medical centre in Southern Taiwan and required to have clinical nursing instructors' qualifications. In addition to demographic data, our questionnaire included three parts: 1. experience of participating in evidence-based training courses; 2. perceived self-competence in evidence-based medicine (26 questions, 5-points of Likert scale), and; 3. a short form test of 10 scenarios (total score 100 points, with 10 points for each question). **Results:** A total of 224 clinical nursing instructors participated in this study. For 'experience of participation in evidence-based training courses', 58.5% had never used an evidence-based concept or strategy to write reports, and only 13.4% had participated in formal evidence-based training courses. The working units of 65.6% of participants did not hold any evidence-based training courses, while 67.4% participants had not actively participated in any training courses of evidence-based medicine in the past six months. In addition, in the perceived self-competence in evidence-based medicine survey, most items scored between 2-3 points, indicating that the level of self-perception of competence is between 25%-50%, with an average of 2.9. The average score of the short form test of scenarios was 43.1. Over 60% of clinical nursing instructors lack knowledge, self-perceived competence and active participation. **Conclusions:** This study suggests that more attention the problem that clinical nursing instructors' competence cannot be qualified to lead the new staff in the learning of empirical skills.

P144: Prognostic significance of TAZExpression in various cancers: a meta-analysis

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Background: The overexpression of hippo pathway transcriptional co-activator with PDZ-binding motif (TAZ) occurs in a variety of human cancers, but published studies on the prognostic value of TAZ expression in cancer patients remain controversial. **Objectives:** To clarify the prognosis of TAZ with overall survival (OS) and its association with clinicopathological characteristics. **Methods:** We performed a systematic literature search via PubMed, Embase, and Web of Science from inception to 1 December 2015 for eligible studies. We selected published studies investigating the association between TAZ and survival and extracted data from each eligible study. We considered the hazard ratio (HR), odds ratio (OR) and 95% confidence intervals (95% CI) to evaluate the associations in meta-analysis, we used I2 to assess heterogeneity across studies and Egger's test and Begg's funnel plot to assess publication bias. **Results:** The meta-analysis analysed 15 studies (2881 participants). Pooled results show high TAZ was significantly associated with poor OS (HR 1.82, 95%CI 1.58 to 2.11; I2 33%, P < 0.11) (Fig 1). We performed subgroup analysis between TAZ and OS. When participants were stratified according to ethnicity, sample size, sample source and staining location, high TAZ was significantly correlated with OS. However, when grouped on basis of cancer type, higher expression of TAZ yielded a worse OS in HCC (HR 2.26, 95% CI1.43 to 3.57; P 0.49) and digestive system cancer(HR 2.00, 95% CI 1.54 to 2.58; P 0.97), but not in NSCLC (HR 1.71, 95% CI 0.93 to 3.14; P 0.08) (Table 1). Investigation of the association between TAZ overexpression and clinicopathological characteristics of cancer patients found that increased TAZ expression was significantly associated with TNM stage (OR 2.56, 95% CI 1.60 to 4.11; P 0.52), tumor differentiation(OR 3.08, 95% CI 1.25 to 7.63; P 0.01), and lymph node metastasis (OR 2.53, 95% CI 1.81 to 3.53; P 0.58). **Conclusions:** Overexpression of TAZ may be a predictive factor of poor prognosis, and also associated with worse TNM stage, tumor differentiation and lymph node metastasis in cancer patients.

Attachments: Fig 1 .tif, Fig 2.tif, Table 1.pdf

P145: Effectiveness of multiple exercise of gait function on older people living in the community among young-old and old-old elderly

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Background: Exercise can help the elderly stay healthy, and it also can prevent falls and decrease disability induced through aging and chronic disease. The level of exercise interventions was different due to aging between young-old and old-old elderly. **Objectives:** To assess the effects of multiple exercise interventions on gait function in community-dwelling young-old (under 75 years old) and old-old (over 75 years old) elderly. **Methods:** We searched the following databases from inception to March 2016: Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, CINAHL, Index to Taiwan Periodical Literature System, Airiti Library, Taiwan Digital Library of Theses and Dissertations. We applied no language restrictions. We included randomized control trials that recruited community-dwelling elderly and were not restricted to any specific disease (e.g. diabetes, stroke). We also evaluated multiple exercise interventions compared with no intervention or a non-exercise intervention (e.g. regular activity), and those that measured gait and balance. Each study was appraised by two independent reviewers and assigned a level of evidence based on the modified OCEBM (Oxford Centre for Evidence-based Medicine) (2011) levels of classification, and the Critical Appraisal Skills Programme tool, CASP, was used. Extracted data were entered and analyzed using Review Manager 5.3. **Results:** Eighteen studies were reviewed with 1802 participants. We found in the meta-analysis that through the multiple exercise intervention for the community-dwelling young-old elderly (SMD -0.87 favoring exercise, 95% confidence interval (CI) -1.79 to -0.54) and old-old elderly (SMD -1.56 favoring exercise, 95% confidence interval (CI) -2.82 to -0.03) gait can be improved. **Conclusions:** This meta-analysis found that the multiple exercise intervention brought significant improvement in gait for both young-old and old-old elderly. Therefore, we also recommended arranging diverse forms of exercise for the community-dwelling elderly, that can promote gait function, reduce falls and the aging process.

Attachments: Forest plot_2.png

P146: Impact of GLP-1 receptor agonists on cancer among type 2 diabetes: a systematic review and network meta-analysis

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Background: According to the International Diabetes Federation in 2013, 387 million people are currently diagnosed with diabetes, and it is projected that this figure will rise to 592 million people worldwide living with diabetes by the year 2035. An increasing number of patients with type 2 diabetes mellitus (T2DM) are being treated with glucagon-like peptide-1 receptor agonists (GLP-1 RAs). However, some studies reported that GLP-1 could increase the incidence of cancer, so there is a need to assess the impact of GLP-1 on cancer. **Objectives:** To synthesize current evidence of the impact of GLP-1 RAs on cancer in patients with T2DM. **Methods:** The Cochrane Library, Embase, MEDLINE and Clinical Trials were searched from inception through June 2015 to identify RCTs that assessed the safety of GLP-1 RAs versus placebo or other antidiabetic drug(s) in T2DM. Odds ratios (OR) with 95% confidence intervals (CI) were estimated through network meta-analysis. Ranking probabilities for all treatments were estimated to obtain a treatment hierarchy using the surface under the cumulative ranking curve (SUCRA) and mean ranks. **Results:** We included 21 trials with 10 treatments (albiglutide, dulaglutide, exenatide, exenatide long-acting release (LAR), insulin, liraglutide, sulphonylureas (SU), sitagliptin, thiazolidinedione (TZD) and placebo). Overall, no statistically significant difference was found between GLP-1 RAs versus placebo or other antidiabetic drugs. However, the results did indicate something. Compared with placebo, albiglutide decreased the risk of cancer. Reduction in the incidence of cancer was found for albiglutide and exenatide versus insulin and sitagliptin. All GLP-1 RAs decreased the risk of cancer when compared with TZD. Finally, according to SUCRAs, SU and exenatide decrease the incidence of cancer most, while exenatide LAR and TZD had the highest risk of incidence of cancer. **Conclusions:** From the 10 treatments investigated, SU and exenatide decrease the incidence of cancer most.

P147: The use of Outcome Reporting Bias in Trials (ORBIT) classification in Cochrane Reviews

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Background: Selective reporting in trials can affect conclusions of systematic reviews. The Outcome Reporting Bias in Trials (ORBIT) tool was developed to help researchers to identify sources of selective reporting: i.e. when not all analysed outcomes are reported, selective reporting of a specific outcome, and, incomplete reporting of a specific outcome (Kirkham 2010). Its use in systematic reviews helps readers to judge reporting bias better. Objective: To describe the use of ORBIT classification in Cochrane Systematic Reviews. **Methods:** We used the search strategy ["outcome reporting bias in trials" OR "ORBIT tool" OR "ORBIT study"] in the Cochrane Library to identify protocols and publications that performed or plan to perform the ORBIT classification. We conducted descriptive statistics to describe study characteristics. **Results:** We identified 68 studies. We double checked all studies to assure the ORBIT classification was planned or used. From those, four studies were excluded and while 14 studies mentioned assessment of outcome reporting bias in trials they did not specify the use of ORBIT for this purpose. There were 29% (4/14) reviews and 71.4% (10/14) protocols. Therefore, 50 studies were included in analysis as they mentioned the ORBIT classification, 54% (27/50) were reviews and 46% (23/50) were protocols. The review groups that adopted the ORBIT classification were Cochrane Metabolic and Endocrine Disorders 54% (27/50), Cochrane Epilepsy 28% (14/50), Cochrane Eyes and Vision 10% (5/50), and Cochrane Musculoskeletal 8% (4/50). There are a growing number of publications using ORBIT classification over time (see Graph 1). **Conclusions:** There is a timid growth in the number of Cochrane Review Groups adopting the ORBIT classification in Cochrane Reviews over time. Thus, efforts to disseminate the use of this tool are needed to provide transparent conclusions regarding selective reporting bias. Reference: Kirkham JJ et al. BMJ 2010; 340.

Attachments: Graph 1.pdf

P148: Feedback on Covidence by systematic reviewers

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Background: Covidence is a web-based tool that Cochrane recommends for screening articles for inclusion in systematic reviews. Graduate students enrolled in the Systematic Reviews and Meta-Analysis course at the Johns Hopkins Bloomberg School of Public Health had the option of using Covidence in performing a systematic review, the main course requirement. Objective: To assess how well Covidence meets the needs of systematic reviewers. **Methods:** We surveyed 46 enrolled students regarding their use of Covidence, their satisfaction with Covidence features (very satisfied; somewhat satisfied; neither satisfied nor dissatisfied; somewhat dissatisfied; very dissatisfied; or not applicable), and what they would change. We calculated summary statistics and qualitatively assessed text-response questions. **Results:** Twenty-nine (63%) students responded to our survey. All of them (29/29) used Covidence to screen titles and abstracts, and they screened an average of 2365 records per person. Most students performed most of their screening on a laptop, and 15/29 (52%) used the mobile web application at least some of the time. Students expressed concern that the mobile application had different response options (Yes, No, Skip) than the version available on their computers (Yes, No, Maybe). Some students used other available features, including full-text screening (19/29; 66%), importing records (6/29; 21%), and exporting records (7/29; 24%). Most students (18/29; 62%) were very satisfied with title/abstract screening, and 9/29 (31%) were somewhat satisfied. Most students found screening and reconciliation tools intuitive. However, some found the tool for exporting records unintuitive. Students had suggestions for changes to Covidence, including ways to undo the last item screened in the event of an error; to save references that are not eligible but would provide helpful background information; and to make screening assignments to co-authors. **Conclusions:** Respondents found Covidence to be a satisfactory screening tool, including the mobile app, and made suggestions for updates. Covidence should consider adding functionality that allows for user-defined features.

