

Assessing Impacts of the AFMC Project

**'Enhancing the Health of the Population:
Strengthening the Role of Canadian Faculties
of Medicine'**

**Results of the Surveys of
Public Health Educators
and Undergraduate Medical Students**

February 2010



AFMC

The Association of Faculties of Medicine of Canada
L'Association des facultés de médecine du Canada

Methodology

The AFMC Public Health Education Initiative launched two surveys at the end of April 2009. The surveys were online and open. They were sent to members of the Public Health Educators Network (PHEN) and members of the student Public Health Interest Groups (PHIG) with requests to forward the survey to their colleagues. The survey was also disseminated to the undergraduate deans of medicine at the 17 faculties, however the response rate was very poor (three or 18%) and these results are not included in this analysis. The educators' survey was available in both official languages. Due to the response rates, the deadline was extended until the beginning of June 2009. All responses were anonymous.

The purpose was to evaluate the impact of the work that the PHEN and the PHIGs have been undertaking over the past two years. For the PHEN this includes whether changes have been made to the curriculum as a result of the revised Medical Council of Canada (MCC) population health objectives and for the PHIGs, whether they have had any impact on increasing student interest and knowledge in public health.

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Production of this report has been made possible through a financial contribution from the Public Health Agency of Canada.

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Survey of Public Health Educators

A total of 29 English surveys and three French surveys were returned; two of the English surveys were blank and removed from the analysis. Where appropriate, thirty will be the denominator used in the analysis.

Comments from the individual questions follow the frequencies (percentages) for each response, in italics.

Modification of curriculum to include MCC population health objectives

This question asked whether the undergraduate curriculum at their school had been modified in the last year to implement changes to each of the MCC Population Health Objectives. The responses (completely, partially, no, not required, planned, do not know and no response) are given for each of the broad objectives:

Population Health 78-1 E Concepts of Health and its Determinants

Population Health 78-2 E Assessing and Measuring Health Status at the Population Level

Population Health 78-3 E Interventions at the Population Level

Population Health 78-4 E Administration of Effective Health Programs at the Population Level

Population Health 78-5 E Outbreak Management

Population Health 78-6 E Environment

Population Health 78-7 E Health of Special Populations

	Completely	Partially	No	Not required	Planned	Do not know	No Response
Concepts of health	2 (6.6%)	7 (23.3%)	2 (6.6%)	7 (23.3%)	0	10 (33.3%)	2 (6.6%)
Assessing/ measuring	1 (3.3%)	7 (23.3%)	3 (10.0%)	5 (16.6%)	1 (3.3%)	11 (36.6%)	2 (6.6%)
Interventions	0	8 (33.3%)	3 (10.0%)	4 (13.3%)	0	11 (36.6%)	2 (6.6%)
Administration	1 (3.3%)	6 (20.0%)	6 (20.0%)	5 (16.6%)	0	10 (33.3%)	2 (6.6%)
Outbreak management	4 (13.3%)	2 (6.6%)	6 (20.0%)	5 (16.6%)	1 (3.3%)	10 (33.3%)	2 (6%)
Environment	3 (10.0%)	7 (23.3%)	4 (13.3%)	4 (13.3%)	0	10 (33.3%)	2 (6.6%)
Special populations	3 (10.0%)	6 (20.0%)	5 (16.6%)	4 (13.3%)	0	10 (33.3%)	2 (6.6%)

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The most common response when all respondents were included was “do not know”. These and the “no responses” were excluded in the analysis below.

For those who knew whether the curriculum had been modified, the most common response to each of the objectives was that the curriculum had been partially modified to meet the MCC objectives; the one exception was the outbreak management objective where the response was more likely to be completely rather than partially modified. It should be noted that between 22.2% and 38.9% of these respondents felt that change was not needed for each of the objectives.

	Completely	Partially	No	Not required	Planned
Concepts of health	2 (11.1%)	7 (38.9%)	2 (11.1%)	7 (38.9%)	0
Assessing/ measuring	1 (5.9%)	7 (41.2%)	3 (17.6%)	5 (29.4%)	1 (5.9%)
Interventions	0	8 (53.3%)	3 (20.0%)	4 (26.7%)	0
Administration	1 (5.5%)	6 (33.3%)	6 (33.3%)	5 (27.8%)	0
Outbreak management	4 (22.2%)	2 (11.1%)	6 (33.3%)	5 (27.8%)	1 (5.6%)
Environment	3 (16.7%)	7 (38.9%)	4 (22.2%)	4 (22.2%)	0
Special populations	3 (16.7%)	6 (33.3%)	5 (27.8%)	4 (22.2%)	0

Comments generally indicated that the MCC objectives were well accepted and in the process of being introduced into the curriculum; however, there does not appear to be a systematic process in most of the schools.

“Modifications are always being considered but some areas are working well, other not. Environmental health issues are probably the area least well received/understood by the students.”

“Outbreak management may be covered in other sections of the course that I am currently not familiar with. This is being investigated.”

