Training medical students in health promotion: twenty years of experience at the Faculty of Medicine of the University of Geneva

Thomas Mattig¹,²*, Philippe Chastonay¹, Emmanuel Kabengele³, Laurent Bernheim⁴

¹Institute of Global Health, Faculty of Medicine, University of Geneva, Geneva, Switzerland
²Health Promotion Switzerland, Bern, Switzerland
³University of Fribourg, Fribourg, Germany
⁴Vice-Dean’s Office for Medical Education, Faculty of Medicine, University of Geneva, Geneva, Switzerland

Abstract

Background: In most cases, the work of medical doctors, be they general practitioners or specialists, involves some dimension of health promotion (HP). There is thus ample justification for increasing the awareness of medical students vis-à-vis HP and its relevance for their future practice.

Methods: In the context of a major curriculum reform (problem-based learning [PBL]) at the Faculty of Medicine of the University of Geneva in the mid-1990s, several steps were taken to strengthen HP throughout the curriculum and include HP in its key domains as defined by the Ottawa Charter (OC).

Results: First, the political dimension of HP was developed in a series of first- and fifth-year lectures and third-year workshops; second, community action was strengthened through a third-year one-month community immersion program; third, the development of personal skills was integrated into second- and third-year PBL cases and into fourth-and fifth-year learning activities in clinical settings as well as second- and third-year HP electives; in terms of reorienting health services, the chosen approach included the development of a HP-specific track in the context of a Certificate of Advanced Studies (CAS) in Community Health and a Master of Advanced Studies (MAS) in Public Health. Furthermore, a supportive intra-university environment was created through a collaborative convention with Health Promotion Switzerland, which is in charge of coordinating HP in Switzerland.

Conclusion: In our view, HP teaching for medical students seems all the more relevant given that future medical doctors will have to take care of an increasing number of patients likely to develop chronic non-communicable diseases.

Introduction

In most cases, the work of medical doctors, be they general practitioners or specialists, involves some dimension of health promotion (HP). There is thus ample justification for increasing the awareness of medical students vis-à-vis HP and its relevance for their future practice.¹

Marc Lalonde, the Canadian Minister of National Health and Welfare in the 1970s, first shaped the concept of HP in his report on the health of Canadians.² Ultimately, his reflections were key to the development of the Ottawa Charter (OC) in 1986 and its main approaches, i.e., "advocacy, empowerment and mediation" in 5 action areas, namely building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services.³ In 2003 the General Medical Council’s Tomorrow’s Doctors (second edition) further stressed the importance of exposing medical students to HP topics.⁴

In the context of a major curriculum reform (problem-based learning [PBL]) at the Faculty of Medicine of the University of Geneva in the mid-1990s,⁵ several steps were taken to strengthen community health and HP throughout the curriculum.

Our article presents the HP training activities...
progressively implemented at the Faculty of Medicine of the University of Geneva over a 20-year period.

Materials and Methods
Considering HP in its key action areas as defined by the OC, the Faculty progressively implemented a series of HP learning activities ranging from the first year of medical studies to the fifth (the sixth being a clinical clerkship rotation year); furthermore, a Certificate of Advanced Studies (CAS) in Community Health and a Master of Advanced Studies (MAS) in Public Health were modified, i.e., for each a specific HP track was elaborated in collaboration with Health Promotion Switzerland, which is in charge of coordinating HP programs at the national level.

Results
Keys to the successful implementation of HP teaching activities were the following elements:
• It was part of a major curriculum reform with a switch from frontal lectures to PBL during the preclinical years and more bedside teaching during the clinical years.
• It benefited from the fact that in the context of the curriculum reform, the public health dimension was considered as deserving of more consideration. This was a critical point, and the support from the various curriculum coordination committees was crucial.
• Its development was facilitated by the introduction of elective courses according to the recommendations of the Bologna Process.
• Its introduction and strengthening took place progressively over a period of several years.
• It has received support from Health Promotion Switzerland, which has mobilized teachers and has made available its network of contacts (field professionals).

The developed and implemented HP training activities can be summarized as follows:
• **OC action area – Building healthy public policy**
  The political dimension of HP was developed in a series of first- and fifth-year lectures and third-year workshops focusing on the socio-economic role of the physician and on the organization of the health system. The topics discussed are summarized in Table 1.