P149: Gaps in the evidence-base on the effectiveness of mental health and psychosocial support interventions for people affected by humanitarian crises: an overview of systematic reviews

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Background: Addressing the mental health and psychosocial support (MHPSS) needs of people affected by humanitarian disasters is a critical component in any humanitarian aid response (Meyer 2005). In the last decade there has been a call to establish an evidence-base on the effectiveness of MHPSS programmes to address these needs, including the production of systematic reviews. **Objectives:** This meta-review aims to identify and summarise existing review-level evidence on the impact of MHPSS interventions for populations affected by humanitarian crises. **Methods:** To identify systematic reviews of MHPSS programmes we searched a range of health and social science databases, websites and references of key literature as part of a mixed-methods systematic review project. All systematic reviews evaluating MHPSS interventions reporting descriptions of their review methodology are eligible and will be judged for quality using AMSTAR. Descriptive mapping to highlight gaps in the evidence-base has been done. A meta-narrative synthesis will be conducted to summarise key contextual findings. **Results:** Of the fifteen systematic reviews included in the preliminary findings, four specifically focused on children and young people and one focused more broadly on adults and young people. Three reviews on adult refugees focused on psychological treatment interventions. Five reviewed effectiveness evidence on MHPSS programmes in armed conflicts and political violence settings, while one examined prevention and management strategies to address gender-based violence. A further review examined evidence on the effectiveness of MHPSS for chemical, biological, radiological, and nuclear events. We found no systematic reviews examining the implementation and delivery of MHPSS interventions in humanitarian settings. **Conclusions:** There is limited systematic review-level evidence on the effectiveness of MHPSS for populations affected by natural disasters. The findings of this meta-review can be valuable to policy and practice when planning future research and designing contextually relevant MHPSS interventions.

P150: Cochrane Systematic Review training for Cochrane Eyes and Vision authors

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Background: Integral to its dissemination and training goals, the US Satellite of Cochrane Eyes and Vision (CEV@US) offers a workshop twice annually that guides authors through the steps of preparing a systematic review. **Objectives:** To determine how many US-based authors of Cochrane Eyes and Vision (CEV) systematic reviews, updates, protocols, and titles have completed a CEV@US systematic review workshop and to ascertain whether workshop attendance records in Archie correspond to CEV@US workshop attendance records. **Methods:** Using the Archie database, we compiled a list of all Cochrane Eyes and Vision systematic reviews and updates, protocols, and titles published or registered between 1999 and 2016 with at least one US-based author. We extracted training information from Archie's 'Person Reports' for each US-based author associated with these reviews and cross-checked this information with our own records to determine completion of a CEV@US systematic review workshop. **Results:** We identified 75 CEV systematic reviews and updates, 21 protocols, and 8 registered titles in Archie with at least one US-based author (total=104); there were 103 total US-based authors. 'Person Reports' indicated that 62/75 (83%) CEV reviews and updates, 17/21 (81%) published protocols, and 6/8 (75%) registered titles (total=85) involved at least one author who had completed a CEV@US systematic review workshop. CEV@US workshop records indicate that 91 authors have attended a CEV@US workshop. When we cross-checked Archie with CEV@US, we found that training records for 36/91 (40%) participants had not been entered in Archie. We sent requests to all authors for which we had no attendance record to attend our next workshop. **Conclusions:** A high percentage of CEV publications and registered titles include at least one US-based author who has completed a CEV@US systematic review workshop, indicating that many authors consider systematic review training to be appropriate and needed. Archie may not reflect training attendance accurately. Routine entry of training details is required to ensure that data in Archie are up to date and standardization may facilitate completeness of records.

P151: Cultivating physician scientists by combining of 'Clinical-based PBL EBM learning' and 'Minions systematic review training camp' programmes

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Background: The promotion of evidence-based practice by junior physicians is still difficult. The reason for failure to implement evidence-based medicine (EBM) clinically is because most of the physicians are only familiar with acquiring and critical appraisal of literature, but have no way of implementing the evidence clinically. Training in asking effective clinical questions, literature searching and critical appraisal of the literature, how to conduct systematic reviews, and implementation of the evidence in clinical practice, is an important process in the promotion of evidence-based health care and the cultivation of more physician scientists. **Objectives:** To cultivate physician scientists by combining 'Clinical-based Problem-based learning (PBL) EBM learning' and 'Minions systematic review training camp' programmes. **Methods:** During the surgical practice in hospital, fifth and sixth grade medical students will participate in a 'Clinical-based PBL EBM learning' programme. Through clinical-based PBL and EBM training, students will increase their evidence-based techniques. Once a clinical issue has been brought to their attention, we will arrange a 'Minions systematic review training camp', where medical students will learn how to conduct, and conduct, a systematic review on this issue through intensive training, and then apply the evidence in clinical practice. **Results:** We combined and implemented 'Clinical-based PBL EBM learning' and 'Minions systematic review training camp' training programmes for one year. The evidence-based techniques of the medical students improved, we also successfully published a meta-analysis in SCI Biomedical Journal. We provided these results to our Department of Gastroenterology, and efficiently changed the therapeutic strategy for Helicobacter pylori eradication in patients with peptic ulcers. **Conclusions:** With regard to combined clinical-based problem-based and EBM learning, medical students are more interested in conducting a systematic review and implementing these results in clinical practice. The training programme will cultivate more and more physician scientists in the future.

Attachments: PBL-EBM-SR abstract.pdf

P152: The importance of the assessment of selective cross-over in randomized controlled trials and systematic reviews

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Background: Evidence from randomized controlled trials (RCTs) and systematic reviews (SRs) is usually taken into account when making decisions on which interventions are better to use in clinical practice. RCTs are exposed to bias when investigators offer patients enrolled in a RCT the possibility to cross over from one arm to the other one, without the switch being planned. This phenomenon is referred to as selective cross-over (SCO). **Objectives:** Our main objectives were to assess: 1. the prevalence of SCO considering the context of RCTs assessing the efficacy of therapies for breast cancer (BC); 2. whether different statistical methods provide different results, in particular when the outcome of interest is a time-to-event outcome. **Methods:** RCTs assessing the efficacy of therapies for BC patients published between January 2000 and December 2015 were searched. Different analysis methods exist, such as the intention-to-treat analysis, the censored analysis and the analysis considering the treatment as a time-varying covariate, or more complex methods, such as the inverse probability of censoring weighting analysis, the Loeys and Goetghebeur estimator, and the rank-preserving structural-failure time models. All the methods were evaluated through simulations, considering scenarios that differed in the proportion of patients crossing-over, their underlying prognosis, and the magnitude of true treatment effect. **Results:** Cross-over occurred in the 24% of RCTs identified. Simulations highlighted that complex methods have better performances, especially when the probability of cross-over is assumed to depend on prognosis (i.e. patients with a poor prognosis cross-over more frequently than patients with a good prognosis), but each of them makes assumptions that are not always verifiable or likely to occur in the considered context. **Conclusions:** It is important to understand better the bias associated with SCO in RCTs, which can be propagated when the results are meta-analysed in SRs, with important repercussions on patients' health.

P153: The outcomes studied by palliative care systematic reviews

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Background: According to the World Health Organization's (WHO) definition, palliative care is an approach that improves the quality of life of patients and families facing a life-threatening illness, through relief of suffering by identification, assessment and treatment of pain, physical, psychosocial and spiritual problems. Only one in ten terminally ill patients receive this care. As it concerns death and incurable diseases, ethical issues about these studies always bring to light questions about what outcomes should be analyzed throughout the process of dying. **Objectives:** To present the primary outcomes of reviews registered at the Cochrane Pain, Palliative and Supportive Care Review Group (PaPaS). **Methods:** All reviews in the palliative and supportive care subtopic of PaPaS will be accessed to identify the outcomes. **Results:** Inside the palliative and supportive care subtopic, the reviews are divided into seven themes: respiratory, psychological distress, fatigue and weight loss, gastrointestinal, supportive, end of life and cancer pain. Some reviews are in more than one category. The themes of the groups were related to the outcomes of reviews, i.e. we identified breathlessness, dyspnoea, fatigue and cough as outcomes in reviews classified as 'respiratory'. Some primary outcomes identified were: quality of life, pain, fatigue, survival, nausea and vomiting, quality of care, caregiver distress. Every systematic review analyzes quality of life as a primary or secondary outcome. Pain and fatigue are outcomes that appear in three of the seven theme groups. **Conclusions:** Palliative care patients suffer from a wide range of symptoms. As the possibility of cure disappears and death is under discussion, the focus of any treatment becomes the control of symptoms and quality of life. Systematic reviews assess outcomes that make difference for patients, specially the ones who need a good end of life, symptom relief and a good death.

P154: Addressing resource limitations among systematic review groups

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Background: Systematic reviews are essential tools in evidence synthesis and evidence-based decision making. They are highly technical, costly, and time-consuming projects that often must be tailored to the needs of funders/end users. Rapid reviews, streamlining, and outsourcing of review processes have been used to address these high resource demands. However, the scope of the burden of resource limitations and the prevalence of the various means of addressing such limitations are unknown. **Objectives:** To assess the burden of resource limitations on the conduct and dissemination of systematic reviews and the frequency with which various methods of addressing such limitations are employed. **Methods:** A questionnaire was circulated among systematic reviewers that assessed: 1) the perceived burden and scope of resource limitations on research teams and review products; 2) the review processes affected by resource limitations; 3) the impact of funders/end users on review scoping and conduct; and 4) the frequency of use of rapid reviews, streamlining processes, subcontracting, and outsourcing of review processes. **Results:** Preliminary results suggest that review teams and products are somewhat or substantially burdened by limitations in time, funding, and researcher and administrative staffing; more than half of the respondents reported difficulty in finding skilled systematic reviewers, and funding issues have led some organizations to largely abandon review work. Resource limitations commonly affect review scoping, searches, data abstraction, and dissemination. Funders/end users often influence scoping, especially in non-Cochrane centres, where review questions and scope are frequently driven by end users. Rapid reviews are used by one-third of respondents, and more than half conduct streamlined reviews, while few groups subcontract entire reviews or outsource review processes. **Conclusions:** Limitations in funding, time, and staffing substantially impact systematic review work. Streamlining is commonly used to deal with such limitations, while use of other methods is less common. Methodological work to establish best practices for streamlining is needed.

