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COVID-19 lessons learned: public health research should be integrated into medical school curricula

COVID-19 leçons apprises : la recherche en santé publique devrait être intégrée dans les programmes des écoles de médecine

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The COVID-19 pandemic demonstrated the need to strengthen the public health sector alongside our clinical health approach. Clinical care treats individual patients, while public health looks at diseases at a population level. This broader approach of understanding how diseases spread and how we can work towards healthier communities should be seen as equally important to clinical sciences.¹ Had the gap in public health research data been regularly addressed in times of health emergencies, such as during this pandemic, this data and its methods could have been readily available and adaptable. Instead, the issues of lacking public health data resulted in the haste call for it. Within public health research, there is also a need for data that is pertinent and inclusive of different communities that may face the spread of disease differently, such as by ethnicity or geographic location.²

Medical students add much value to the field of public health research when given the opportunity. In New Zealand, The Dunedin School of Medicine fielded a mandatory research training program, Trainee Intern Health Care Evaluation, for their medical students.³ From the total of 227 projects created by students observed under this program, there were 19 articles written, three conference presentations created, four abstracts that were cited in other reports, and 22 peer-reviewed publications. Following these observations, Al-Busaidi and Tarr suggest that mandatory research programs such as these can

motivate medical students to pursue research and more academic endeavors. With more researchers and minds working on health issues, the field may be further enriched.

With the growing focus on a more well-rounded and creative approach to medicine, there should be more focus on teaching and integrating the concepts of population health, preventative medicine, and health policy, all of which shape the administration and needs of health care in the population.¹ Some academic institutions, such as St. James Medical School, truly believes that more research experience leads to physicians who “provide better care to patients.”⁴ Given this belief, it is becoming an increasingly valued skill in graduating medical students and may even give them a competitive edge when looking for postgraduate positions. It is important for medical schools to give students these research opportunities while still in school to build essential skills that can help them continue research work after they graduate.

The benefits of public health research have been observed in UK medical schools.⁵ Teaching leads at various UK medical universities were surveyed after implementing a public health curriculum. The study was structured so that every university taught a public health course in the first year; 1 school stopped teaching after Year 2 while 2 schools stopped after Year 3 and roughly 40% of schools opted to teach public health in the final year. As a part of the curriculum, students had the opportunity to pursue a public health research project for core or elective program

credit. The surveys found that students wanted more qualified and trained teachers in public health, noting current shortages. Medical students have the desire and are seeking exposure to or, at the very least, education in the field of public health.

It is important to bring students and research opportunities together, and one of the most effective strategies to accomplish this is to use Open Data Science (ODS) principles and their global practitioners who willingly conduct remote research and e-mentor interested students. Implementing ODS research principles also helps in taking advantage of more widely available resources and global educational models since they are freely accessible. Applying ODS principles may help maximize these opportunities without straining the resources of current programs. With the shifts toward ODS already occurring, medical schools should jump at the opportunity to give their students the chance to acquire practical skills crucial to the practice of medicine on a global scale.

Overall, a more collaborative curriculum incorporating public health research and traditional medical education will be greatly beneficial to medical students and the care of their patients. Public health research opportunities can take the form of a hands-on, not solely theoretical, public health research class, a formal research field experience, or an informal e-mentorship relationship with global ODS public health researchers. This pandemic proves to be an ideal time to implement such curricula adaptations. While the fields of ODS, remote research, and e-mentoring are

booming, general amendments to and the integration of public health research into medical school curricula should be encouraged as they will only improve the education and training of future physicians.

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