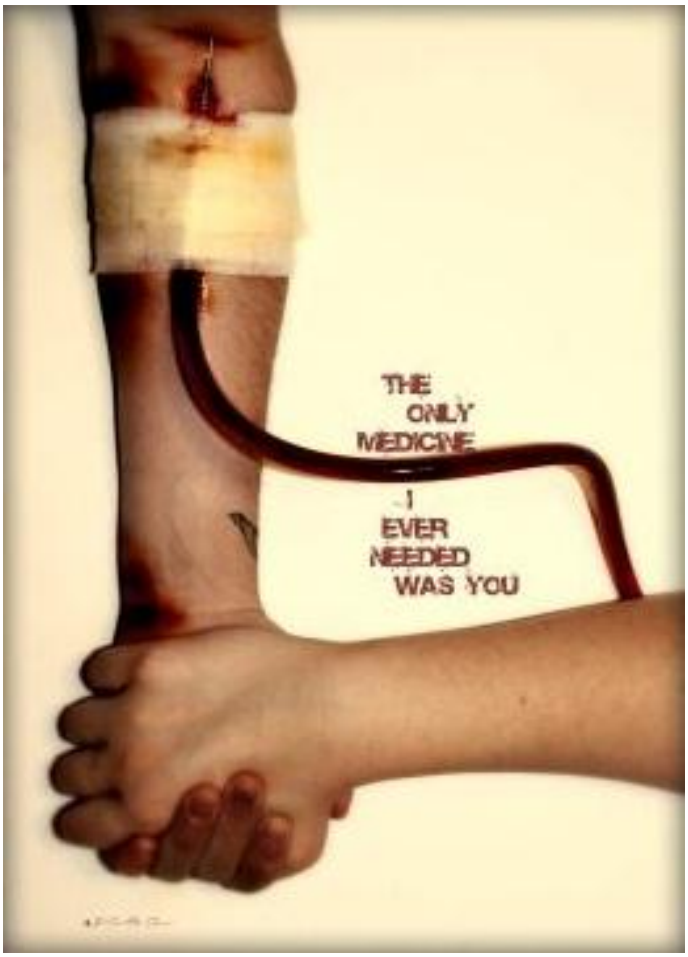
UNIVERSITY OF SPLIT

SCHOOL OF MEDICINE

MEDICAL HUMANITIES



Open Textbook

Split, October 2015.

Table of Contents

Introduction to Medicine 3
The Declaration of Geneva 4
The Myth of Asclepius 5
History of the Split School of Medicine 6
Studying Medicine in Split 7
Medical and Academic Titles 9
Physician Organizations 10
The Croatian Medical Chamber 10
The Croatian Medical Association 11
The World Health Organization 11
The World Medical Association 12
The International Committee of the Red Cross 12
Doctors Without Borders 13
International Physicians for the Prevention of Nuclear War 13

Introduction to Medicine

Medicine is the art and science of diagnosing, treating and preventing human diseases. The Latin term *medicina* means cure or treatment while *medicus* means the profession of a physician. Today, medicine is a regulated profession, which requires 4 to 7 years of education, depending on specific country regulations. Following graduation, physicians usually choose either a scientific (PhD) or a clinical specialization (there are 45 clinical specializations right now in Croatia) each requiring at least 3 years of additional education. Practicing medicine, however, requires lifelong learning, and is in most countries regulated by renewing physicians' permits (licenses) every few years (6 years in Croatia). Renewal requirements usually include additional training and education, specialized work, and publication of scientific papers. In Croatia, the Physicians' Act (Official Gazette 121/03, 117/08) defines the concepts, structure and regulations of physicians' work, and defines physicians as fundamental health care providers that must uphold the following principles:

1) constantly maintain and improve the quality of medical services in the interest of the health and social well-being of the population,
2) maintain and promote trust between physicians and patients and their families,
3) respect the rights of patients,
4) work independently and professionally, while preserving and promoting the freedom and reputation of the medical profession,
5) promote dignified and responsible professional behaviour in compliance with work regulations, codes of practice and codes of medical ethics and deontology.