P155: Evidence that multiplicity in outcome definitions could introduce selective outcome reporting

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Background: In part to address concerns about reporting bias, many journals and funders require trials to be registered prospectively. However, bias may occur if outcomes are not 'fully defined' using the five elements recommended by ClinicalTrials.gov: domain, measure, metric, method of aggregation, and time. Objective: To compare outcomes in a usually hidden source, Clinical Study Reports (CSRs), with outcomes in public data sources. **Methods:** Eligible reports described randomized trials of gabapentin for neuropathic pain or quetiapine for bipolar depression; we prespecified 5 and 8 outcome domains for gabapentin and quetiapine, respectively. We searched for reports of trials in conference proceedings, trial registers, bibliographic databases, and reference lists electronically and by hand, and obtained CSRs through unsealed litigation files. Two people performed screening and data extraction, resolving differences by discussion. For each data source, we counted the number of outcomes that were fully defined. We assessed if results could be included in a meta-analysis (i.e. reported a point estimate and measure of variability). **Results:** We identified 21 eligible gabapentin trials and 7 quetiapine trials; 6/21 and 2/7 had associated CSRs, respectively. Five of 6 (83%) and 2/2 (100%) of the trials with CSRs also had associated journal articles and/or conference abstracts. CSRs included many more outcomes than journal articles and conference abstracts. CSRs did not usually provide information about additional domains compared with other sources. Instead, the additional outcomes differed in 1 or more of the other 4 elements. Almost all of the fully defined outcomes in CSRs and most in journal articles about one trial were analyzable. Few outcomes in journal articles about multiple trials and conference abstracts were analyzable. **Conclusions:** Even when outcome domains are prespecified, selective outcome reporting may be related to variations in the other 4 elements. When outcomes are not fully defined a priori, the multiplicity may provide trialists and systematic reviewers with opportunities for post hoc analytic decisions and cherry picking of outcomes.

P156: Low rate of protocol registration of systematic reviews published in high-impact-factor journals: a meta-epidemiological study

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Background: Moher et al investigated the characteristics of systematic reviews (SRs) in 2007 and revealed that only 11% of non-Cochrane SRs used protocols. The idea of protocol registration to avoid publication bias of SRs was widely disseminated as the PRISMA statement in 2009. The freely accessible international prospective register of systematic review (PROSPERO) database was launched for facilitation of protocol registration in 2011. Here, we investigated adherence to protocol registration of SRs after PRISMA statements. **Objectives:** To assess the adherence to protocol registration in highly cited journals **Methods:** We selected the top 10 journals classified by the Journal Citation Reports 2013 as the general internal medicine journals associated with the highest impact factors from August 2009 to June 2015. We included SRs for any interventions. We excluded reviews that addressed diagnostic test accuracy, meta-epidemiology or were updates. We also excluded SRs that included non-randomized studies or observational studies and Cochrane SRs, since they have published protocols. We assessed adherence to protocol registration as our primary outcome. Factors related to protocol registration were investigated using the Chi-squared test. **Results:** We found 1584 articles and screened 420 full texts; 282 SRs were included for a detailed analysis. There were 222 (79%) non-registered or non-protocol-published SRs. Only 27 (10%) SRs were registered in PROSPERO, two (1%) SRs registered in other international registries and 31 (11%) SRs with published protocols. Protocol registration was associated with number of included studies of SRs (1-9, 10-99, 99 <) (P for trend = 0.0003), year (P for trend = 0.0003) or financial support or grant (P = 0.003). Reference of PRISMA did not related to protocol registration (P = 0.76). Although 122 SRs referred to the PRISMA statement, only 27 (22%) of them registered the protocol. **Conclusions:** Protocol registration of SRs is not still common six years after the PRISMA statement.

P157: Complementary medicine use in the adult congenital heart community: what evidence do patients need and want?

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Background: An estimated 13 million adults worldwide are living with congenital heart disease (CHD), representing the largest population of birth defect survivors. They experience high rates of morbidity and mortality resulting in high utilization of medication and health services. Although older people with chronic diseases tend to have high rates of complementary medicine (CAM) use, there is no research on CAM utilization in the adult CHD population, and little research on CAM utilization in adult survivors of childhood-onset disease. Learning more about adult CHD and CAM will help identify systematic review research questions of high priority to these patients. It will also pilot new strategies for soliciting patient information for inclusion in the CAM research prioritization process. **Objectives:** To understand CAM utilization and information needs for adults with CHD. **Methods:** An internet-based survey on CAM use will be conducted via 50+ CHD-specific USA-based social media sites. This approach will maximize recruitment for patients in and out of care. Respondents will self-identify as a congenital heart patient over age 18. No additional diagnostic or other CHD-related information will be gathered. **Results:** Results from a minimum of 200 self-identified adults living with CHD will be presented. We will report overall prevalence of CAM utilization and utilization rates of specific CAM therapies. We will report the rates of CAM use for general wellness, and to address cardiac and non-cardiac health problems. We will identify whether patients have discussed their CAM utilization with their healthcare team, and the extent to which they are satisfied with available CAM information. Final results will be presented at the Colloquium. **Conclusions:** We will determine patterns of CAM utilization and explore how needs for information relate to existing research and systematic review resources. We will also explore the suitability of our social media recruitment, survey design, and online methods for further identification of CAM evidence needs in this and other defined patient populations nationally and internationally.

P158: Mapping studies for inclusion in a Cochrane Overview of physical activity

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Background: The abundance of systematic reviews (SR) in the literature that investigate interventions for increasing physical activity levels makes a challenging process for overview authors' to select, describe the effects and scope of the SR to synthesize the evidence into a single convenient source that enables public health decision makers to apply evidence-based practices. **Objectives:** The purpose of this work was to describe the process to minimise redundancy and overlap in the overview's summary to facilitate public health decision makers' actions to support evidence-informed decisions. **Methods:** We searched the Health Evidence.org registry database to identify 'strong' SR that investigated interventions for increasing physical activity (PA) levels and mapped the included studies contained in eligible SR. For each class, or type of intervention for the outcome (e.g. school-based interventions for PA), we selected the most current from the strongest SR that comprehensively described the intervention and the outcomes. We examined the studies contained in each review to avoid overlap, and succinctly summarised the current body of evidence from the SR. We used the fewest number of SR required to summarise the evidence from each intervention approach. **Results:** We identified 80 SR. Forty-three SR were eliminated due to duplication. The mapping process was applied to the remaining 37 eligible SR, which contained 635 studies. The mapping process identified 493 studies (78%) that were unique to only one included review. The reviews eliminated through mapping were generally older, contained fewer relevant studies, or were narrow in focus compared to the retained SR. **Conclusions:** Based on this work we conclude that using the process of mapping studies contained within the SR made it possible to identify the breadth of the interventions and outcomes; and the number of times a primary study has been included in high quality SR. In addition, through explicitly mapping the primary studies, the number of SR required was substantially reduced.

P159: Organization of Cochrane Physical and Rehabilitation Medicine (PRM)

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Background: In 2014 an Evidence Based Medicine (EBM) Committee was founded within the European Society of Physical and Rehabilitation Medicine (ESPRM). In collaboration with the PRM Section of the European Union of Medical Specialists (UEMS) and the International Society of PRM (ISPRM) the group decided to create a Cochrane PRM Field (Cochrane PRM). PRM covers a broad medical domain dealing with function, activities and participation in a large number of health conditions, mostly – but not exclusively – musculoskeletal, neurological and cardiorespiratory. The objectives of Cochrane PRM are: to identify and systematically spread the best available PRM evidence (Cochrane Reviews); to conduct and disseminate PRM 'umbrella reviews'; to focus on relevant PRM topics not yet covered by Cochrane; to improve research methodology in PRM; to increase visibility of EBM activities relevant to PRM and of PRM in other fields of medicine. Organization of Cochrane PRM: Already there are 69 PRM specialists and professionals from 29 countries committed to the initiative. Consequently, Cochrane PRM has been planned as a network rather than a single group – spreading responsibilities, focusing on specific functions, diffusing information, and creating possibilities for shared fundraising in different locations. Here we propose a possible organogram (Fig 1) comprising six units, with a specific location in different universities and/or institutes, each with specific responsibilities and human resources. 1. Cochrane PRM reviews database 2. PRM RCT database 3. Methods to collaborate with Cochrane Methods Groups 4. Education: EBM and systematic reviews production 5. Publication: with scientific journals and editors 6. Communication (newsletter, Twitter, etc.). Moreover a specific liaison function with the stakeholders will be developed. **Conclusions:** Cochrane PRM is proposed as a network of units in different locations having strict connections with PRM stakeholders giving support to this effort. Cochrane PRM will be presented for approval before the Seoul Colloquium.

Attachments: Flow chart.png

P160: Safety of Chinese herbal medicine for stroke: a proposal for developing the framework of an evidence-based education program for clinicians

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Background: Chinese herbal medicine (CHM) is widely used to assist conventional medication and rehabilitation for patients with stroke, particularly in hospitals for Chinese medicine, in China. Literature review suggests overuse and inappropriate use of herbal products for stroke. However, the risk of the integrative use is not systematically evaluated and informing clinicians of evidence of harm is lacking. **Objectives:** To analyse the adverse events associated with CHM systematically when it is used with conventional medication for patients with stroke, and to interview a group of Chinese medicine clinicians about their attitude to and understanding of this evidence of harm, as well as possible solutions to reducing the risks in clinical practice. **Methods:** This program will be a two-phase study, including a systematic review and a semi-structured interview. Phase 1: Relevant information will be identified by searching research databases and regular reports published by food and drug administration. Types of studies are not limited. Causal relation will be assessed if the primary study does not have it. The primary outcome will be the total adverse effects specific to CHM in people with stroke. Meta-analysis will be conducted if appropriate; otherwise, qualitative synthesis will be performed. Phase 2: Purposive sampling will be adopted to identify 20 participants in terms of their qualifications in Chinese medicine and clinical expertise in stroke management. The interview will be semi-structured, face-to-face and audio-recorded. Demographics will be collected and informed consent will be obtained. Three essential questions will be asked, including the attitude to and understanding of the evidence of harm collected by the Phase 1 study and the suggested solutions to reducing the risks. Probing questions will be asked in terms of specific risks and clinical scenarios. Grounded theory and discourse analysis will be used to analyse the data. **Discussion:** This study will inform the framework for implementing an evidence-based education program for clinicians, which aims to reducing the risk of integrative use of Chinese herbal medicine for stroke.