“I have been invited to give a talk on the GLBT population; I do not know anything about the background to how the course is structured....”

"I am primarily involved in teaching basic/clinical epidemiology. However, I am familiar with the more population-oriented curriculum."

"Most of the content on Outbreak Management is taught by Medical Microbiology."

"Links with Aboriginal Health Core Competencies has helped to facilitate the integration of these public health objectives. These are all taught in the undergrad program however it is unclear to what degree other sections of the program implement these concepts".

"Although curriculum changes may indeed be underway to include concepts covered by these objectives I have not recently been involved in any curriculum development/upgrading for course offerings."

Integration into other areas of the curriculum

This question examined the integration of the objectives into other areas of undergraduate teaching. Two (6.7%) felt they had been completely integrated, five (16.6%) felt they had been partially integrated, eight (26.7%) thought they had not been integrated; 14 (46.7%) did not know and one (3.3%) did not respond to this question.

According to the comments, more work needs to be done with the integration of population/public health into the general curriculum. A few schools seem to be integrating these objectives through problem based learning (PBL) sessions or through the development of a specific course.

"Some concepts have been integrated. Better follow up and evaluation is needed."

"We are working to include at least one public health issue in the PBL sessions but this has not been done. We are getting more of the objectives integrated into the family medicine blocks."

"We have completely revised our objectives, based on MCC + other sources."

"We run a separate course for population health."

"Information from population health is still not integrated explicitly in other courses if it applies and actually student do not like the course and think it is waste of their time because they do not see the picture of a population."



Method of integration into curriculum

The curriculum committee (seven or 26.7%) was the most common method of integration of the revised MCC objectives. Internal communication was the second most common method (five or 6.7%). Faculty development was the least used with two responses (6.7%). However, there were 18 (60%) non-responses to this question.

No one method appears to have been used, one comment highlighted the connection with family medicine.

“We work best with family medicine as they see the connection.”

“Curriculum mapping process.”

“The Healthy Populations course is a new course started 3 years ago -- significant changes have been made since the course was started to ensure that it was complementary to the other courses the students take. This was done by meeting with other course instructors -- I have been leading one component of the course for 3 years and have made significant changes in the content each year.”

Significant changes to the public health curriculum in past two years

Forty percent (12) of the respondents felt there had been significant changes made to the public health curriculum. Ten (33.3%) did not feel there were any changes and five (16.6%) said changes were planned. There were three (10%) non-responses.

Changes in the curriculum are occurring; it appears that the appointment of a “new leader” has been a major key to comprehensive change.

“Some ‘measuring health’ concepts have been moved to teaching of basic sciences. 8 sessions on personal health habits and counselling patients on health habits are being added.”

“The Externship Program has been completely changed and we still adapt it from one semester to the next.”

“Master's of Public Health program is planned.”

“The second year course, Doctor, Patient and Society has been reformulated to be a public health oriented course taught once a week all year.”

“We are currently updating our tutorials.”

“Under new course leadership, there has been a complete re-writing of materials and a shift toward more practical and engaging topics, many involving the Canadian health care system.”

“Curriculum renewal is planned for September 2010.”

“Restructured curriculum to be based on MCC objectives–each session planned with MCC objectives in mind.”

“As of 3 years ago there was no inclusion of determinants of health as its own topic. Caring for communities and assessing health status, determinants of health and defining interventions was also unheard of.”

“Our new leader has been astute to introduce and incorporate these objectives into the curriculum. We are altering the Manager curriculum and we hope to expand the time in year 4 so the application of public health is better understood. Some changes to better integrate material with other year 1 courses is planned for this coming year.”

“Population health assessment unit will be added to the next year's curriculum.”

Translated: “There have been changes to the methods of training. There are less lectures and more important applications to future clinicians.”

Impact at the classroom level

Respondents were asked to comment on whether the changes had a significant impact at the classroom level. Overall there is a feeling that the students are finding the teaching of population/public health more interesting. There continues to be a concern that students do not see the relevance of population/public health to the practice of medicine, but there appears to be an effort to make it more relevant.

“Students seem more motivated and let us know (we also make a survey and ask for comments). They ask to have the exposition earlier in their curriculum, because they see the relevance of what we teach and try to put in application.”

“As might be expected, the most common question is “how does this relate to my practice?” We are trying to use more clinically based scenarios to show how this relates. The fourth year grads have commented that now they get it after two years of clinical training.”

“Mainly successes, some failures. More adjustments on the way.”

“Applied public health sessions were moved from second to first year because of concerns about duplication, then a change from semester to block format. There seems to be better attendance and participation.”

“Med students are seeing this as a more continuous curriculum...more interest in elective placements and residency program.”

“There is an introduction of the concepts and a chance to consider them practically in the course of one longitudinal unit in the undergrad program.”



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“Positive has been the better understanding of the material. Students understand it better. Negative - none to my knowledge.”

