Family Medicine as a Model of Transition from Academic Medicine to Academic Health Care: Estonia’s Experience

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This paper presents the development of academic family medicine in an environment of traditional academic medicine at the Tartu University, Estonia. The introduction of university family medicine teachers to everyday practice and practitioners to academic teaching and research helps bridge the gap between theory and practice, and it shows changed approach to academic medicine.

Key words: academic medical centers; curriculum; education, medical; Estonia; faculty, medical; family practice; health care reform

Wide discussion about academic medicine has arisen from its alleged crisis (1,2). The main features of the crisis have been formulated as follows: even though academic medicine consists of three combined vocations: clinical care, research, and teaching, it is almost impossible to merge them in a modern service based medical care (3); academic medical education is outdated and needs refreshing with new teaching and learning methods (4); academic medicine is detached from the common health problems of the population (5). At this point, I would like to mention some problems raised by Professor Raivo Uibo, Academician of the Estonian Academy of Sciences, which are especially evident in Estonia where great changes in society as well as in health care are taking place. Prof Uibo notes that medicine in general is becoming increasingly more service-based, with the emergence of new legal and psychological issues, e.g. participation of patients in the teaching process, patient-doctor relationship, and collection and protection of data for research. We see increasingly fewer physicians with a PhD degree who are involved in clinical research because business oriented hospitals do not value academic degrees.

In spite of this, academic medicine is still a sign of quality in training, research, and clinical practice. An understanding of the opportunities that a changed health care environment provides for academic medicine would help attain new outcomes. The importance of interdisciplinary cooperation and focus on the process of care from the patient’s point of view should be emphasized as quality indicators in academic medicine (6), while these trends can derive support from family medicine.

My paper seeks to offer some possibilities for revitalizing academic medicine by demonstrating: 1) how preparedness to use a traditional academic medicine environment for developing academic family medicine results in the introduction of the new specialty in the medical curriculum, postgraduate training, and research; 2) how academic family medicine is linked with the reorganization of the primary health care system based on family doctors in Estonia, a country with 1.4 million inhabitants and a territory of 43,000 km², with 32 physicians per 10,000 inhabitants; and 3) how family medicine opens health care for academic medicine on the population level and combines research and teaching with the everyday clinical practice of family doctors.

Academic Medicine in Estonia

On June 30, 1632, King Gustav II Adolf of Sweden signed the Foundation Decree of Academia Dorpatensis, which marks the beginning of the distinguished history of Tartu University with its faculties of Philosophy, Law, Theology, and Medicine. Academic medicine and the Faculty of Medicine in Estonia have a 372 year history. Being the only faculty preparing physicians in Estonia, it follows good academic tradition and offers research-based graduate and postgraduate programs in 38 medical specialties. Tartu University School of Medicine, one of the 11 faculties in a research oriented European university, has a unique opportunity to carry out both fundamental and applied research and to collaborate within the university as well as on the international level. The university provides ideal conditions for complex solution of problems and for collaboration of several disciplines for developing a new academic specialty (7).
Table 1. Family medicine in the undergraduate curriculum of the Tartu University Faculty of Medicine

<table>
<thead>
<tr>
<th>Academic year</th>
<th>Hours</th>
<th>Methods</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd</td>
<td>24</td>
<td>lectures, small-group work, observation of family doctor's work, skills-lab, consultation skills</td>
<td>current evaluation of participation and activity</td>
</tr>
<tr>
<td>6th</td>
<td>96</td>
<td>one-to-one teaching in family practice, small-group work, skills-lab, consultation skills</td>
<td>written exam</td>
</tr>
<tr>
<td>6th</td>
<td>72</td>
<td>practice</td>
<td>demonstration of practical skills</td>
</tr>
</tbody>
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**Academic Status of Family Medicine and Training of Family Physicians**

The department of Family Medicine was established at the Tartu University in 1992 (8). The university resolved to support the development of the specialty of family doctor by organizing training in family medicine on the academic level. However, at the same time, according to the law of the university, the traditional characteristics of academic specialties were strengthened also of family medicine: academic degrees for the faculty members, capability to teach in undergraduate and specialist training programs, research activity, and publishing activity. All faculty members for the new Department were elected according to the academic criteria in spite of the fact that they were not trained family doctors. All elected faculty members devoted themselves to the implementation of the specialty of family medicine on the academic level. International courses, cooperation, and consultations were used for the training of the elected teachers and for the development of the programs.