P161: The association of industry sponsorship with outcomes of nutrition studies: a systematic review and meta-analysis of reviews

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Background: It is important to know whether sponsorship should be part of the evaluation of bias for nutrition studies that are included in systematic reviews and dietary guidelines. **Objectives:** The objective of this review was to determine if the presence of food industry sponsorship or author conflicts of interest (COI) with the food industry are associated with effect sizes, statistical significance of results and/or conclusions that are favourable to the sponsor or differ in their risk of bias. **Methods:** We conducted a systematic review and meta-analysis of reviews based on Cochrane methods using Review Manager that investigated samples of primary research studies or reviews that quantitatively compared food industry-sponsored studies with those that had no or other sources of sponsorship, or study authors that had a COI with the food industry with those that had none.
Results: Twelve reviews met the criteria for inclusion. Most reviews (n = 8) assessed the association of industry sponsorship with authors' conclusions. Our meta-analysis of these eight reviews found that industry-sponsored studies were significantly more likely to have favourable conclusions than non-industry sponsored studies, risk ratio (RR) 1.31 (95% confidence interval (CI) 0.99 to 1.72). Three of these five reviews either had industry sponsorship or authors with COI. **Conclusions:** Our findings suggest that industry sponsorship and author COI are associated with conclusions that favour industry sponsors, but there has been little analysis of the influence of sponsorship or author COI on the statistical significance or effect size of research results or risks of bias.

P162: Searching KoreaMed: increasing the discoverability of trials conducted and published in Korea

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Background: KoreaMed provides access to over 235,000 articles published in around 230 Korean journals. It is estimated that fewer than 10% of these journals are indexed in MEDLINE. Although KoreaMed is an open access database, it is only recently that digital object identifiers (DOIs) and links to full-text content have been added to KoreaMed records. **Objectives:** To search KoreaMed for reports of randomised trials (RCTs) published in Korean journals and to make these available through CENTRAL in the Cochrane Library (in partnership with the publishers of KoreaMed). **Methods:** Using a sensitive search strategy comprising free-text terms in English and Korean, plus publication type terms, we retrieved citations from the early 1970s onwards. One author (MK) screened citations and referred queries to the second author (SM). Records identified as reporting a randomised (or possible randomised) trial were then independently checked. We also looked at the journals that published RCTs and the accuracy of the indexing of trials in KoreaMed. **Results:** Our search strategy retrieved 7645 citations, of which 3319 were identified as being reports of RCTs. Relatively few trials (n = 46) were published before 1990, but the number increased rapidly thereafter: 850 trials were identified in the 1990s and over 1750 in the 2000s. The Korean Journal of Anesthesiology published 41% (n = 1374) of all RCTs identified. A fifth of records (n = 671) were correctly indexed with RCT as a Publication Type. We identified over 450 citations that had the RCT tag applied erroneously. The KoreaMed records were added to the Cochrane Library in 2015. Following the inclusion of DOIs in a subset of journals in KoreaMed, we have recently added DOIs to about a third of the trials we identified, thus helping to improve the discoverability of these trials. **Conclusions:** KoreaMed indexes a significant proportion of the Korean medical literature. By systematically searching the database for trials and including these in the Cochrane Library we are improving access to Korean trials and increasing the likelihood that systematic reviews will consider Korean trials for inclusion.

P163: Postpartum domperidone use: what is the added value of observational and preclinical data in an assessment of potential benefits versus harm?

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Background: Domperidone, a dopamine antagonist, is increasingly being used to stimulate postpartum breast milk supply. In 2011, 20% of new mothers in British Columbia, Canada were prescribed domperidone. Recent randomized controlled trials (RCTs) in Thailand and Pakistan suggest widespread use. This is an off-label use for which uncertainty exists about benefits and harm. Domperidone is subject to safety advisories due to risks of serious cardiac arrhythmia and sudden death, mainly observed in the elderly. **Objectives:** To investigate the added value of including non-randomised and preclinical studies in a systematic review (SR) on benefits and harm of postpartum domperidone use. **Methods:** We are conducting a SR, following Cochrane methods guidance, with three components: 1) for efficacy and common harms, we included RCTs in new mothers (pre-term or full-term births) comparing domperidone with placebo, other galactagogues, non-drug care, or no treatment; 2) to assess cardiac harms, we included RCTs, controlled cohort, case-control and case-cross-over studies; 3) for mechanisms of domperidone's proarrhythmic action, we synthesised preclinical studies (tissue culture and animal models). We searched CENTRAL, MEDLINE, Embase, CINAHL, ClinicalTrials.gov and other databases. Screening, data extraction, and risk of bias assessment were conducted by two independent reviewers. Data are stratified by research question (short-term benefits and harm, cardiac harm, mechanisms), and study design, and meta-analyses conducted using a random-effects model. We contacted study authors for unpublished and sex/age disaggregated data. **Results and Conclusions:** We identified eight published postpartum RCTs (five pre-term; three full-term), with limited outcomes reported beyond milk volume, and three terminated/unpublished RCTs. For cardiac harms, two RCTs and eight non-randomised studies included women of reproductive age. Mechanistic and observational data suggest cardiac risks extend to younger age groups. Issues related to different study designs, important outcomes, and variations in reporting will be discussed, along with evidence gaps, and results compared with prior SRs.

P164: Use of the GRADE approach in systematic reviews of animal studies

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Background: The application of GRADE in systematic reviews (SRs) of animal studies can promote the translation from bench to bedside. **Objectives:** We aim to explore the use of GRADE in SRs of animal studies. **Methods:** We used a theoretical analysis method to explore the use of GRADE in SRs of animal studies and applied in one SRs of animal studies. Meanwhile, we discussed our results with relevant experts in two international conferences.**Results:** Five downgrading factors were considered in SRs of animal studies. 1. Risk of bias: the SYRCLE (SYstematic Review Centre for Laboratory animal Experimentation) tool can be used for assessing the risk of bias of animal studies. 2. Indirectness: we can assess indirectness in systematic reviews of animal studies from the PICO (population, intervention, comparator, outcomes). 3. Inconsistency: similarity of point estimates, extent of overlap of confidence intervals and statistical heterogeneity are also suitable to evaluate inconsistency of evidence from animal studies. 4. Imprecision: optimal information size (OIS) and 95% confidence intervals (CIs) are also suitable for systematic reviews of animal studies, like those of clinical trials. 5. Publication bias: we need to consider publication bias comprehensively through qualitative and quantitative methods. **Conclusions:** The methods for the use of GRADE in systematic review of animal studies are explicit. However, the principle about GRADE in developing the policy based on the evidence from animal studies when there is an emergency of public health.

P165: Successful multi-language free online animated learning resource

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Background: Goal 2 of Cochrane's *Strategy to 2020* is to make evidence accessible. To do this, Cochrane Consumers and Communication Group aims to increase public understanding of research and the role of evidence in informing practice and policy. Method: We created a short, accessible, online animation to explain the concepts of systematic reviews and meta-analysis. **Stages:** 1. We wrote a script and worked with an animator to visualise the ideas and produce an animated video. 2. We involved the public early by sharing a demonstration through our existing networks, along with a survey. We also involved interested members of the public at refinement and editing stages. 3. We worked with Cochrane to co-ordinate the publication of the video using the Cochrane website, YouTube channel and Twitter account in January 2016. 4. We licensed the video under Creative Commons, so that anyone could use and adapt it. **Results:** The video was published online on 27 January 2016. By 20 April, over 7800 had viewed it (www.youtube.com/watch?v=egJlW4vkb1Y). Our team was contacted by a number of international Cochrane Centres who wanted to translate the resource. We worked with them to translate the video into different languages using a combination of subtitles and voice-overs. **Conclusions:** We were surprised by the volume of the viewing statistics. The continued growth rate in viewing will lead us to seek detailed statistics by country so that we can prioritise translations, aiming to ensure that most major languages are represented before the Colloquium 2016. This work demonstrates the value and impact of free online learning resources. It will inform our Group's future learning strategy. It potentially informs the development of Cochrane knowledge translation strategies and informs future models of how Cochrane can support the public to understand and value the evidence.

P166: The effectiveness of exercise training on peak VO2 and depression in hemodialysis patients: a meta-analysis of randomized controlled trials

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Background: End stage renal disease (ESKD) patients' aerobic capacity tends to be only half of that of normal; their strength is low, and they are likely to have problems with mobility and basic activities of daily living. Exercise capacity as measured by peak VO2, has been shown to be a very strong predictor of survival in ESKD. Dialysis patients usually display psychosocial problems such as depression, anxiety, and social withdrawal. Several authors observed that depressive symptoms increase mortality risk in chronic kidney disease patients. Different types of exercise training may be an effectiveness therapy to improve peak VO2 and depression in hemodialysis patients, but the evidence is limited. **Objectives:** We conducted a meta-analysis of relevant randomized controlled trials (RCTs) to examine this issue. **Methods:** A systematic literature search was completed in May 2014 to identify randomized controlled trials of combined aerobic and resistance exercise training studies in hemodialysis patients. RCTs were identified by computerized searching in PubMed and CINAHL. A meta-analysis was performed to evaluate the effectiveness of combined aerobic and resistance exercise training in hemodialysis patients. The primary outcome was the change of peak VO2. The secondary outcome was the change in depression. **Results:** Six RCTs were identified that met the criteria for this study, with a total of 262 participants. The estimate of the overall effect size of peak VO2 addition was 0.492 (95% confidence interval 0.241 to 0.743) and was statistically significant (P =0.000) compared with usual care. The estimate of the overall effect size of depression reduction was -1439 (95% confidence interval -1.938 to -0.941) and was statistically significant (P = 0.000) compared with usual care. **Conclusions:** Combined aerobic and resistance exercise training is a effective therapy for improving peak VO2 and depression in hemodialysis patients.

P167: Linking evidence into action for best dementia care

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Background: Evidence based practice (EBP) ensures that the clinicians in dementia care settings will base their clinical judgment on the available evidence, and patient and family's values. **Objectives:** The purpose of this study was to develop an online interactive program to link evidence into action for best dementia care. **Methods:** The web-based interactive program was developed to guide the users in implementation of evidence-based dementia care. The program presents the introduction of EBP, teaches the related skills in the EBP process (PICO (participants, intervention, comparator and outcomes), search evidence, appraisal of evidence, implementation, and evaluation), and provides the toolkits to implement the best evidence in dementia care. **Results:** Each module presents clinical scenarios in dementia care settings. For example, in the PICO module, a clinical scenario is provided to the user who is asked to make a PICO to solve the problem in the clinical scenario. The system facilitates the user being familiar with the evidence by completing a structured toolkit. **Conclusions:** Data results and users' opinions for the system were promising. In each module, users focused on PICO, evidence, appraisal, implementation, and evaluation. The findings in this study suggest that the interactive online program can be an effective tool to facilitate linking evidence into action. Enhanced interactive use of various toolkits can lead the users to more active participation in EBP process.