“Second-hand feedback has suggested that the impact of this new info has been very positive on students and will likely lead to increased interest/enrolment in these courses next academic year.”

Translated: “The changes have been much appreciated by the students. The students have a better understanding of resources and what it means to be public health physician.

Addition of resources

The purpose of this question was to examine whether there had been any major changes in the teaching resources used in preparation for teaching public health over the past year. Seven (23.3%) individuals felt there had been major changes and 15 (50%) said there had not been any new resources added. Eight (26.6%) did not respond.

The comments indicate that there have been some minor changes in terms of human and material resources over the past year.

“I came as new recruited professor to the Chair. We started the survey. We involved many clinicians/ professors with a specific experience to add a plus value to the diversified content of our program.”

“We prepare a student's manual and a tutor's manual every year. They are revised every year and basically include the core competencies being addressed, the outline of the learning objectives and two short readings the are expected to read and then other reference material they may access if they wish...”

“In my (epi) course, I have introduced new workbooks that blend didactic material and articles/exercises.”

“Added an associate course director to help out.”

Translated: “The 2009 edition of L’ouvrage soigner pour prévenir; there is also an introduction course on medical ethics. Students are being tested on prevention of transmissible diseases. A new part of their clinical placement is their choice between three questions to an essay question about community medicine.”

Faculty development in public health

Nine educators (30%) felt there were faculty development opportunities on public health concepts; whereas 13 (43.3%) felt there were not. Seven (23.3%) did not know the answer and one (3.3%) did not respond.

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The comments are non-conclusive about the opportunities in faculty development and it's not clear whether the opportunities available are for those teaching public health or for the entire faculty.

"Not unless it's specifically related to the teaching of public health"

"There is a School of Public Health."

"But it is difficult to fit the faculty development activities into a busy schedule"

"Clinical epidemiology focus"

"There are general faculty development sessions but nothing specific for public health."

"Time and financial support are provided for faculty to attend some workshops/conferences both within and outside the province. Guests are often invited to the university/faculty/division to expose faculty and students to many issues including public health issues. Also instructional development offerings are periodically available to aid faculty in dealing with students in many areas including public health."

Translated: "There is an annual 90 minute session at the beginning of the academic school year."

Preparation of tutors and preceptors

Respondents were asked to explain how their program prepares tutors and preceptors in public health to adopt these objectives or curriculum changes into their teaching of public health. Face-to-face discussion and tutors' notes appear to be the most common method of preparing tutors and preceptors.

"Every year, prior to the public health teaching unit, the tutors meet to discuss problems and solutions to the teaching of public health"

"Most are already staff members of a Department of public health, and we organize meetings in order to prepare them, as well as some to analyze the good and bad points after the semester."

"Through the tutors manual we give the tutors material on every plenary and suggestions for furthering discussion. We also have marking sheets for the community health assessment and the program planning projects for the tutorial groups. Tutors also have the readings provided."

"Orientation for tutors in the PBL course"

"We make an effort to choose preceptors who have formal training in public health."

"Provides written materials and an opportunity to participate in the sessions with the learners."

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“Objectives of the core curriculum are shared with the preceptors.”

“The preceptors used are generally experts in the field -- we have tried the idea of having an expert in the content area along with someone who has a clinical practice (family medicine physicians) to marry the public health issues with day-to-day clinical problems encountered in practice.”

Sense of support since the establishment of the PHEN

This question was to determine whether the respondents felt there was a change in the level of support internally at the medical school and externally by colleagues since the creation of the PHEN. Not all respondents were PHEN members.

In response to support internally at the medical school, 13 (43.3%) felt the same level of support, six (20%) said that there was more support since the PHEN. Eleven (36.7%) did not respond. In response to external support, 11 (36.6%) felt the same level of support, seven (23.3%) felt more support and 12 (40%) did not respond.

Comments from those aware of the PHEN were very positive about the support from their colleagues.

“Very useful to have the communication on what areas are being covered elsewhere and at what depth”

“Didn't know any of the colleagues from other universities prior to PHEN”

“The network is crucial in planning to know what other schools are doing -don't have to reinvent the wheel as much”

“It is great to have support from colleagues at meetings and to discuss common issues with them.”

“I have not used this resource yet and do not know its impact”

“I work in a very specialized field that is very relevant to public health and employs many public health principles however; this field is not well supported or understood by public health”

Enhancements to public health teaching

The purpose of the following questions was to determine if and how public health teaching has been enhanced over the past year.

Seven (23.3%) said there was an increase in the ratio of public health faculty to students, whereas 10 (33.3%) stated there was not such an increase; 11 (36.7%) did not know and one (3.3%) did not reply.

With respect to the availability of new teaching resources, 10 (33.3%) felt there was an availability of new resources, in comparison to the 11 (36.7%) that did not feel this way. Eleven (36.7%) did not know and two (6.6%) gave no response.