• **OC action area – Strengthening community action**
  Community action was strengthened through a third-year one-month community immersion program where small groups of students had to investigate the bio-medico-social and economic dimensions of a given health problem in the community by meeting and interviewing patients and families affected by the problem, health professionals in charge of the problem (general practitioners [GPs], medical specialists, public health officers, health economists, nurses, social workers, etc) as well as political authorities, researchers in the specific field and representatives of non-governmental organizations (NGO) active in the field. At the end of the month, each group had to present their work in a report, an oral presentation in front of their peers and a poster that summed up the network involved with the investigated topic. Examples of investigated topics include Breast cancer screening program at state level: challenges and opportunities; Preventive measures in high-risk pregnancies; Vaccination against common childhood infectious diseases: what can the GP do to convince opposing parents?; HP activities targeting the elderly; Melanoma prevention strategies targeting young people; Palliative care versus euthanasia: a complementary approach to end-of-life?; Health-promoting activities in general practice; Bike and health. Box 1 illustrates the cumulated perception the students had of the program over the years collected in a SWOT (strengths, weaknesses, opportunities, threats) grid.

• **OC action area – Developing personal skills**
  The development of personal skills was integrated into second- and third-year PBL cases and into fourth- and fifth-year learning activities in clinical settings as well as second- and third-year HP

Table 1. Examples of topics taught/discussed (OC action area “Building healthy public policy”)

| Year | Topics |
|------|--------|
| **Year 1** | Social and environmental health determinants  
Health determinants in professional settings  
Determinants of disease chronicity  
Health promotion and disease prevention in general practice  
Motivational interviewing |
| **Year 3** | Organization of the health system and the role of various actors  
Regulations, incentives and constraints of medical practice  
Cost control of the health system: challenges and opportunities  
Economic evaluation of health care activities and public health measures  
Health care and disease prevention reimbursement mechanisms |
| **Year 5** | Public health screening strategies  
Health promotion and disease prevention strategies  
Occupational health issues and prevention measures  
Evidence-based health promotion and disease prevention |
electives. Table 2 shows some integrated disease-prevention and health-promotion topics discussed in the basic-science and clinical-science PBL modules. During the HP electives, which represent 10% of the total ECTS points and were taken by roughly 10% of the students, students were put into active learning situations and assigned to elaborating HP projects. Developed projects targeting University of Geneva students included Reduction of stress; Promotion of physical activities; Promotion of tools to enhance good sleep. Evaluations of the electives program by the students showed high satisfaction, continued interest and strong commitment.

- **OC action area – Reorienting health services**
  Given the academic setting, the chosen approach for reorienting health services included the development of a HP-specific track in the context of a CAS in Community Health and a MAS in Public Health. Since the 2 programs are heavily community and project centered, the objective was to initiate the planning and implementation of community HP programs and HP research projects. Examples of such projects appear in Table 3.

- **OC action area – Creating a supportive environment**
  Furthermore, a supportive intra-university environment was created through a collaborative convention with Health Promotion Switzerland, which is in charge of coordinating HP in Switzerland. The collaboration allowed mobilizing the Foundation’s HP experts as teachers, tutors and project supervisors. It also ensured funding for HP activities at the Faculty of Medicine and provided the basis for joint research activities related to the federal non-communicable diseases strategy.\(^{11}\)

In the 20 years since the curriculum reform, over 2500 students have been exposed to the various HP activities. The difficulties encountered had various origins. Here are some of the most striking examples:

- Some tutors of the basic-science PBL modules were

### Table 2. Examples of integrated HP topics discussed in the basic-science and clinical-science PBL modules (OC action area “Developing personal skills”)

| Basic-Science PBL Modules | Examples (not exhaustive) |
|---------------------------|----------------------------|
| Infectious Diseases       | Vaccination strategies against influenza and poliomyelitis |
| Cellular Aging and Oncogenesis | Prevention strategies of colorectal carcinoma |
| Nutrition and Metabolism  | Prevention of overweight/obesity among teenagers |
| Reproductive Health       | Ethical issues related to assisted reproductive technology |
| Cardiovascular System     | Prevention strategies of thromboembolic disease |
| Respiratory System        | Respiratory allergy prevention measures |
| Excretion and Homeostasis  | Hypertension |
| Infectious Diseases       | Community prevention of sexually transmitted diseases |
| Immunity                  | Vaccination strategies |
| Neuroscience              | Psycho-social consequences of psychiatric disorders |
| Musculoskeletal System    | Prevention of falls/fractures among the elderly |

| Clinical-Science PBL Modules | Examples (not exhaustive) |
|------------------------------|---------------------------|
| Introduction to Clinical Sciences | Health policies concerning the drug market |
| Surgery                      | Prevention of accident-related trauma |
| Gynecology–Obstetrics        | Prevention of breast cancer; promotion of breastfeeding |
| Internal Medicine            | Hepatitis B vaccination strategies |
| Community Medicine           | Prevention of alcohol-related health problems |
| Psychiatry                   | Depression prevention strategies |
| Pediatrics                   | Health promotion measures in school settings |
| Neurology                    | Organization of long-term care of epileptic patients |
| Emergency Medicine           | Medico-legal dimensions in emergency interventions |
Putting Prevention First