The practice of medicine is severely regulated by numerous laws and regulations (e.g., in Croatia: the *Health Care Act, the Compulsory Health Insurance Act, the Act on the Protection of the Population from Infectious Diseases, the Blood and Blood Products Act, the Medically Assisted Fertilization Act, the Rules on Minimum Conditions of Premises and Equipment in Health Care, the Informed Consent and Refusal of Treatment Act, the Clinical Trials and Good Clinical Practice Act, the Rules for Examination of the Dead and Establishing the Cause of Death,* and *the Sex Change Act*) which can be accessed at our Department's websites. However, the progress of science and medicine often pushed the possibilities of the human race much faster than the establishment of laws or unified public opinion (e.g., artificial insemination, embryo sex selection, abortion, euthanasia, organ transplantation, sex change, human or embryo experimentation). Consequently, physicians today are obligated to respect and follow the ethical principles set and expressed in the **Code of Medical Ethics and Deontology** (in Croatia), or in international documents: the **Declaration of Lisbon** on the Rights of the Patient, the **Declaration of Madrid** on Professional Autonomy and Self-Regulation, the **Declaration of Helsinki** (human experimentation) and the **Declaration of Geneva** (Physician's Oath) as a direct revision of the oath physicians swore in ancient times.

The Declaration of Geneva

The Declaration of Geneva was adopted by the General Assembly of the World Medical Association (WMA) in 1948, and amended in 1968, 1983, 1994, 2005 and 2006. It was intended as a revision of the **Hippocratic Oath**, and is today sworn by physicians upon graduation from medical school. The full text of the declaration is:

> *At the time of being admitted as a member of the medical profession:*
>
> *I solemnly pledge to consecrate my life to the service of humanity*
>
> *I will give to my teachers the respect and gratitude that is their due;*
>
> *I will practice my profession with conscience and dignity;*
>
> *The health of my patient will be my first consideration;*
>
> *I will respect the secrets that are confided in me, even after the patient has died;*
>
> *I will maintain by all the means in my power, the honour and the noble traditions of the medical profession;*
>
> *My colleagues will be my sisters and brothers;*
>
> *I will not permit considerations of age, disease or disability, creed, ethnic origin, gender, nationality, political affiliation, race, sexual orientation, social standing or any other factor to intervene between my duty and my patient;*
>
> *I will maintain the utmost respect for human life;*
>
> *I will not use my medical knowledge to violate human rights and civil liberties, even under threat;*
>
> *I make these promises solemnly, freely and upon my honour.*

The original text of the **Hippocratic Oath** is:

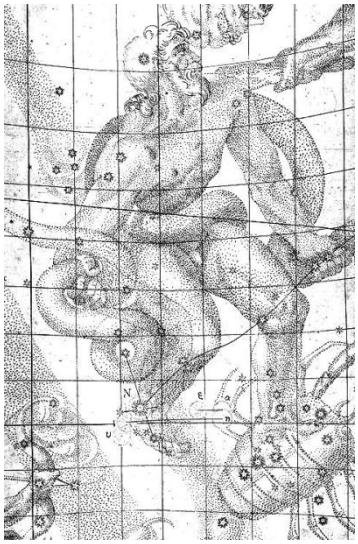
*I swear by **Apollo** the physician, and **Aesculapius** the surgeon, **Hygeia** and **Panacea**, and call all the gods and goddesses to witness, that I will observe and keep this underwritten oath, to the utmost of my power and judgment. I will reverence my master who taught me the art. Equally with my parents, will I allow him things necessary for his support, and will consider his sons as brothers. I will teach them my art without reward or agreement; and I will impart all my acquirement, instructions, and whatever I know, to my master's children, as to my own; and likewise to all my pupils, who shall bind and tie themselves by a professional oath, but to none else. With regard to healing the sick, I will devise and order for them the best diet, according to my judgment and means; and I will take care that they suffer no hurt or damage. Nor shall any man's entreaty prevail upon me to administer poison to anyone; neither will I counsel any man to do so. Moreover, I will give no sort of medicine to any pregnant woman, with a view to destroy the child. Further, I will comport myself and use my knowledge in a godly manner. I will not cut for the stone, but will*

commit that affair entirely to the surgeons. Whatsoever house I may enter, my visit shall be for the convenience and advantage of the patient; and I will willingly refrain from doing any injury or wrong from falsehood, and (in an especial manner) from acts of an amorous nature, whatever may be the rank of those who it may be my duty to cure, whether mistress or servant, bond or free. Whatever, in the course of my practice, I may see or hear (even when not invited), whatever I may happen to obtain knowledge of, if it be not proper to repeat it, I will keep sacred and secret within my own breast. If I faithfully observe this oath, may I thrive and prosper in my fortune and profession, and live in the estimation of posterity; or on breach thereof, may the reverse be my fate!