The curriculum of the undergraduate course at the Faculty of Medicine includes the subject of family medicine for all students since 1992. The core idea of the program was an early introduction of family medicine with 24 hours in the 2nd year and 166 hours in the 6th year, while all students are granted an opportunity to attend one-to-one practice supervised by practitioners (Table 1). The specialist family doctor training programs were launched in 1991-1992 and the first trainees completed the retraining course, specializing as family doctors in three years. The training of family physicians in Estonia was organized in 2 ways: three-year in-service retraining courses for the existing primary care physicians (pediatricians, physicians of internal medicine) and three-year full-time residency training for the physicians who had graduated from the medical faculty and finished their internship (Fig. 1). The research activity of the Department was based on academic tradition and on local and international cooperation. Academic family medicine soon gained recognition among the students, trainees, and other academic specialties, as well as among the organizers of the health care system. The international peer-review of the Department in 1998, accreditation of the teaching programs in 2002, and evaluation of the Department’s research in 2004 were all positive.

The decision to establish an academic department of family medicine was progressive for the traditional university and for the Faculty of Medicine with a long academic history. Also, it was a step forward in the reorganization of the health care system in Estonia. We learned from experience that the development of family medicine in the community has more chances when training is started on the academic level and is then followed by trained family medicine specialists implementing the principles of family medicine in practice step-by-step by reforming the previous health care system. At that time, several medical specialists, such as general internists, and pediatricians provided primary health care where responsibility for individual and family health was shared. A defined general specialty (general practitioner/family doctor) that was lacking in primary health care was established in the transition period during the following 10 years. In our experience, the combination of the academic and practical components supported the process.

In 1991-2001, the main way to be certified as a family doctor in Estonia was to pass a retraining course. In the future, this would be done through full-time residency training.

The revision of specialist training in all other specialties supported the development of academic family medicine. Specialization of pediatricians from the first undergraduate year in the Faculty of Medicine in Estonia was terminated in 1991 and pediatrics became a postgraduate specialty. A balanced proportion of residents were established in all 38 specialties (9,10).

**Opportunity to Combine Three Facets of Academic Family Medicine**

Traditionally, the academic staff member is responsible for teaching, research activity, and clinical work. Combining all the three vocations is complicated in university hospital-based specialties, not to mention family medicine. At first, we had to train the faculty members in teaching. The next challenges were research activity and obtaining of academic degrees; besides, all faculty members needed training in the specialty of family doctor. All this took at least 10 years. Only then was it possible to combine all three vocations for the faculty members, while not one of

![Figure 1. Training of family doctors in Estonia (1991-2002). One year internship (dashed line) was terminated in 2002 and was integrated in the 6th year undergraduate program.](image-url)
the vocations granted a full-time job. To manage the situation, teaching practices in academic family medicine should reach a special status in the Medical Faculty as well as in the health care system, while physicians occupy only part-time position in both. To merge research into this triad is even more complicated since it is not possible to conduct a part-time research: the criteria of academic degrees and publishing activity are similar for all clinical faculty members in the university. Clinical faculty members must be more efficient and more enthusiastic to do research on the professional level. We were successful in negotiating with the University and health care organizers and now all 7 faculty members and 4 doctoral students, besides teaching, also do part-time clinical work with their own patients. The Medical Faculty employs more than 60 practicing family doctors on a contractual basis as tutors for students and supervisors for residents. Our experience shows that the combination of teaching and clinical practice is important not only for the faculty members but it should be available also for practitioners. Practitioners see the benefits of the faculty, e.g. an opportunity to involve residents in the practice, to be involved in cooperative projects, to participate in conferences with reports, to manage everyday routine, etc. Academic medicine should not underestimate academic approach but should find positive aspects for dissemination of its principles. The development of family medicine in Estonia was different from the process in the countries where family doctors were practicing before the establishment of a university department (5). In our case both the faculty members and practicing doctors specialized as family doctors at same time and now belong to same generation of the specialty. This is useful in finding common interests, in planning cooperation and joint projects and in solving common clinical problems. The motivation of our family doctors to be involved in all three vocations is related, first, to the belief that academic medicine is a sign of quality (5), and second, to an opportunity to use both research results and experience from work with patients in the teaching and training of students and residents. Introduction of university teachers to everyday practice and practitioners to academic teaching helps bridge the gap between theory and practice. Modern trends in academic teaching should follow changes in health care. The number of outpatient visits is increasing and students see patients not only in hospitals but also in outpatient clinics, in family practices, and at homes. This leads to changes in the teaching methods, which should harmonize with the outpatient environment. Being a new specialty at the university, we had an opportunity to introduce innovative methods in under- and postgraduate teaching, including teaching of communication skills and doctor-patient relationships, training of practical skills using training models at first and later on patients, teaching with interactive computer-based programs, problem and case-based learning methods, training in research and one-to-one contact of undergraduate students with patients in family practices. By executing our own research projects in different fields of primary health care (family problems, patient consultations, natural and post-treatment course in chronic diseases, adolescents’ health problems, epidemiology of common diseases, influence of lifestyle and social factors on health) we are able to teach from our own evidence-based material.