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When asked if there was more integration of public health concepts into other areas of the curriculum, seven (23.3%) felt there was an increase, 10 (33.3%) did not see more integration. Eleven (36.7%) did not know and two (6.6%) did not respond. These numbers correspond similarly to those from the earlier question about the population health objectives into other areas of the undergraduate curriculum.

In regards to collaborative planning, nine (30%) felt there was an enhancement over the past year with the same number saying this had not occurred; 10 (33.3%) did not know and two (6.6%) did not respond.

Given the high number of non-responses to these questions, it is impossible to make a firm conclusion as to whether the respondents as a whole felt that public health teaching has been enhanced in the curriculum. It may be too early in the process for the educators to see any major changes, as well; some respondents do not seem to have knowledge of changes happening outside of their own course / area of teaching.

“Again, not undergraduate just graduate”

“We have course directors for first and second year who collaborate on the curriculum to be taught over the first two years. We also have a short session in preparation for medical practice to talk about public health in an outbreak investigation on line and a lecture on structure for 2 hours.”

“If I include epidemiology, health services and policy, and other areas I'm not specifically involved with, there has been some increase of the number of faculty members”

“Currently working at enhancing curriculum with online modules.”

“Most public health is integrated into professional competencies and I am unsure how it is integrated into the main curriculum.”

“The course planning committee existed before but it is a strength of the system here.”

Number of public health trained faculty involved in teaching public health

The number of public health trained faculty involved in teaching at one school varied from 0 to more than 15. Eight respondents (26.7%) have between 0-5 public health trained faculty involved in teaching at their institution, while five (16.7%) have more than 15. Four (13.3%) stated they have between six-10 involved with teaching, and three respondents (10%) have 11-15 involved. Ten (33.3%) responses were blank. The question did not address whether the faculty have positions within the faculty of medicine or whether they are full or part-time.

Mandatory or Optional student placements

Only five (16.7%) respondents said that student placements were mandatory, 13 (43.4%) were optional while three (10%) said that they were not available to students.

Four respondents said there were increased opportunities for student placements over the past year, 10 said there were not. The remainder of respondents either did not know, did not respond or felt the question was not applicable to them.

Placement of students in public health rotations still seems to be a problem related to student interest and availability of appropriate placements.

“A “public health” project is mandatory; however the use of clinical supervisors for these projects means that some are far removed from public health”

“At the moment, we offer over 30 different setting possibilities, and the number might rise according to the interest and availability of monitors.”

“We now have 50% of our students doing a community placement of some type under the supervision of tutors and course directors”

“There really is only capacity to take on one or two students who might take an elective”

“A practical mini clerkship in prevention/community medicine is part of the rotation in community medicine for each student along with many other learning experiences.”

“Placement follows the request of a student which is not very often”

Student participation in optional placements

Six (20%) responded that there was an increase of student participation in optional placements over the past year; an equal amount felt there was no increase. The remainder either did not know, did not respond or felt the question was not applicable to them.

Due the small number of respondents, it is difficult to tell whether there has been more interest in optional placements, but one respondent commented on the positive impact of the PHIG.

“The student interest groups have helped a lot. I also have had some support in helping place students.”

Public Health Interest Groups (PHIG)

Four (13.3%) people thought that the existence of the interest groups helped increase awareness of public health issues, concepts or careers. Three (10%) felt they had a minimal impact and two (6.7%) did not think they had any impact. The rest either did not know, did not respond or felt the question was not applicable to them. However, at this stage only 10 faculties of medicine have PHIGs.

Only one person stated that the PHIG had an impact on public health curriculum, two thought it may have had somewhat of an impact. The rest either did not know, did not respond or felt the question was not applicable to them.

Few comments were made on the impact of the PHIGs.

“They have had impact in the MPH and undergraduate levels but not for the medical school curriculum. There is an active global health group that has been present for many years (10?) that involve medical students”

“The student interest group arranges presentations on complementary topics.”

Comments volunteered at the end of the survey

“Since I am new in the teaching group, I don't know much about the evolution over the last years...”

“As curriculum renewal is underway, we will be working to formulate public health core competencies into the curriculum more generally. Our two community oriented groups are now becoming much more popular and hence more administratively and academically difficult as these are now more the norm than the very few.”

“Many of our PH educators have minor roles or limited teaching hours (1 - 4), thus many of the questions will not be applicable.”

“The public health component of the course is better set up than a few years ago, but is poorly integrated, and many students see it as irrelevant to their learning and career.”

“An interesting dilemma... I am a senior faculty member in a dept of epidemiology and I do not know the answer to most of these questions. I suspect the reason is that there is nothing happening but you never know!”

“Still need more career paths, full and part-time positions for public health educators”

Translated: “The dissemination of this initiative is very limited. Many of the terms in the survey were not appropriately translated.”

Limitations

Possible limitations of this survey include but are not limited to the launch time of the survey. The H1N1 virus appeared in Canada and many public health educators were in the midst of dealing with pandemic planning and preparedness for the spread of the virus. The French translation of the survey appears to have confused some of the terms, making it problematic to Francophone participants. Since the survey was an open format, respondents had to provide their email address before starting the survey and this could have been a deterrent.