The Myth of Asclepius

In Greek mythology **Asclepius** (Latin: Eskulap), was the son of **Apollo** (god of the sun, poetry, truth and prophecy) and Coronis, daughter of the king of Thessaly. Apollo entrusted the centaur Chiron to raise Asclepius. During his upbringing Chiron taught Asclepius medicine. Asclepius was so skilled that he could bring patients back from the dead. According to one version of the myth, when Asclepius was healing a man who was struck by Zeus's thunderbolt, he was frightened by a snake that appeared near him, and so he killed it with his rod. Another snake then appeared and put herbs in the dead snake's mouth, reviving the first snake. Asclepius so began to apply the same method, and use a rod with a snake as his symbol (Figure 1) as gratitude for the lesson learned. Since bringing back the dead meant breaking the will of the gods, Zeus killed Asclepius with a thunderbolt. According to one version, Zeus killed Asclepius for receiving money for the resurrection of Hippolytus, the son of Theseus, who insulted the goddess Aphrodite. According to another version, Hades, the god of the underworld, persuaded Zeus to kill Asclepius as he was afraid that the souls of the dead would stop coming to the underworld. After his death, Zeus raised Asclepius among the stars – thus creating the constellation Ophiuchus (Figure 2). According to another version, Zeus, in order to prevent further quarrels with Apollo revived Asclepius, under the condition that he no longer brings people back from the dead.





Asclepius had three sons and five daughters, two of which are mentioned in the Hippocratic Oath: **Hygeia** (goddess of purity - interpreted today as representing hygiene) and ***Panacea*** (goddess of the universal cure; in ancient Greek *pan* means all and *aces* means medicine). Today, the Rod of Asclepius is the official symbol of medicine and differs from the caduceus, which is a symbol of the

god Hermes, and consists of a rod with two snakes and wings (Figure 1, the picture on the right). Frequent mix-ups of these two symbols resulted from an accidental printing error in the 19th century when the caduceus was printed for the symbol of the US Army Medical Department instead of the Rod of Asclepius. The caduceus without wings, the cup of Hygeia, and the Green Cross today are regarded as the symbols of pharmacy (Figure 3). Alongside the Rod of Asclepius, other common symbols of medicine include the white coat and the stethoscope.





History of the Split School of Medicine

Before the 10th century, when the first school of medicine was founded in **Salerno** (Italy), medicine was taught as a craft to individual apprentices by those who practiced it. Today, there are more than **2000 medical schools around the world** and their names and distribution can be found on this website. Among the oldest schools that are still operating are: Bologna (Italy, 1158), St Bartholomew Hospital (UK, 1123), Montpellier (France, 1137), Oxford (UK, 1220), Florence (Italy, 1321), Padua (Italy, 1399), Coimbra (Portugal, 1290), Prague (Czech Republic, 1348), Krakow (Poland, 1364), Vienna (Austria, 1365), Heidelberg (Germany, 1386). In 1792 a Croat named Jakov Mirković Živković (Vis 1748 - Trogir 1824), graduated from the Padua School of Medicine. He later worked in Hvar and Split, and drafted a document that emphasized the need to establish the School of Medicine in Split. His wish, however, was never granted. On 5 November 1806, the St. Lazarus School was established in Trogir, but it was abolished only three years later. Students were then transferred to Zadar, and on 5 august 1811, the first physician to graduate in Croatia was Julije Pini from Skradin. A century and a half later the Zagreb School of Medicine (established in 1917) allowed its students to take their 5th year subjects in the Split hospital. With persistent pressure from Split additional years were established, and finally in 1979 students could attend all years, including the first. On **March 26, 1997** the Governing Council of the University of Split founded the School we have today, and every year on that date we celebrate the School's Day. As ordained by the governments' officials, the curriculum offered by the University of Split School of Medicine met the standards of higher education, and on September 11, 1997 the Commercial Court in Split issued a Resolution to enter the School of Medicine officially in its register.





Studying Medicine in Split

The School of Medicine consists of six well-defined academic years (I-VI) which include 5500 hours of direct teaching (60 ECTS per year). Professional medical training, culminating to the receipt of a medical degree, guarantees that one has obtained specialized skills and knowledge that can be divided into three groups:

Fundamentals of Medicine

- Appropriate knowledge of basic sciences for medicine as well as a good understanding of scientific methods, including the principles of biological functions and evaluation of the evidence-based practice of medicine and data analysis.