Academic Family Medicine Disseminates Research Results on Level of Family Practice

Research in medicine is a mixture of basic and applied clinical sciences, which is essential to medical practice. Faculty members’ daily clinical work with patients stimulates emergence of research problems important for practice and facilitates collection of clinical material. The high level of computerization of the family practices in Estonia helps involve practicing family doctors in research projects and creates databases for research. Partnership with other institutes and clinics within the university helps derive appropriate methods from basic science, from clinical studies or from health service research for analyzing material. When conducting training courses in research for practicing family doctors residents faculty members are the disseminators of research results. Research is included in the training of residents; every resident is expected to perform a research project during the residency training. The involvement of medical students into research during the course and in the period of training in the specialty is a way to diminish the gap between academic family medicine and practice. The academic status of family medicine in Estonia promotes the development of the postgraduate research program as well as international cooperation with the other European countries (12), e.g. Eurocommunication II (13) and the EU 5th frame project PRE-DICT (14). Also, we have gained experience from research cooperation with Finland, Hungary, Slovenia, the Netherlands, Sweden, Poland, the UK, Spain, Portugal, and Romania. Six PhD theses have been commenced on the basis of the Department’s research topics.

Academic Family Medicine and Reforms in Health Care

Demographic changes, both domestic and international, alter the demand for health care and require

Innovative Academic Family Medicine Contributes to Updating of Medical Curriculum

The focus of health care has shifted from the episodic care of individuals in hospitals to the promotion of health in the community (3). Development of training in family medicine, based on a wider patient community, allows to reorganize the whole teaching process in the Faculty of Medicine and to improve the students’ contact with patients. The length of the program and the link with practice in the curriculum of the Faculty of Medicine and in residency training, including training of family doctors, are in concordance with the European Union Directive (11).
development of new strategies for efficient health care delivery (15). One of the problems for academic medicine is that it has become detached from the common health problems of the population (5) and is often not involved in health care organization. Being the pioneer in family medicine in Estonia, the Faculty participated, besides training, in research and clinical activities, and in the process of reforms in the health care system of Estonia. The Estonian health project supported by the World Bank, involved members of the Department of Family Medicine of the Tartu University as the coordinators of the project subcomponents. The employment of newly trained family doctors, study of their job motivation and patient satisfaction, development of training according to the population’s needs, elaboration of standards for rooms and equipment – all these have been the responsibility of academic family medicine. The Faculty participated in the working group for preparation of further recommendations and legal acts for primary health care of the Ministry of Social Affairs.

Technical progress in modern community has given new possibilities for academic medicine: the Department uses telemedicine for patient consultations and for distance learning courses for family doctors; one of our new research topics is related to implementation of a telephone consultation system in Estonia.

The experience acquired from academic family medicine was used by our faculty members in the designing and executing of health care reforms in other countries (Armenia, Turkmenistan, Uzbekistan, Tajikistan, Russia, and The Former Yugoslav Republic of Macedonia).

Conclusion

It is possible to refresh academic medicine by using positive influence from new enthusiastic specialties with new approaches to teaching and research, as well as by introducing practicing physicians to the university. An example of this is family medicine in different countries. Clinical work is especially important in meeting the quality needs of teaching: it is impossible to teach a specialty without the knowledge of everyday problems. Combination of the 3 vocations requires more flexible approach in the academic context – balanced evaluation of academic capability must comprise, beside research and publishing activity, also teaching and clinical activity. Academic medicine has an opportunity to employ evidence-based approach in health care reforms in concordance with Estonia’s experience.

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