Conclusion

The potential number of responses far exceeded the actual number by a significant amount; hence it is difficult to make any firm conclusions. While this survey is meant to establish a baseline for evaluating the impact of the AFMC Public Health Education Initiative on the teaching of public health; amongst those who responded and know the area, there seems to have been some positive impacts over the past two years.

The survey was directed at all public health educators, but many are not involved full-time with the faculty of medicine, nor do they have knowledge of curriculum change or faculty development beyond their own courses. Consideration will be given in future surveying as to whom at the faculty best can answer each of the questions. Given the many responses that “did not know”, it is recommended that more work be done to ensure that the work of the PHEN reaches all of those involved in teaching public health, even on a part-time or occasional basis.

Survey of Undergraduate Medical Students

The student survey was disseminated to the co-chairs of the ten active public health interest groups (PHIGs) with the aim that they would disseminate it amongst their members. In the 2008-09 school year, groups were active in the University of Alberta, the University of Calgary, Dalhousie University, the University of Manitoba, McGill University, Northern Ontario School of Medicine, the University of Saskatchewan, the University of Toronto, the University of British Columbia, and the University of Western Ontario. As such, the surveys' results represent the views of students from these schools, the majority of whom were involved with PHIGs in 2008-09.

Results

There were 38 completed surveys; 33 (86.8%) were members of a Public Health Interest Group (PHIG). Seventeen (44.7%) were in first year, 15 (39.5%) in second year and six (15.8%) were in clerkship.

Verbatim comments to each of the individual questions are in italics, following the frequencies (percentages) for each response.

Attendance at PHIG sessions

The students were asked how many interest group sessions they attended. Twenty-one (55.3%) had attended all sessions, 11 (30.0%) had attended some of them and six (15.7%) had attended none. Twenty students (52.6%) found the activities interesting all of the time and 12 (31.6%) found them interesting some of the time; six (15.8%) did not find them interesting or did not respond to this question.

Overall the comments were very positive and the sessions seemed to generate discussion. Global health issues seemed to be a common theme.

“This year we had a very interesting student-run seminar series as well as undertaking an initiative to do front-line health promotion. It was all very rewarding.”

“We have talked about global medical education and how we are one of the better equipped nations in that matter so we explored ways of helping other medical students with textbooks, medical supplies, etc”

“We're just getting things going right now as an adjunct of the Global Health interest group. So far things have been GREAT. Less discussion, more events though.”

“One of our major activities is a seminar series done by students on interesting topics in public health. I have found that these discussions have been very informative and have stimulated debate amongst the group.”

“We had a film series on social and contextual determinants of health that was very interesting and stimulated a lot of discussion.”

“The Mumps campaign in particular was interesting - I heard people talking about it in class following talks.”

“The discussions have been very interesting, especially when they involve students in different disciplines that I don't usually talk to.”

“Great people came to talk about what their job entails very straight forward about PH not being for everyone.”

“Our PHIG has both a global and public health focus...this year we have focused more on public health issues. We take a Healthy Populations course in which we discuss many important public health issues--this class has garnered more interest in our PHIG group and we try to bring in speakers or create events to bring even more awareness to the issues students seem to take an interest in.”

Increasing understanding of public/population health

When asked whether the interest group activities increased their understanding of public/population health, 24 (63.2%) said yes, seven (18.4%) said that their understanding was somewhat increased, while another seven (18.4%) said it had not or did not respond.

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The comments were positive, especially regarding contact with other student groups and students in other disciplines. It appears that some of these students now appreciate the importance of taking a population health approach.

“Now I know what they do in a day”

“I have a better understanding of the scope of public health and the value of such interventions in health promotion.”

“The seminar series was great since it touched on a wide variety of topics and spurred much discussion. The project was great in that it helped us realize the challenges and rewards of trying to affect change through education.”

“We haven't really been active in the community since there aren't very many opportunities for medical students to volunteer outside of medical school programs. I wish there were more out there because its hard to be of help when you are still in training and someone has to show you how to do things. Our schedule doesn't really accommodate too many extracurriculars either.”

“The project to prepare a presentation for our aboriginal health placements stimulates a lot of thought around public health and how to present it in a culturally sensitive manner.”

“With an MPH, my understanding of public health issues is fairly adequate. However what PHIG does is allow us to explore the practical application of public health practice as physicians in the community”

“Had opportunity to hear opinions of many different types of students (education, medicine, nursing, pharmacy, arts, etc.) regarding similar topics. Expanded my knowledge base and understanding of how an issue may impact other types of people/professions”

“Made me realize how little med students are integrated with the community and that there is a need for this.”

“I learned about other student groups and what they are doing.”

“I wasn't able to attend any events b/c they were always scheduled when I had other things to attend to, but I think that was rare.”

“I have learned about everything from prevention of STDs to organ transplantation.”