P168: The Russian translation project and dissemination of Cochrane evidence: achievements and barriers as feedback from volunteer translators

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Background: The Russian translation project, started in 2014, is managed by Cochrane Russia with a team of 65+ volunteers from Russia, Kazakhstan, Kyrgyzstan, Ukraine, Armenia, USA, UK, Germany. In April 2016 we reached 730 Russian translations of Cochrane Plain Language Summaries (PLS). In 2016 we started dissemination of Cochrane Comms weekly digests in Russian to the team and potential Cochrane contributors. **Objectives:** To assess attitudes, commitment, success enablers and barriers to regular quality translation process through translators' feedback in order to tailor project management to volunteers' needs and maximize success of translation and dissemination. **Methods:** We conducted an online survey in April 2016. It consisted of 12 questions on the preferred number of PLS for translation per day/week/month, motivation, enablers, barriers, language preference for digests, its impact, and suggestions for improvement. **Results:** By 19 April 44 people answered, most representing health professions (n = 30; 68%) or students (n = 7; 16%), most being 25 to 45 years old (n = 25; 57%). The preferred translation regime was 1-2 PLS a week (n = 16; 36%) or 1-2 PLS a month (n = 16; 36%) with three people willing to translate 1 PLS a day. The motivation and enablers were (descending order): need to gain new knowledge (n = 32; 73%), desire to make Cochrane evidence available to Russian-speaking audience (n = 27; 61%), will to do Cochrane work (n = 21; 48%), desire to improve language skills (n = 21; 48%). Most respondents indicated interest in new information (n = 32; 73%) and in translation work (n = 16; 36%) as enablers. The barriers were: lack of time (n = 31; 71%), poor language skills (n = 18; 41%), lack of funding (n

= 7; 16%). Two respondents had difficulties with Smartling use. The respondents always (n = 16; 36%) or sometimes (n = 24; 55%) read digests of Cochrane Comms, find them useful (n = 28; 64%), prefer to receive information in Russian and English (n = 28; 64%) or only in Russian (n = 13; 30%). **Conclusions:** We received valuable feedback from active translators, which will help to tailor translation management. We plan to reassess the approaches.

P169: Assessment of the risk of bias in randomized controlled trials in otorhinolaryngology

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Background: Randomized controlled trials (RCTs) represent the most valuable study design to evaluate the effectiveness of therapeutic interventions. However, flaws in design, conduct, analysis, and reporting of RCTs can cause biased results. Cochrane published a 'Risk of bias' (RoB) tool to standardize the assessment of RoB for authors of systematic reviews (SRs). RoB concerns eight items assessed as being at low, unclear or high RoB. Our objective was to provide an overview of the potential sources of bias in RCTs of the otorhinolaryngologic research field in the past literature (1950-2012), and to identify areas where improvement is still warranted. **Methods:** We retrieved all otorhinolaryngologic Cochrane SRs published in 2012 and 2013 using a combination of search filters. From the included SRs, we adopted all RoB assessments by the SR authors of the included RCTs. Descriptive statistics of the RoB assessments of the included RCTs were computed. We plotted the development of the RoB per item (potential source of bias) per decade, and analyzed the development statistically with? a multinomial logistic regression analysis. **Results:** We extracted data from 42 SRs and 402 included RCTs (median 7, range 1-40). In total 2356 RoB items were assessed (median per RCT 6, range 1-12). Thirty-six (9.0%) out of 402 RCTs were assessed with a low RoB on all items, and 208 (51.7%) RCTs were assessed with at least one item at a high RoB. The number of RCTs with high RoB assessments remained constant. On multinomial logistic regression, there appears to be an increase in recent decades in the number of RoB items judged as being at low RoB for random sequence generation, allocation concealment and blinding of outcome assessment. Most of the differences between decades, however, are not statistically significant. **Conclusions:** Although there were some positive developments in the overall bias in RCTs in the otorhinolaryngologic literature, a further decrease in bias results is still warranted. Currently, biased RCTs are included in SRs and effects of interventions can be under- or overestimated, with implications for clinical patient care.

P170: An exploration of non-dissemination in qualitative research: viewpoints of editors and peer reviewers

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Background: Qualitative evidence synthesis (QES) is increasingly used to inform decision making in health. To conduct a QES, primary studies relevant for answering the question should be retrieved. Dissemination bias, i.e. the systematic distortion of the phenomenon of interest due to selective dissemination of studies or their findings, might affect accessibility of studies and decrease the confidence we can have in findings from QES. Dissemination bias has not been adequately investigated for qualitative research, and is being explored as a possible 5th domain to include in the GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative research) approach. **Objectives:** Explore the possible extent of non-dissemination in qualitative research and investigate stakeholders' views and experiences concerning dissemination of qualitative research. **Methods:** We conducted an online survey with closed and open-ended questions among stakeholders in qualitative research. Responses were analyzed using descriptive statistics and inductive thematic analysis. **Results:** Of 1032 respondents 96% identified as researchers, 16% as editors and 84% as peer reviewers (multiple answers were possible). In free text responses, editors reported that they rejected a qualitative manuscript because it: described irrelevant knowledge, did not add new knowledge, or did not report new findings. Peer reviewers had recommended a rejection due to poor methodological and reporting quality, or where the analytical approach was unclear or lacking. Editors and peer reviewers also remarked that journal policies influenced the rejection of a qualitative manuscript. These factors included: restrictions on manuscript length, high quality standards for methods and reporting, and the journals' aim to publish articles that would be highly cited. **Conclusions:** More research is needed on the extent of and reasons for non-dissemination in qualitative research, specifically the consequences of manuscript rejection by editors and peer reviewers. A better understanding of the impacts of non-dissemination will inform a decision on whether this component should be included in the GRADE CERQual approach.

Attachments: 20160420 IT Table 1.jpg

P171: Non-calorie artificial sweeteners affect body weight: a meta-analysis of randomized controlled trials

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Background: Over the past decades, the worldwide prevalence of obesity has increased dramatically. Poor diet and physical inactivity are some of the most common cause of obesity. Free sugars contribute to promotion of a positive energy balance. Therefore, replacement of calorific sweeteners with non-calorie artificial sweetener (NAS) alternatives may boost weight loss by reducing energy intake. This is a common strategy for weight management in clinical nutrition. However, past research examining sugar substitutes and body weight has inconsistent results. **Objectives:** The objective of the study was to review and evaluate randomized controlled trials (RCTs), that examined the relationship between non-calorie artificial sweeteners (NAS) and body weight systemically. **Methods:** A systematic literature research identified 11 RCTs that examined NAS from food or beverages or consumed as sweeteners. Control groups that consumed water were excluded. Meta-analysis generated weighted mean differences in body weight between the NAS group and control group. **Results:** Overall, the NAS group showed significantly reduced body weight -1.07 kg (95% confidence interval (CI) 0.41 to 1.72). Subgroup analyses in children (aged < 18 years) revealed that the NAS group showed significantly reduced body weight 1.18 kg (95% CI 0.44 to 1.93). However, adults did not have association between NAS and weight. Subgroup analysis of duration showed for the short term that the NAS group had significantly reduced body weight 0.69 kg (95% CI 0.34 to 1.04); and even in long term, the NAS group had significantly reduced body weight 1.32 kg (95% CI 0.32 to 2.31). **Conclusions:** The current results provide an evaluation of the evidence on NAS and body weight. Substituting NAS for regular-calorie options results in modest weight loss. It may be a useful dietary intervention alternative to improve compliance with weight management.

P172: The cardiovascular effect of DPP-4 inhibitors among type 2 diabetes: a systematic review and network meta-analysis

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Background: There are concerns about the cardiovascular safety of dipeptidyl peptidase-4 (DPP-4) inhibitors in patients with type 2 diabetes. **Objectives:** To evaluate the effect of DPP-4 inhibitors on cardiovascular effects in patients with type 2 diabetes systematically. **Methods:** We searched MEDLINE, Embase, the Cochrane Library and ClinicalTrials.gov from inception to 20 November 2015. We included randomized controlled trials with available data comparing DPP-4 inhibitors with placebo and traditional anti-diabetic drugs in patients with type 2 diabetes, with a minimum 12-week follow-up. The endpoint of interest was a composite of cardiovascular events, which consisted of major adverse cardiovascular events (MACEs) defined by FDA, plus heart failure. MACEs included cardiovascular death, myocardial infarction and stroke. We calculated odds ratios (OR) with 95% confidence intervals (CI) using a random-effects model. We performed network meta-analysis to supplement direct comparisons. **Results:** We included 92 trials with 11 treatments, including five DPP-4 inhibitors (alogliptin, linagliptin, saxagliptin, sitagliptin and vildagliptin), placebo and five traditional anti-diabetic drugs (metformin, sulfonylurea, thiazolidinediones, glucagon-like peptide-1 receptor agonists and sodium-glucose co-transporter 2). Significant decreased risk of cardiovascular events was detected when vildagliptin was compared with placebo (OR 0.43, 95% CI 0.17 to 0.94), sulfonylurea (OR 0.38, 95% CI 0.14 to 0.76), metformin (OR 0.26, 95% CI 0.06 to 0.95) and sitagliptin (OR 0.42, 95% CI 0.18 to 0.92). The protective effect on cardiovascular events was not detected in other DPP-4 inhibitors. Ranking probability analysis indicated vildagliptin decreased cardiovascular risk most among all 11 treatments with probability of 84%. **Conclusions:** Vildagliptin seems associated with decreased risk of cardiovascular events compared with placebo and other anti-diabetic drugs, while other DPP-4 inhibitors do not show any increased risk of cardiovascular events. Further long-term trials and population-based studies are

needed to confirm the protective effect on cardiovascular safety of vildagliptin.

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P173: Cochrane Reviews as privileged sources to report misconduct behaviours: an informative case of duplicate publication

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Background: Unethical behaviours causing different types of bias have been extensively reported in biomedical literature. At the same time, the quality of systematic reviews can be affected by misconduct in primary publications. Objective: To describe several cases of serious duplicate publication detected as a result of a Cochrane Review, raising potential synergies between publishers and Cochrane. **Methods:** The results of a search in a Cochrane Review on hypertension were independently assessed by authors in pairs and a serious case of duplicate publication was identified. On that basis, we searched for all randomized controlled trials (RCT) published by the main author involved in PubMed (accessed on 20 September 2015) and double checked them to exclude additional cases of plagiarism. **Results:** As a result of peer-review tasks in a Cochrane Review, we considered eight articles about 2 RCT authored by the same first author as potential duplicate publications. After contacting the publishers, six articles were retracted. Then we retrieved 129 RCT published by this researcher from the PubMed database, 86 as first author. A total of 47 RCT articles (54.7%), including the eight RCT previously identified, were considered as potential duplicate publications (Table 1). The 47 RCT included antidiabetics, antihypertensives and anti-obesity drugs, were published from 2004-2014, and came from 17 different studies. We informed all the 26 journals affected (linked to 10 publishers) in October 2015. As of 20 April 2016, only one additional retraction was confirmed.(http://retractionwatch.com/2016/02/12/investigation-leads-to-5th-retraction-for-drug-researcher). Three journals decided not to retract on the basis of first copyright and the other three journals considered the potential duplicate content as acceptable. The rest of investigations were still ongoing. **Conclusions:** A comprehensive information retrieval and a peer-review methodology are strong points for Cochrane Reviews. Cochrane authors must play an active role in order to correct scientific fraud. Journals are expected to implement convincing measures against unethical attitudes in a timely manner.