Social and Population-Based Medicine

- Sufficient understanding of the structure, functions and behaviour of healthy and diseased people as well as the interrelation between a patient's state of health and physical and social environment.
- Adequate understanding of clinical disciplines and procedures which give a complete picture about physical and mental illnesses, including a preventive medicine point of view, as well as diagnosis, therapy and human procreation.

Clinical Experience

- Adequate clinical experience in health care under appropriate supervision.

The above listed skills are regulated by the provisions of the *Regulated Professions and Recognition of Foreign Professional Qualifications Act* and are included in the Curriculum of the School of Medicine through various courses, seminars, and laboratory exercises. The amount of courses and credit hours vary over the six-year period where the first three years, called the preclinical years, include less credit hours while the later years, called the clinical years, include more hours. In the sixth year, students are also required to complete clinical rotations and defend their thesis.

The abovementioned teaching units, at the end of the study, integrate previously acquired knowledge, skills and attitudes (at all academic years, starting from the first year) into medical care for each individual patient. The teaching program of each academic year with the list of courses, their time-table and corresponding ECTS credits can be found at the School's website.

The academic year lasts from October 1 to July 15 and during this period:

- most subjects are taught in block hours;
- based on the course credit hours, an appropriate time is reserved for the exam preparation;
- the first test terms are held.

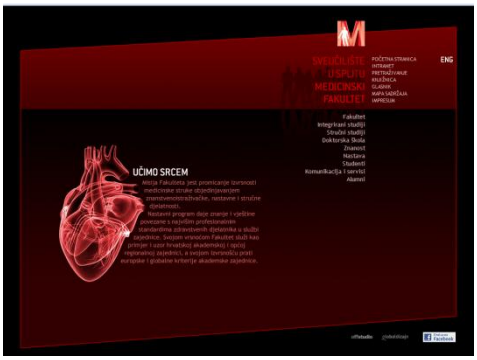


The academic year is not divided into semesters; however, teaching is done on a continuous, longitudinal basis. For students who fail to pass their exam during the first examination period, there is a possibility to re-take the test during the second examination period in the latter half of July, or in the third and fourth periods in September. The fourth examination term is always before an examining committee

which includes 3 professors. All the listed examination terms are appointed in advance and defined by course registration. A detailed description of the curriculum can be found at the Split School of Medicine website (www.mefst.hr). If students fail to pass an exam in one academic year, they need to take the same subject next year and in most cases again attend the classes. As a consequence, they will not be permitted to attend classes of a subject from the subsequent year that is at the same time as the one they failed to pass. According to new regulations, students can not enroll for more than 75 ECTS in one year.

Unlike the Split School of Medcine, which has the classical **pre-clinical and clinical years**, there is another way of teaching medicine in the world – referred to as **problem (organ) based learning** (PBL) where subjects are not based on the topic (anatomy, hystology, surgery) but students study one organ as a subject, and start with its anatomy, hystology, pathology, diseases and treatments. Subsequent subjects then deal with another organ in the same way.

Finding information about the courses



All curriculum and course information is subject to change. Up-to-date information about teaching, exams, textbooks, information desks, grading, etc. can be found at the School's website by clicking on the *Education*, and then *Departments* links. Students can also access the subject schedule on the schedule page by choosing the name of the course.

The **grade point average** depends on both a course grade and ECTS points of that course! It is computed by multiplying the passing grade by ECTS points of every course and then dividing the sum with the total ECTS points of all graded courses. The final result is then rounded to two decimal places. For example:

Subject	Grade	ECTS
Medical Physics and Biophysics	5	6
Medical Biology	5	9
Histology and Embryology	5	10
Anatomy	**3**	20
Social Medicine	5	2
Clinical skills I	5	2
Medical Humanities I	5	2
Research in Biomedicine and Health I	5	4
Elective course 1	passed	2
Elective course 2	passed	2
Physical education	passed	0
Croatian language I	passed	0
Total ECTS credits earned		**60**
Grade point average	4,75	
Weighted ECTS grade point average	**4,19**	