“I have a background in public and population health, so many of the activities didn't really increase my understanding of the issues, but they did often increase my motivation to get more involved in them. There were a few activities, such as a visiting speaker in environmental toxicology that I did learn a lot from.”

“Yes! The presentations that our group gave were incredibly varied--they certainly enhanced my understanding of various public health issues”

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Interest in a career in public health

The purpose of this question was to determine whether the PHIG activities had increased their interest in public health as a career, 18 (47.4%) said that it had, 19 (50%) were not sure and one (2.6%) did not respond to this question.

Some of the students already know that they want a career in public health but it does seem to have generated interest in others. One student said that the rest of the curriculum counters his/her interest.

"In some ways I am more interested because I like the issues they deal with. I didn't realize how much of a desk job it was"

"I think being a physician of any kind will be serving the public."

"Again, my interest is fairly high to begin with; but certainly exploring career options etc. through PHIG---or listening to practitioners creates a greater drive to learn more about the practice of public health."

"Same. I'm a master's student in public health"

"As my background is in Public Health, I continue to be interested in it as a possible career choice. Our PHIG activities have further developed this interest."

"As a result of my involvement in PHIG and other student organizations, I don't just see public health as a career but as a way to change the world."

"I have always been interested in public health, and I would like to pursue this as a career option."

"The PHIG activities definitely pique my interest, but what we learn in the normal curriculum dissuades me"

Overall interest in public health amongst students as a result of the PHIG

According to the responses, 22 (57.9%) felt that the PHIG activities had increased the student body's interest in public health; whereas three (7.9%) felt it had not and 13 (34.2%) did not know.

Some of the PHIGs are still in the developmental stage; due to this the question might have been difficult. Generally the comments were very positive ranging from the impact that the visibility of the PHIG and the work of the students has had on other students to the opportunity to discuss public health issues with other disciplines.

"By making this a student run group, we have allowed the other medical students who are currently not part of the PHIG group to gain a better understanding of public health and participate in our activities whenever possible - also, I think students are able to see all the work that PHIG students are putting into our projects and the value of this work in terms in community outreach which has prompted several students to become involved in PHIG (or express interest to become involved) in the future."

"...and if not in public health as a career, it has at least raised its profile in the minds of students and helped ensure that these future physicians know the importance of PH and that they can incorporate it into their practices."

"Even though only one event was able to be planned (due to difficulties with the financial aspect of the group) the event was great and I look forward to their being more activities in the following year to shed more light on the work in Public health and the people who are in these positions."

"Now developing a public health conference in the fall"

"We've had a lot more students join the group since we started doing more events, and have had much increased participation in our events."

"Our PHIG is still small, but is growing. I think with more time it will reach more students and increase interest."

"Most students in my class didn't know that public health was a career they could pursue."

"Medical, nursing, undergraduate and midwifery students don't have a chance to discuss public health often. This was a unique opportunity for them."

"PHIG puts Public Health in the limelight at our school."

"Each activity we have had so far has resulted in more students asking to be involved in future events, so I think this means that at the very least, students are thinking more about public health issues."

"It is difficult to do that many events with our condensed curriculum; there is little time to do many events that increase interest."

Impact on curriculum

When asked whether their interest group had an impact on the curriculum, four (10.5%) said yes, 18 (47.4%) said no and 16 (42.1%) did not know.

The comments suggested that it was too early to tell whether PHIGs had an impact on the curriculum.

"It is frankly too new for this. But our school tries pretty hard to do a good public health course"

"The seminar series will run bi-monthly which has allowed students to learn about public health topics and participate in the seminar series to gain a better understanding of the topic as a whole."

“Our school has a very strong public health component to the curriculum. I think that the activities of PHIG are an excellent addition to those activities - an opportunity to consolidate and take learning to a higher level.”

“Likely not. Population health and epidemiology are core horizontal courses in pre-clerkship. i.e. we have nearly 25-30 weeks in each of 1st and 2nd year. Both courses cover core concepts of public and population health--- although the teaching quality is variable.”

“I do not believe our PHIG has had a direct impact on curriculum.”

“There is an opportunity for the PHIG to have an impact but they didn't ask the academic team for help to make that happen.”

“Our school already has quite a focus on public health, but I am not sure whether the PHIG has affected this or not.”

“I'm not sure that the group has had an effect at the curriculum level, since our School's curriculum already has a great deal of public health/epidemiology issues found within Theme 3 of our curriculum”

Change in teaching of public health in past two years

This question asked whether changes had been made in the teaching of public health in the past two years -- eight (21.1%) said yes, eight (21.1%) said no and 22 (57.9%) did not know.

This may also have been a difficult question for students to answer if they were only in first year. Those who seemed to know suggested that effective changes had taken place.