Attachments: Table 1.pdf

P174: Impact of dipeptidyl peptidase-4 inhibitors on malignant tumours among type 2 diabetes: a network meta-analysis

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Background: Dipeptidyl peptidase-4 inhibitors (DPP-4Is) are increasingly used in patients with type 2 diabetes (T2DM). However, the effects of DPP-4s on malignant tumours have not been confirmed. **Objectives:** To review systematically the effects of DPP-4Is on malignant tumours in patients with T2DM. **Methods:** The Cochrane Library, Embase, MEDLINE and Clinical Trials were searched from inception through to November 2015 to identify randomized controlled trials (RCTs) that assessed the safety of DPP-4Is versus placebo or other anti-diabetic drugs in T2DM. Odds ratios (ORs) with 95% confidence intervals (CIs) were estimated through network meta-analysis. **Results:** Sixty RCTs were included, which included 14 treatments: six DPP-4Is (alogliptin, linagliptin, saxagliptin, sitagliptin, teneligliptin, vildagliptin), two glucagon-like peptide-1 (GLP-1s) (dulaglutide, exenatide), two sodium/glucose cotransporter 2 (SGLT-2s) (canagliflozin, empagliflozin), placebo and three traditional anti-diabetic drugs. Although there were no statistically significant increases in effects on malignant tumours when DPP-4Is were compared with GLP-1s, SGLT-2s, sulfonylureas, biguanides, or thiazolidinediones, there is a trend for increasing of malignant tumours when DPP-4Is versus GLP-1s, sulfonylureas, and thiazolidinediones (with a range of ORs: 1.14 (95% CI 0.50 to 2.32), 1.17 (95% CI 0.81 to 1.88), 1.49 (95% CI 0.34 to 9.89)). **Conclusions:** There is no evidence that DPP-4Is were associated with increasing effect on malignant tumours. Studies with more patients and longer durations of follow-up need to be done to identify the relationship between DPP-4Is and malignant tumours. PROSPERO register: CRD42015020401

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P175: Lifestyle interventions to prevent type 2 diabetes mellitus in adults with prediabetes: a systematic review for the Korea Preventive Services Task Force

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Background: Established in 2015, the Korea Disease Preventive Services Task Force provides evidence-based guidance on public health topics. **Objectives:** To evaluate the clinical effectiveness of lifestyle interventions for the prevention of type 2 diabetes in adults with impaired fasting glucose or impaired glucose tolerance. **Methods:** We searched the literature via three international databases (Ovid-Medline, Ovid-Embase, and Cochrane Central Register of Controlled Trials) to identify relevant studies published by 17 September 2015. Study design was limited to randomized controlled trials (RCTs) carried out abroad. Four researchers screened the literature for RCTs of lifestyle interventions of at least 3 months in participants with prediabetes. The overall effect of lifestyle interventions was based on the end of intervention and longest post-intervention follow-up data available in each study. **Results:** Thirteen studies (12 of combined interventions versus usual care, one of diet intervention versus usual care, and two of physical activity interventions versus usual care) conducted abroad and four studies (one of diet intervention versus usual care, and three of physical activity interventions versus usual care) conducted in Korea were included in the final analysis. Compared with usual care, combined interventions reduced type 2 diabetes incidence (end of intervention: risk ratio (RR) 0.58 (95% confidence interval (CI) 0.48 to 0.71); I2 = 52%: longest post-intervention follow-up: RR 0.80 (95% CI 0.74 to 0.87); I2 = 27%; 11 studies), decreased fasting blood glucose level (end of intervention: weighted mean difference (WMD) -3.11 mg/dL (95% CI -5.54 to -0.67); I2 = 68%) and body weight (end of intervention: WMD -2.27 kg (95% CI -3.32 to -1.22); I2 = 75%; 9 studies), and improved other cardiometabolic risk factors. Evidence for diet or physical activity interventions only was limited. **Conclusions:** Combined diet and physical activity interventions are effective at decreasing diabetes incidence in adults with prediabetes and the benefit extends beyond the active intervention phase. *This work was supported by the KCDC and NECA (NECA-NS15-003).**Attachments:** Lifestyle interventions to Prevent Type 2 Diabetes mellitus in adults with prediabetes.pdf

P176: Discrepancies between the prediction interval of network meta-analyses and subsequent randomized controlled trials

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Background: Network meta-analysis is a novel method for comparing multiple interventions. Over the past decades, the number of studies has increased rapidly, and the evolution of methodology is still ongoing. Recently, the estimation method of prediction intervals in network meta-analysis has been proposed. The prediction interval, which estimate the probable range of future trial, makes the interpretation of results easier and also guidance for the future trial. However, a standard evaluation approach of the prediction ability is still unclear. **Objectives:** To validate empirically the prediction ability of network meta-analysis and to evaluate their performance against randomized controlled trials (RCTs) that become available after network meta-analyses are conducted. **Methods:** We conducted a literature search within PubMed, Embase, and Cochrane for the studies of network meta-analyses in kidney diseases. We reanalyzed the prediction interval of published network meta-analysis without the latest study among network meta-analyses and then compared that to the confidence interval of the latest RCT. We used the latest RCT as the standard and then calculated the coverage probability of the prediction interval of NMA. **Results:** Our search identified a total of eight network meta-analysis studies including 173 trials. None of these studies reported the prediction interval of the effect size. Compared to the latest RCT in the network meta-analysis, the average coverage probability of the prediction interval was 65.9% (standard deviation = 0.40). Two studies had low coverage probability (< 25%), one study had median coverage probability, and the other five studies had high coverage probability (> 75%). **Conclusions:** Reporting network meta-analysis with the prediction interval could apply to the guidance of clinical trial. Also, a performance measure of prediction should be conducted in the results.

P177: Use of the Cochrane 'Risk of bias' tool in systematic reviews of traditional Chinese medicine

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Background: The Cochrane 'Risk of bias' (RoB) tool, which was published in the Cochrane Handbook for Systematic Reviews of Interventions in 2008, has been widely embraced by the systematic review (SR) community to assess the methodological quality of randomized controlled trials (RCTs) in SRs. **Objectives:** To evaluate the use of the RoB tool in Cochrane SRs of traditional Chinese medicine (TCM). **Methods:** We searched for intervention SRs on TCM published in the Cochrane Library from January 2009 to April 2015. Tool adopted to assess methodological quality of the RCTs were abstracted and analyzed by reporting quality of each item and by time sequent. **Results:** We identified 83 SRs of TCM, which included 1143 RCTs or quasi-RCTs and 124, 800 participants. In the Methods section of the SRs the following tools were used to assess the methodological quality of the included studies: the Cochrane RoB tool (71/83), other criteria (4/83; three in 2010, one in 2013) included Jadad etc., self-defined criteria (3/83; two in 2009, one in 2012), and the remaining five SRs (two in 2009, three in 2012-2015; four were 'empty' reviews) did not mention quality assessment. For the 71 SRs that used the Cochrane RoB tool, nine SRs were 'empty' reviews. In the remaining 62 SRs, 76% (47/62) reported all the items in the RoB table, 24% (15/62) (9 in 2009-2011, 6 in 2012-2014) failed to report all items: other bias (11 SRs), selective reporting (five SRs), incomplete outcome data (two SRs), blinding (one SR), and sequence generation (one SR) were often omitted. Criteria for judging 'other bias' were not reported in 37 SRs. **Conclusions:** Most (86%) SRs used the RoB table, but 24% of SRs did not report/adopt all the items. Some (8%) SRs used other criteria or self-defined criteria, as their protocols were published before 2009. Other (6%) SRs did not report information about methodological quality evaluation; in fact, it should be defined in the Methods section of SR protocols whether or not the SRs include trials. SRs published in 2009-2011 need to be updated in their methods of assessing methodological quality of included trials.

P178: Bridging clinical investigators and statisticians: publication status and problems of Statistical Analysis Plan (SAP)

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Background: The publication of study protocols has been increasingly accepted as a means for improving transparency and quality research. However, both commercial- and investigator-initiated trials are prone to inappropriate analysis and interpretation. The main reason for this may arise from ignorance of statistical methods. Furthermore, post hoc analyses which were not prespecified in the protocol involve laborious statistics and have the potential risk of misreporting and misleading in the conclusions. **Objectives:** We aimed to learn the profile of the publication status of the Statistical Analysis Plan (SAP) and explore the existing problems. **Methods:** A systematic literature search of PubMed was conducted from the date of inception onwards. Research papers that particularly stated the statistical analysis plans of clinical trials were included this review. **Results:** A total of 66 articles was identified. After reading the titles and abstracts, 29 articles from 10 different countries were kept and others were excluded because they were reviews, methodology papers, or their objectives differed from this review. Two of the trials were conducted in China. Ten of the trials reported the SAP by British investigators. Twelve (41%) trials were ongoing until 10 March 2015. Six trials declared the interim analyses. Only four trials were not supported by foundations. **Conclusions:** 'Data dredging' is an important factor for misleading conclusions. But SAPs usually did not get the consensus between clinical investigators and statisticians. In the meantime, the publications of SAPs were not given enough attention to maximum the transparency of study.