Health care professionals, e.g., in Britain with the program "the strategies of prevention," the issue has further been raised/supported by political authorities stressing "the health of individuals and society" or being familiar with "the strategies of prevention." The drive for more HP education has been kept alive over the years, with, e.g., the report of a medical students conference in Bristol in 2006 proposing such HP learning objectives as being able "to promote the health of all people." The integration of HP topics into all the areas, the developed HP education activities respect, in our view, the recommendations of educational experts. Indeed, the community immersion program and the community project as implemented by the Geneva medical and public health students are coherent with Naidoo & Orme's vision of an "expanding role for medical doctors in planning HP activities for local populations." The integration of HP topics into clinical-science PBL modules responds to one of the challenges HP topics face in a medical curriculum, namely the clinical relevance, which would ultimately raise student interest as has been reported. The integration of HP topics into all the years of the curriculum, as was done in Geneva, is also recommended in the literature. Finally, the signing of a cooperation agreement between the University of Geneva and Health Promotion Switzerland allows us to envision

Discussion

In the aftermath of the OC, the World Conference on Medical Education in Edinburgh stated that medical education should "produce doctors who will promote the health of all people." The drive for more HP education has been kept alive over the years, with, e.g., the report of a medical students conference in Bristol in 2006 proposing such HP learning objectives as being able "to promote the health of individuals and society" or being familiar with "the strategies of prevention." The issue has further been raised/supported by political authorities stressing the importance of developing HP competencies among health care professionals, e.g., in Britain with the program "Putting Prevention First" or more recently in Switzerland with the program "Health2020." The HP education activities implemented at the Faculty of Medicine of the University of Geneva go, in our view, in the direction of those recommendations.

We were faced with several challenges in implementing those HP teaching activities, even though we benefited from favorable conditions in the context of the curriculum reform. Indeed, the support of the various curriculum committees was key in implementing HP teaching activities. Furthermore, a close collaboration with the persons in charge of teaching public health and community medicine was crucial to accessing "teaching slots" and developing shared teaching activities. One of the major challenges we faced was the availability of competent staff in the field of HP to set up and carry out the program over the long term. Here we benefited from the support of Health Promotion Switzerland, which provided some of the HP expertise and teaching staff. Another challenge lay in identifying teaching methods attractive enough for students to engage in enthusiastically; the community immersion program was part of the solution in that it allowed students to explore any given health problem in its bio-psycho-social dimensions and the HP and disease prevention interventions likely to decrease the problem. A third challenge, as yet unresolved, was to ensure the long-term upkeep of HP community projects initiated by the CAS and MAS students. In many cases to date, long-term funding could not be obtained, which brought the projects to an early end.

Through the variety of educational approaches adopted (lectures, workshops, community investigations, integrated HP topics in basic-science and clinical-science PBL modules, project planning and implementation in the community), their distribution over the length of the curriculum and their adherence to the five OC action areas, the developed HP education activities respect, in our view, the recommendations of educational experts. Indeed, the community immersion program and the community project as implemented by the Geneva medical and public health students are coherent with Naidoo & Orme's vision of an "expanding role for medical doctors in planning HP activities for local populations." The integration of HP topics into clinical-science PBL modules responds to one of the challenges HP topics face in a medical curriculum, namely the clinical relevance, which would ultimately raise student interest as has been reported. The integration of HP topics into all the years of the curriculum, as was done in Geneva, is also recommended in the literature. Finally, the signing of a cooperation agreement between the University of Geneva and Health Promotion Switzerland allows us to envision

Table 3. Examples of implemented projects (OC action area “Reorienting health services”)
further developments in HP education for medical students and health personnel in general.

Perhaps one setback that should be mentioned: the difficulty of developing HP activities in an integrative, multi-professional way, i.e., HP workshops and HP community projects that include students from medical schools, nursing schools, dietetics schools and physical therapy schools, a multidisciplinary and multi-professional approach as advocated by a large panel of experts. Each institution/track has its own catalogue of objectives and its own timeline, but each institution also has its prejudices regarding the others, which can be difficult to overcome.

**Conclusion**
The various HP teaching activities developed at the Faculty of Medicine of the University of Geneva benefited from a specific dynamic related to a major curriculum reform. Their implementation was progressive and done in close collaboration with the persons in charge of public health and community medicine of the university. The support of Health Promotion Switzerland boosted the project and provided access to a HP-competent workforce.

In our view, HP teaching for medical students seems all the more relevant given that future medical doctors will have to take care of an increasing number of patients likely to develop chronic non-communicable diseases.

**Ethical approval**
None to be declared.

**Competing interests**
The authors declare that they have no competing interests.

**Authors’ contribution**
PC and TM wrote the initial text. EK and LB reviewed and complemented it. All four have been key actors, at various levels, in the implementation of the different HP programs as described in the paper.

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