“Both clinical epidemiology (1st year) and population health (2nd year) have been continuously revised over the past couple of years due to poor teaching methodology and poor feedback/reviews from students re: teaching quality. The courses are certainly much more difficult to teach as compared to basic clinical science---but certainly with a department of community health and epi, there should be a certain standard development of curriculum that is applicable and relevant to medical students. i.e. Epidemiology is boring to most students, but it can certainly be taught well if the course is designed appropriately”

“Opened up new school of public health, graduate program”

“They streamlined the teaching a bit more.”

“Expanded focus on population and public health, health over the life course, global health, and health policy and services. In the past, the school was focused primarily on epidemiology and biostatistics.”

“It is more organized and intentional”

Results of the Surveys of Public Health Educators and Undergraduate Medical Students

“Our school has its own curriculum that does contain much public health. However, we are taught it in small group sessions that were developed 4 years ago. They are in the process of revamping this portion of the curriculum with a great Epidemiologist from the health unit however. Therefore, it will be changing for next year.”

“There are more courses offered on public policy.”

“No, our public health aspect of our curriculum is found within Theme 3 of our curriculum: Social and Population Health. We learn about objectives in this field via small group learning.”

Improvements to public health education

Those who answered yes to the above question were asked whether they felt that the change had improved public health education at their school. However 24 individuals responded: seven (29.1% of those who responded) said yes and two (8.3%) said no and 15 (62.5%) said they were not sure.

Four of the comments suggested that changes had improved students' interest in public health although one said that the courses leave much to be desired.

“Not sure how 'bad' the above two courses were in the past---but certainly the courses leave much to be desired.”

“It focuses more on public health, than the current community health issues/epidemiology grad programs”

“Making things more succinct and to-the-point has improved student perceptions of the public and community health courses.”

“This change is more attractive to students and allows a more comprehensive examination of public health issues.”

“Health policy is an important part of public health.”

Inclusion of public health concepts in other parts of the curriculum

Majority of the respondents (30 or 78.9%) felt that public health concepts were included in other parts of the curriculum. Four (10.5%) did not think they were included; three (7.9%) were not sure and one (2.6%) did not respond.

From the comments, it appears that students believe that public health concepts are integrated into the curriculum either as a specific course or in PBL sessions.

“In some lectures and tutorial the docs talk about public health.”

“Public health is incorporated into our actual curriculum via our CBL (case based learning) sessions in which students have to delve further and learn more about non-medical aspects (or the art of medicine).”

“We have this longitudinal curriculum where issues in public health are revisited several times throughout out MD years. The PH curriculum itself is actually quite limited, but it is disseminated throughout our other classes and small-group sessions.”

“We are taught public health issues through the "Healthy Populations" course where special groups from the public, allied health professionals, physicians and scientists come and teach us about public health issues like communicable diseases, health care worker safety, international health, etc.”

“PBL sessions have aspects of public health within the cases”

“Not particularly. Occasionally some epidemiological information provided for clinical conditions---but otherwise very little on public health. the only time public health is mentioned, is if reportable diseases are a topic of discussion---and that too, only to say that you should report communicable diseases to the MOH.”

“I'm attending a public health grad program, all classes teach these concepts”

“Almost every course talks to some degree about screening and other forms of preventative health.”

“Every course has lecturers who go off on tangents about epidemiology, drugs and public education about medicine”

“In nearly every course we take, we have lectures on the impact the diseases covered in that course have in terms of hospital admissions, cost to the health system, morbidity, mortality, etc. We also have lectures on prevention and this often includes what we need to be doing on a population health level, particularly in regards to heart disease, obesity, smoking, cancer screening, and injury prevention.”

“Our school incorporates public health into our medical and clinical themes as well; we're encouraged to always consider the implications of a clinical scenario on the health of the community and the resources bestowed to a given community”

“There are certain lectures which focus on public health.”

Comparison with other parts of the curriculum

Students were asked to rate the teaching of public health in comparison to other parts of the curriculum, only five (13.2%) said it was more interesting, 18 (47.4%) said it was at the same level of interest, 13 (34.2%) said it was less interesting and two (5.3%) did not respond.

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Most of the comments suggest that teaching of public health could be improved.

"I strongly believe that it could be MORE interesting. It comes down to who is teaching it and how passionate they are about the field and captivating the imagination and attention of students. Like, PH certainly has its heroes and success stories and I don't feel we hear enough about them."

"Public health teaching is unlike any other scientific course based learning and it peaks my interest because it is so different and pertinent to our future careers!"

"Fairly poorly taught"

"The structure of our small groups, which is where we do the bulk of our learning on public health, leads many of the more-basic science-oriented students to not take it as seriously as lecture based science topics. Population Health statistics are not taught to the degree they probably should be."

"Public Health always has relevance...however some of the more abstract parts of our curriculum may not always have a lot of clinical relevance."

"Medical students are not interested in PH, and it seems that once education has advanced slightly, students realize that ph is so important. It takes a bit of an understanding of where we are going in our careers to understand why we need this. Medical students, at least in the beginning of their education seem to be interested in diseases and what can go wrong in the body..."