P179: Dipeptidyl peptidase-4 (DPP-4) inhibitors and hypoglycaemia risk in patients with type 2 diabetes mellitus (T2DM): a network meta-analysis

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Objectives: To systematically evaluate the effect of DPP-4 inhibitors on hypoglycaemia risk in patients with T2DM. **Methods:** We searched MEDLINE, Embase, the Cochrane Library and ClinicalTrials.gov to 20 November 2015. We identified and reviewed randomized controlled trials (RCTs) assessing the safety of DPP-4 inhibitors versus placebo or other anti-diabetic drugs in T2DM patients. We estimated odds ratios (OR) with 95% confidence intervals (CI) for hypoglycaemia through network meta-analysis. **Results:** We included 130 RCTs with 17 treatments: nine DPP-4 inhibitors (alogliptin, anagliptin, dutogliptin, gosogliptin, linagliptin, saxagliptin, sitagliptin, teneligliptin, vildagliptin), five traditional anti-diabetic drugs (insulin, metformin, sulfonylurea, thiazolidinedione, α-glucosidase inhibitors), two more recent drugs (glucagon-like peptide-1 receptor agonists, sodium/glucose cotransporter inhibitors) and placebo. We found: significantly reduced risk of hypoglycaemia for saxagliptin (OR 0.26, 95% CI 0.08 to 0.83) and vildagliptin (OR 0.32, 95% CI 0.11 to 0.90) versus insulin; and alogliptin, linagliptin, saxagliptin, sitagliptin, teneligliptin and vildagliptin versus sulfonylurea (OR range 0.10 (95% CI 0.03 to 0.31) to 0.15 (95% CI 0.10 to 0.22)); but significantly increased risk for sitagliptin versus thiazolidinedione (OR 2.10, 95% CI 1.11 to 3.97). According to ranking probabilities, from the nine DPP-4 inhibitors, teneligliptin had the maximum probability of the lowest risk of hypoglycaemia, while anagliptin had the maximum probability of the highest risk. **Conclusions:** Most DDP-4 inhibitors are likely to have reduced risk of hypoglycaemia in T2DM patients when compared with insulin or sulfonylurea, while sitagliptin was found to have increased risk when compared to thiazolidinedione. These results indicate the different effects of DPP-4 inhibitors on hypoglycaemic risk and the need for further specific research. Funding received: National Natural Science Foundation of China (81302508).

P180: The effectiveness of spiritual care in nursing education: a systematic review

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Background: Spiritual care is an important part of holistic care. Nursing educators should understand current spiritual care, its effectiveness in clinical application and education, in order to meet the spiritual needs of nursing students and clients. **Objectives:** To review the evidence concerning the effectiveness of implementing spiritual care programs in nursing education systematically. **Methods:** The following electronic databases were searched: MEDLINE, CINAHL, PubMed, the Cochrane Library, Pro-Quest Dissertations & Theses and Airiti Library (in Chinese) up to November 2015. The key words in the literature search identified eight studies. **Results:** After screening the literature, we included eight studies. Five were questionnaires, two were quasi-experimental studies and one was a triangulation study design. The element of spiritual care curriculum design such as the following: each four independent and integrate curriculum. Teaching content including spiritual concepts and spiritual care in nursing process. Teaching objectives have five goals: 1. to explore human spiritual development and spiritual awareness; 2. to analyse the relationship between religion and spiritual activities, and to respect the client's religious activities; 3. to understand the significance and importance of spiritual care; 4. to apply and evaluate the effectiveness of the spiritual care intervention; and 5. to develop the competence of nursing students' spiritual care. The results of this review present either single or integration curriculum are able to enhance nursing students' ability of spiritual care, spiritual self-awareness and spiritual well-being. **Conclusions:** Whether single or integration curriculum can enhance nursing students' knowledge and ability. But the questionnaire was not clearly presented and variables have great differences, so they can not to compare the effectiveness of each study. This article summarizes the content of spiritual care curriculum, teaching methods and teaching strategies to provided objectivity reference to design the curriculum in nursing education.

P181: Mass media interventions for smoking prevention and cessation: systematic review for the Korea Preventive Services Task Force

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Background: Established in 2015, the Korea Disease Preventive Services Task Force provides evidence-based guidance on public health topics. **Objectives:** To evaluate the effectiveness of mass media interventions for changing smoking behaviour through a systematic review. **Methods:** A comprehensive literature search was conducted using English databases, as well as seven domestic databases, up to September, 2015. The primary outcome was change in smoking behaviour, such as smoking prevalence change or cessation rate. Cessation attempts, amount of cigarette use, smoking intention, and attitude/knowledge for smoking were included as secondary outcomes. Data was synthesized quantitatively or qualitatively depending on the type of extracted data. For the quantitative approach, data were pooled separately according to study design and definition of outcomes. **Results:** Fifty-one studies were finally selected for this review. Characteristics of the included studies varied not only in study design and settings, but also in characteristics of patients and interventions. In three controlled before-and-after studies, the odds ratio (OR) of smoking prevalence after exposure to interventions was significantly lower than before the exposure (OR 0.85, 95% confidence interval (CI) 0.77 to 0.94), but there was significant heterogeneity between these studies (I2 = 75%). With regard to smoking cessation success rate, seven comparative studies were pooled and showed that mass media campaigns were associated with a higher success rate compared with no intervention (OR 2.60, 95% CI 1.24 to 5.46), but also reported statistically significant heterogeneity between the studies (I2 = 76%). In our qualitative review, 22 of 27 studies (81%) reported that mass media interventions were associated with increasing smoking prevention or reducing smoking prevalence. **Conclusions:** Mass media interventions may produce a reduction in tobacco use. Well-designed comparative trials are needed to validate our finding. *This study was supported by Korea Center for Disease Prevention and the National Evidence-based Healthcare Collaborating Agency in Korea (NS15-003).

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P182: Methodological issues on evidence review for public health intervention in Republic of Korea

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Background: Healthcare policy makers need more concrete evidence due to variations of values in public health recommendation. But public health evidence has different characteristics compared to medical or clinical area. There are need to develop a methodology for public health evidence review in Republic of Korea. **Objectives:** To establish standard evidence review process for public health recommendation in Korea. **Methods:** Firstly, we reviewed previous manuals and methodologies published about evidence-based public health recommendations and guidelines. A committee consists of experts of methodology, health policy consulted to construct contents and process establishing. External review also will be performed for quality of contents. Secondly, we compared 2 quality of evidence methodologies based on our systematic review results on public health intervention. **Results:** We have selected common tasks for evidence review, but there were some methodological issues on review process. Population-level intervention has more complexity and heterogeneity than individual level intervention. Also, we have reviewed two grading methodologies (Community Guide and GRADE approach) for evaluating quality of evidence. In case of observation studies, the quality of evidence can be 'low' or 'very low' to make recommendation by GRADE approach but it can be 'strong' according to Community guide. Mainly, this result was related to study design and quality assessment methodology. Lack of local evidence is also another issue on making recommendations. **Conclusions:** We found there are some methodological issues to establishing standard evidence review process on public health area. Further research would be needed to compensate the methodological weakness in evidence review process for public health recommendation.

P183: Reviewing the quantity and quality of evidence available to inform NICE diagnostic guidance. Initial results focusing on end-to-end studies and the implications for Cochrane Reviews

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Background: The National Institute for Health and Care Excellence (NICE) has produced guidance on medical diagnostic technologies since 2011. This has resulted in 22 pieces of guidance on wide-ranging topics. As part of the process of reviewing its methods, the pieces of guidance and the underpinning evidence are being examined to inform thinking on potential future developments. The expectation in diagnostics assessments is that end-to-end studies, such as comparative outcome studies - like RCTs - are rarely available. This study reports on the availability of end-to-end studies. Anecdotally, the experience of the NICE team is that several pieces of guidance have been informed by end-to-end studies contrary to our expectation that this would be very unusual. Therefore, we wanted to examine the frequency and nature of this phenomenon in detail, and considers how these studies informed the considerations and decision making of the NICE Diagnostics Advisory Committee. We also wanted to see whether Cochrane Reviews of these studies were available. **Objectives:** To identify how many pieces of NICE diagnostics guidance were informed by end-to-end studies; to describe the nature of the end-to-end studies identified; to describe how the end-to-end studies informed committee discussions and the final guidance; to assess whether Cochrane Reviews could have been used. **Methods:** The approach will be a document analysis of all pieces of published diagnostics guidance and the underpinning evidence. A data extraction form will be developed and piloted. Extraction will be performed by one researcher and checked by a second. Data will be tabulated and conclusions derived from the tables produced. Where results are quantified, such as the frequency of reports with end-to-end studies, 95% CI will be calculated. **Results:** The analysis will be available at the Colloquium. There are at least two pieces of guidance where RCTs compare the impact of introducing a strategy involving a new test with the impact of an existing strategy. **Conclusions:** Once completed, this work will inform discussions on potential future developments for the assessment of diagnostic technologies.

P184: Use of medical terminologies to describe adverse event terms in ClinicalTrials.gov

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Objectives: To describe the type of medical terminology used and variability of adverse event terms in ClinicalTrials.gov in context of mandates by the Food and Drug Administration Amendments Act of 1997 to promote transparency surrounding reporting of trial data. Study Design and Setting: Cross-sectional study on safety and efficacy trials in ClinicalTrials.gov for common drug classes: antidepressants, analgesics or anesthetics, antidepressants, anti-allergics, anti-infectives, enzyme inhibitors, and anti-inflammatory, antineoplastic, hypoglycemic, neuromuscular agents. **Methods:** Registered and completed clinical trials with adverse events between 2009 and 2012. We identified trials that studied the 10 drug categories from safety and efficacy trials. We excluded trials without a drug intervention or adverse events. **Results:** Out of 93 trials that studied drugs, pain was most studied (n = 5, 5.4%), followed by major depressive disorder and acne vulgaris, (both n = 4, 4.3%). Most trials were randomized (n = 63, 67.7%). MedDRA was the most commonly used (n = 30, 32.3% and n = 45, 48.44%) dictionary for serious and other adverse events (SAEs and OAEs), respectively. Predominantly, 67 (72%) trials reported OAEs, whereas 42 (45.2%) reported SAEs. The majority of drugs were an FDA indication (n = 51, 54.8%). Omitted medical terminology sources were 10 (10.8%) for trials with SAEs and 18 (19.4%) for OAEs. Of 236 lay terms for both SAEs and OAEs, the same lay term defined up to three different adverse events in 11 (11.8%) and 69 (74.2%) trials, respectively. **Conclusions:** MedDRA was predominantly used to define adverse events from safety and efficacy drug trials. Variation in the use of multiple terms to convey the same adverse event term was minimal. However, many studies failed to provide a source dictionary. Without a standardized dictionary or version required by ClinicalTrials.gov, there may be a reduction in the comparability of adverse events across studies. Administrators at ClinicalTrials.gov may consider the peremptory use of MedDRA or lay terms.