Medical and Academic Titles

A title is an honorary, acquired or inherited name that belongs to a certain person, and is used when addressing or reporting about the person to whom the title belongs. The title is usually designated by an abbreviation that is specific for a particular title, placed either as a prefix or a suffix to the person's name. Falsification or using a title one does not own is punishable by law. Due to changes in higher education programs and degrees as mandated by the Bologna Process, there are at least two levels of higher education: 1) undergraduate education lasting 3 years and a minimum of 180 ECTS credits grants a Bachelor's degree and the accompanying title and 2) (post)graduate education lasting at least 2 years and another 120 ECTS credits, after which a Master's degree is awarded along with the same title. While nursing, midwifery and other health professions in Croatia have this dual layered higher education, the School of Medicine is organized only as an integrated undergraduate and graduate education lasting a total of 6 years and 360 ECTS credits. In Croatian titles acquired after finishing school are usually written behind a person's name. The title of a physician, that of doctor of medicine (MD, Croatian: dr. med.) is awarded after passing all exams in medical school and defending a thesis. The same is true for pharmacists and doctors of dental medicine. The license for practice is, however, awarded by the **Croatian Medical Chamber** (or an equivalent body in different countries), after physicians finish their internship and pass the state licensing exam (the exam will no longer be required in 2018 in Croatia). Academic titles, acquired by being employed at the University (assistant), by acquisition of a doctorate (PhD) and by fulfilment of other requirements prescribed by law and the University (p**ostdoc, assistant professor, associate professor, professor**) are written before the name of the person in the Croatian language (Table 1). In Croatian this titles are: **poslijedoktorant, docent, izvanredni professor, professor**. While all previously listed faculty can teach young generations of students, only professors, and associate or assistant professors can evaluate the academic performance of students. In medicine, in addition to academic and specialist titles which are awarded after passing the specialist exam, doctors of medicine who have more than 10 years of specialist clinical experience, and meet other requirements prescribed by the regulations of the Ministry of Health (e.g., a certain number of published scientific papers) may be awarded the title of **Primarius** (prim.).

Table 1. Writing of medical and academic titles in Croatian and English languages.

Croatian	English	Meaning
Ime Prezime, dr. med.	Name Surname, MD	Physician
Ime Prezime, dr. dent. med.	Name Surname,	Dentist
Ime Prezime, mag. pharm.	Name Surname, RPh	Pharmacist
mr. sc. Ime Prezime	Name Surname, MSc	Master of science
dr. sc. Ime Prezime	Name Surname, PhD	Doctor of philosophy
doc. dr. sc. Ime Prezime	Ass. prof. Name Surname, PhD	Assistant professor
(izv.) prof. dr. sc. Ime Prezime	Prof. Name Surname, PhD	(Associate) Professor
prim. Ime Prezime	Primarius Name Surname	Primarius
Ime Prezime, dr. med., spec. obiteljske medicine	Name Surname, MD, family physician	Specialist of family medicine
prof. dr. sc. Ime Prezime, dr. med., spec. obiteljske medicine	Prof. Name Surname, MD, PhD, family physician	Professor of family medicine

Physician Organizations

There are many national and international associations of physicians participating in the promotion of health and peace, working on the development of standards for medical education and patient treatments, as well as those being in charge of issuing licences to physicians. Here is a short description of the most important organizations in and outside of Croatia.

The Croatian Medical Chamber

The Croatian Medical Chamber (Croatian: *Hrvatska liječnička komora*, HLK) is an autonomous and independent professional organization of physicians on the Croatian territory. It protects the rights and interests of physicians, promotes high standards of medical practice, and protects its reputation. HLK also publishes the Medical Gazette (Croatian: Liječničke novine). All physicians working in Croatia must join the the Croatian Medical Chamber and pay a monthly membership fee. The first Chamber was established in 1903 for Split and its surrounding areas, while in 1923 the Chamber covered doctors in Croatia, Slavonia

and Međimurje and had its headquarters in Zagreb. On the 27 June 1995 the Chamber adopted the Statute and on the 10 June 2006 published the **Codex of Medical Ethics and Deontology**, which defines the basic principles of physicians, their relationships with patients and patients' families, regulation of human fertility, death and dying, tissue and organ transplantation, biomedical research, the human genome, vulnerable groups, as well as behaviour towards other doctors and medical professions. The following are the main principles expressed in the act:

(1) The physician's duty is to dedicate his life calling and practice to health of individuals.

(2) Thus, the physician will respect the human life from its beginning until end, will promote health, prevention and treatment of diseases, and respect the human body and dignity even after death.