"Many students started off with a bias against public health. "it's not real medicine". We're all keen to learn the biomedical stuff. But as our courses progressed, I think more students have come to realize public health is important and have taken more of interest. I don't really think that this has been a result of the teaching per se."

Observation opportunities of community medicine/public health specialists

Opportunities to observe the work of community medicine/public health specialists were available for 29 (76.3%) of the respondents. Whereas two (5.3%) did not feel there were opportunities, six (15.8%) were not sure and one did not respond. These opportunities were mandatory for only eight (21.0%) of the respondents, optional for 24 (63.2%) and six (15%) did not respond.

When asked, twenty (52.6%) students had or will attend any public health oriented placements. Nine (23.7%) will likely attend one and a similar number 9 (23.7%) were not sure.

According to the comments, there seems to be interest in placements in the field, but some concern about the availability and appropriateness of the available placements is evident.

"In clerkship"

"We have CLS (community learning sessions) once a week in which we are divided into three streams (professional, community and interprofessional streams) - these sessions do give students the opportunity to learn about various community organizations as well as public health measures that are available in their respective cities."

"We all have to do community sessions. Whether that means you end up shadowing an epidemiologist or a nurse working the sexual health clinic kind of comes down to luck of the draw though."

"There are limited opportunities to observe the work of community medicine and limited opportunities to do electives."

"We don't have a community medicine training program at my school---so we lose out on a well developed department of public health (medicine related---there is a dept. of community health and epidemiology, but their focus is more on academic, graduate students etc., not practice). There are opportunities for us to do electives in pre-clerkship with the Chief MOH and our local public health unit---but there not easy to set up, and seems not many people have taken much interest in them. As a result, the quality of those experiences has been less than optimal in the past. I intend to simply do electives in public health during my 4th year."

"Student practicum with influenza pandemic planning"

"Have toured the Elbow River Healing Lodge (Aboriginal Health) but was not given a placement this year for an elective. I would like to do an elective there."

"I won't attend these placements in all likelihood as I formerly worked in the health unit and thus have a good idea of the programs that are offered. If there was a placement with the MOH, I would be more likely to attend."

"I will probably do an elective in community health. A lot of them are researchers, so not that much to do an elective with, although I am doing a research project with one doctor. There is an opportunity to set up an elective for 2 weeks and hopefully see a public health officer in action."

"I am hoping to shadow an Assistant MOH, but I need to be able to block off enough time to do some (it would be nonmandatory)."

"I did a summer elective at First Nations and Inuit Health in Edmonton, as far as I know I might have been the first one from our school."

"Some of the placements are 'mandatory', since they fall under our "Community Learning Sessions"(CLS), which are 3 hr community placements in Year 1 and 2. Students alternate over six week periods in a physician stream, allied health stream, and community/social stream. As such, some students have been exposed to various public health initiatives!"

Application of public/population health concepts in practice

All the respondents replied that it is important to apply public health principles in the practice of medicine, and their comments reinforced this.

"I think public health is a huge component of medicine, especially health promotion and preventive health - so learning about public health during undergraduate medical education will help to train students to become better doctors."

"Well, yeah...of course. I think a doctor can effect far more change as part of the public health system than as an individual working in his office."

"I think some educators make the experience interesting for students but overall there needs to be a mandatory interactive session where students get to explore Public health in general and as a career option. I really don't think many students know about the option about pursuing a career in this field."

"Preventative health improves lives and saves health dollars. I think it is incredibly valuable and should get more attention."

"Public health is the best way to prevent disease."

"Changing health across sectors (in the realm of politics, occupational health, the environment etc) is extremely important."

"We need to expand our vision to encompass more than just the basic issues."

"Definitely! But many students need insight or foresight into the fact that this stuff is so relevant. Not sure how to make that happen though..."

"As doctors we are advocates not only for our individual patients, but for the communities we serve, so yes, it's important."

Comments volunteered at the end of the survey

"We actually have a really great public health curriculum at our school, we learn a lot of Evidence Based Medicine, about specific populations, about keeping healthcare public etc. I think it's really valuable for a lot of classmates that haven't learnt about the social context of medicine."

"I would prefer public health to be taught at the end of pre-clerkship, when we have been studied out of the diseases and can appreciate how integrated public health is in all of our futures. However, I could be simply not as able to do this as others in the class..."

Limitations

Possible limitations of this survey include but are not limited to the launch time of the survey. The survey was ready for dissemination when the school year was coming to an end for many students and examination period. The students surveyed are only those from schools where there are PHIGs, therefore seven schools were not included. Similar to the educators' survey, it was an open format, respondents had to provide their email address before starting the survey and this could have been a deterrent.

Conclusion

The responses and comments from the students suggest that the establishment of the PHIGs has had a significant and early impact on the interest of some students in public/population health, despite the fact that many are in the early stages of development. The involvement of some students who have already decided on public health as a career bodes well for the future. Work should continue to sustain the interest groups where they exist and start them where they do not.