P185: Reporting characteristics and quality of systematic reviews on acupuncture analgesia

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Background: Acupuncture is frequently used for pain treatment. However, verifying its efficacy and safety may need high-quality evidence. **Objectives:** Based on the principles of evidence-based medicine to explore and show the reporting characteristics as well as quality of the systematic reviews (SRs) on acupuncture analgesia. **Methods:** We searched four international databases (PubMed, the Cochrane Library, Embase, Web of Science), three Chinese databases (CBM, CNKI, WANFANG) and relevant websites in January 2016. The search terms were 'Acupuncture', 'Needle', 'Auricular', 'Electroacupuncture', 'Electro-acupuncture', 'Acusector', 'Pain', 'Analgesia', 'Systematic Review', 'Meta'. We used EndNote X4 and Excel for data description and analysis, and AMSTAR and PRISMA statements to assess quality of the included SRs. **Results:** A total of 109 SRs met the inclusion criteria: publication ranged from one in 1997 to 15 in 2015. Only 17% of the publications were Cochrane SRs (CSRs), and 94% were from SCI (Science Citation Index) journals with impact factors from 0.5 to 18. The UK had the most publications, followed by USA and China. Low back pain, headache, cancer pain, labor pain and MPS were the most common conditions. Nearly 73% of the SRs conducted meta-analysis, 53% used RevMan software to analyze data, 44% used the Cochrane 'Risk of bias' tool to evaluate quality, 58% had positive results, and only 9% reported being updates. After AMSTAR and PRISMA were released, scores for some items improved, but only a few SRs fulfilled the criteria “assessed the likelihood of publication bias”, “protocol and registration” and “additional analyses”. CSRs were of better quality than non-CSRs, and journal categories made no difference to quality. **Conclusions:** Although the quantity and quality of SRs on acupuncture analgesia has been promoted in recent years, CSRs form a minority of those available. More efforts on assessing the publication bias, providing protocol and registration, offering additional analyses, etc. are needed to improve the validity of the SRs.

P186: Evidence-based practice guideline of Chinese proprietary herbal medicine for the common cold

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Background: Chinese proprietary herbal medicines (CPHMs) have a long history in China for treating the common cold; 334 CPHMs are authorized by the China Food and Drug Administration (CFDA) for this purpose. **Objectives:** To provide an evidence-based clinical practice guideline of CFDA-approved CPHMs for the common cold to justify their clinical use and recommendation. **Methods:** The guideline development group included a variety of expertise in content and methods. We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, SinoMed, CNKI, VIP, China Important Conference Papers Database, China Dissertation Database, and online clinical trial registry websites for published and unpublished randomized clinical trials (RCTs) or systematic reviews of CPHMs for the common cold up to 31 March 2016. We applied the Cochrane 'Risk of bias' tool, used GRADE to evaluate the strength of the evidence, basing recommendations on findings that incorporated the strength of the evidence. **Results:** A total of 334 CPHMs were approved by the CFDA, however, only two had one RCT to support their use for the common cold. For children with a wind-heat type of common cold, Zhubo Houzao powder had a better effect on fever subsidence time (MD -3.24 d, 95% CI -3.53 to -2.95) compared with conventional treatments. For adults with a wind-heat type of common cold, Shufeng Jiedu capsules had a better effect on fever subsidence time (MD -5.5 h, 95% CI -6.33 to -4.67) compared with placebo. All studies had a very high likelihood of bias, and a low quality of evidence due to limitations in their design and implementation, and weak recommendations were made for their CPHM's clinical use. Most of the trials did not report adverse events, and the safety of CPHMs is still uncertain. **Conclusions:** Our review revealed the enormous lack of an evidence base in clinical use and policy making in China. We cannot provide confirmation of the beneficial effect of CPHMs for the common cold. To ensure evidence-based clinical practice, future policy makers should pay more attention to the evidence for CPHMs.

P187: The citation status of systematic reviews on imaging diagnosis in clinical practice guidelines: a cross-sectional study

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Background: The development of clinical practice guidelines (CPGs) should use and cite systematic review evidence. **Objectives:** To investigate the citation status of systematic reviews on imaging diagnosis in clinical practice guidelines and provide a guide for the development of imaging diagnosis guidelines. **Methods:** We electronically searched the PubMed database to collect systematic reviews on imaging diagnosis. The date was limited from 1 January 2010 to 31 December 2012. Two reviewers independently screened literature and extracted data. The citation data of included systematic reviews were obtained on the Web of Science. The citation analysis method was used to analyze the citation frequency of systematic reviews on imaging diagnosis in CPGs. **Results:** We included 292 systematic reviews on imaging diagnosis, of which 94% (275/292) were indexed by Science Citation Index. The total citation frequency of these systematic reviews was 5413 (median: 20, range: 0 to 131). Twenty-eight per cent (78/275) were cited by CPGs. Of which, 7% (19/275) were used as the source of the evidence of recommendations in CPGs. **Conclusions:** The ratio of systematic reviews cited by CPGs is low, the ratio of being the source of evidence of recommendations of systematic reviews in CPGs is lower, and furthermore, the citation is time-delayed.

P188: The development of an international practice guidelines registry platform

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Background: In 2008 the World Health Organization (WHO) established the International Clinical Trials Registry Platform (ICTRP) and the registration of all intervention trials is now regarded as a scientific, ethical and moral responsibility. In 2011 PROSPERO, an international prospective register of systematic reviews was launched and it aims to provide a comprehensive listing of systematic reviews registered at inception to help avoid unplanned duplication and enable comparison of reported review findings with what was planned in the protocol. However, very few organizations and programs focus on registration for practice guidelines. **Objectives:** To develop an International Practice Guidelines Registry Platform (IPGRP). **Methods:** Literature review, focus group and database development. **Results:** The International Practice Guidelines Registry Platform (IPGRP) was established on 1 January 2014. This initiative provides a free and open platform for practice guidelines internationally. The platform has three databases, guideline methodologists, systematic reviewers and representatives of patients and the public. About 20 organizations and institutions have endorsed the program. It is estimated that 20 to 30 practice guidelines on clinical medicine, public health and health policy as well as traditional Chinese medicine will register before 2016 G-I-N. The official website is www.guidelines-registy.org. **Conclusions:** The registration of practice guidelines will not only make the development process more transparent and decrease duplication but also will promote collaboration between different developers as well as dissemination and implementation. It is expected that IPGRP, together with the two programs of ICTRP and PROSPERO may constitute a more comprehensive registration system for clinical trials, systematic reviews and practice guidelines in the future.

189: The methodological quality of systematic reviews and meta-analyses of diagnostic tests of MRI

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Background: The quality of systematic reviews of diagnostic tests of magnetic resonance imaging (MRI) is not known. **Objectives:** To investigate the methodological quality of the systematic review/meta-analysis of diagnostic tests of MRI. **Methods:** We performed an electronic search of the SinoMed database from inception to August 2014. The search terms included 'diagnosis', 'specificity', 'sensitivity', 'systematic review', 'systematic assessment' and 'meta-analysis'. Two reviewers independently screened the literature, extracted data according to the inclusion criteria, and used the internationally standardized tool AMSTAR to evaluate the methodological quality of the included

researches. Finally, we used Excel to input and analyze the data. **Results:** We included 53 related systematic reviews/meta-analyses published from 2004 to 2014. They were published in 36 periodicals, with most in the Chinese Journal of Radiology. Thirty-three diagnostic diseases were involved in these systematic reviews/meta-analyses. The top three were ischemic necrosis of femoral head (5 reviews), prostate cancer (4 reviews), and pulmonary artery embolism (3 reviews). Nine articles reported funding assistance: three received national funding assistance, five received provincial and civic funding assistance, two received funding assistance from institutions of higher learning. The AMSTAR results will be presented at the Cochrane Colloquium. **Conclusions:** At present, the methodological quality of the systematic review/meta-analysis of diagnostic tests of MRI is generally low, and we need to start more high-quality research. Next we will evaluate comprehensively all the diagnostic systematic reviews relating to imaging methods.

P190: Software solutions to create and manage systematic reviews and meta-analysis

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Background: A systematic review (SR) and meta-analysis are a long, solid and explicit process used to assess the best available evidence and summarize it in order to answer a specific question. Some steps are necessary to elaborate a systematic review such as searching for studies, selecting studies, collecting data, assessing risk of bias, synthesizing the results, summarizing the findings and reaching conclusions. Those steps take a long time because of the number of studies included. Some useful software programs have become valuable tools to help researchers to produce more systematic reviews and meta-analysis. **Objectives:** Comparative assessment of software available on the internet in describing differences and recognizing similarities for creation and management of SRs and meta-analyses. **Methods:** We have been searching for software programs for preparing and maintaining SRs and meta-analyses on the internet (Google and blogs about SRs). We included 22 programs and describe their differences based on available information from their websites and user guides. **Results:** The software programs we found were RevMan (Cochrane's Review Manager), DistillerSR, Covidence, Rayyan, EPPI (Evidence for Policy and Practice Information) Reviewer 4, EROS (Early Review Organising Software), SRDR (Systematic Review Data Repository), SUMARI (System for the Unified Management, Assessment and Review of Information), Mendeley, Abstrackr, OpenMeta, Excel Workbook SR, Import.io, Metafor, EndNote, GradePro, Comprehensive Meta-analysis, Meta-analysis made easy, CRS (Cochrane Register of Studies), Stata and LyonsMorris. Most programs are in English, free, import and export search results, and can be used online. Some of them perform quality assessment, data extraction and final decisions to include and exclude studies. Not all have a comprehensive guide to the process of conducting meta-analysis. **Conclusions:** Some software programs that help make the SR and meta-analysis process easier and faster can be found on the internet. However, all reviewers must follow the steps required to conduct a good SR and meta-analysis.

P191: Strategies for handling dose effects in network meta-analysis: a review of practice and methodology

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Background: Dose effect is a common and important issue in network meta-analyses of pharmaceutical interventions but the methodology for this issue has received relatively little attention. **Objectives:** To summarize strategies used in practice and propose a methodological framework specifically for handling dose effects in network meta-analyses. **Methods:** We systematically reviewed published network meta-analyses with four or more intervention nodes, of which at least one was a pharmaceutical intervention. Strategies used for addressing dose effects were summarized. Methodology papers (dose effects in pairwise meta-analysis, model-based meta-analysis, and modelling dose in network meta-analysis) were also reviewed though this was not performed systematically. **Results:** The review of practice was based on 350 network meta-analyses. We identified 76 (21.7%) network meta-analyses which did not report any drug dose information, and 93 (26.6%) network meta-analyses involving drugs with multiple doses but in which the potential effects were not appropriately addressed. We found 166 (47.4%) network meta-analyses applying one or more specific strategies, including restricting attention to specific doses (58 studies), splitting doses (87), lumping multiple doses with supporting evidence (24), stratified analysis by dose (5), modelling dose-response (2), and unspecified meta-regression (2). We propose a methodological framework for addressing dose effects, which combines methodological considerations with strategies used in practice. **Conclusion:** Dose effects were often not handled appropriately in published network meta-analyses, although a number of useful strategies are available. Our proposed framework specifically for handling dose effects will hopefully be useful for future network meta-analysis authors.

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