(3) The physician will provide help equally to everyone, regardless of their age, gender, race, nationality, religious or political beliefs, social status, with respect to human rights and dignity.

(4) The physician will keep the noble tradition of medicine by maintaining high standards of professionalism and ethical behaviour towards patients and their relatives, including healthy individuals.

(5) The physician will preserve the reputation and dignity of the other physicians and be honourable in his relations with colleagues.

(6) The physician knowledge and skill will always be applied responsibly in accordance with the principles of this Codex.

(7) Genetic tests and modifications of the genome are allowed only for health purposes.

The Croatian Medical Association

Croatian Medical Association (Croatian: *Hrvatski liječnički zbor*, HLZ) is a voluntary association of physicans and dentists established to promote and protect the health of the population, professional and scientific work of physicians, and to nurture medical ethics and physicians' interests. It was founded on 5 August 1874 (Sbor liečnika kraljevina Hrvatske i Slavonije), and has been publishing a journal titled: *Liječnički vjesnik* (English: Physicians news) since 1877.

The World Health Organization

The World Health Organization (WHO) is a UN organization that acts as a unique instrument of international health cooperation between countries. Its goal is attainment of the highest possible level of health for all people. Current goals of the organization are fighting against infectious diseases, the prevention of chronic diseases, improving maternal health and reducing child mortality. WHO publishes annual **World health reports** that can be accessed on their website. WHO was founded on 7 April 1948, following which April 7 is celebrated as the **World Health**

Day. The headquarters of the World Health Organization are in Geneva. The first President of the Assembly of the WHO was professor Andrija Štampar who in 1926 summarized the principles of public health and social medicine:

1. Informing the public is more important than the law.

2. It is crucial to prepare the terrain and help shape correct opinions on health issues in communities.

3. Everyone, regardless of position, should participate in issues of public health and work to improve it.

4. Social therapy is more important than individual therapy.

5. A physician should not be financially dependent on patients.

6. No differences should be made between the economically strong and economically weak.

7. When organizing healthcare, the physician should seek out the patient, not vice verse, so as to reach all those in need of care.

8. The physician should be a public teacher.

9. Questions of public health are of greater economic than humanitarian concern.

10. The work of the physician is in the community, in places where people live, not in the offices or laboratories.

The World Medical Association

World Medical Association (WMA) is an international organization founded on September 17, 1947 in Paris in order to serve humanity and strive for the highest international standards in medical education, medical science and medical ethics, including best possible health care for all people on earth. In 1948 WMA developed **the Geneva Declaration**, in 1949 the **International Code of Medical Ethics**, which was amended in 1968, 1983 and 2006, and in 1964 the **Declaration of Helsinki** which has been revised seven times, most recently in 2013.

The International Committee of the Red Cross

The International Committee of the Red Cross (ICRC) was founded by Henry Dunat in 1863 guided by the experience he gained when organizing volunteers who helped the wounded after the Battle of Solferino. Afterwards, he asked a convention be made that would regulate aid in conflict situations. The ICRC won three Nobel Peace Prizes, first in 1917, for attempting to protect the rights of prisoners in the First World War, including the right to contact their families; second in 1944, for the great work done for the benefit of mankind in the Second World War II, and third in 1963, for the protection of human rights during the 100 years since its foundation. Today there are three official symbols of the organization: red cross, red crescent and red crystal.



Doctors Without Borders

Doctors without borders (French: Médecins Sans Frontières, MSF) is an international organization established on 20 December 1971 g. at the end of the civil war in Nigeria, by French doctors and journalists who believed that all people, no matter their race, political beliefs or religion deserve medical care, and that their needs are more important than respect for national borders. Today, MSF provides aid in more than 70 countries around the world whose inhabitants are under the threat of violence, armed conflict, epidemics, malnutrition, or natural disasters. In 1999 MSF was awarded the Nobel Peace Prize for their humanitarian work.

International Physicians for the Prevention of Nuclear War

International Physicians for the Prevention of Nuclear War (IPPNW) is an association of national groups of physicians, medical students, health workers and other people who are concerned about nuclear weapons, and are hoping to ensure a world without the threat of a nuclear attack. It was founded by doctors from the US and Russia in 1980, and in 1985 received the Nobel Peace Prize for raising awareness about the disastrous consequences of the use of nuclear weapons. In addition to the prevention of nuclear weapons IPPNW is now working on educating doctors and students, and on questions related to the use of firearms.