

Transdisciplinary Understandings and Training on Research

Successfully building research capacity in primary health care

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There are many pathways to engaging in building primary health care (PHC) research capacity. These include students' and residents' projects, mentorship from colleagues engaged in research, and master's and doctoral education. However, there are few graduate programs in Canada specifically in PHC research.

An exemplary, one-of-a-kind tool for PHC research capacity building is Transdisciplinary Understandings and Training on Research-Primary Health Care (TUTOR-PHC), a national, interuniversity PHC research training program that has existed since 2003.^{1,2} The goal of TUTOR-PHC is to train a cadre of PHC researchers who are able and ready to tackle current and future challenges in PHC and to lead collaborative interdisciplinary PHC research. The TUTOR-PHC approach to achieving this is unique: it provides supplemental, transdisciplinary training in PHC research for individuals who are in other graduate programs (such as family medicine, nursing, epidemiology, psychology, social work, and other disciplines) or who are practising, mid-career health professionals. The TUTOR-PHC program has enacted interdisciplinary research training that aspires to engender a transdisciplinary skill set in its trainees.³ To our knowledge, there is no comparable research training program in PHC in the world.

Description of TUTOR-PHC

The TUTOR-PHC program delivers a 1-year curriculum to each trainee that begins with a 3-day, in-person symposium followed by online discussion groups and workshops. The TUTOR-PHC program's comprehensive curriculum covers all of the important aspects of PHC research, including knowledge translation, interdisciplinary teamwork, multiple methods, study designs, recruitment in PHC research, measures and indicators in PHC, and data analysis. The curriculum is tailored each year to meet the needs of the specific cohort of trainees.

The TUTOR-PHC curriculum components are delivered through a carefully engineered and facilitated series of innovative exercises using creative adult education approaches. These approaches include, and move beyond, the content (the *what*) of PHC research, with a strong emphasis on the successful processes (the

how) of PHC research. Together, the components and approaches create a momentum that propels trainees to very high levels of skill, expertise, and confidence to tackle complex, real-world problems. In this way, TUTOR-PHC fills an important gap in PHC research training in Canada. The trainees' graduate programs provide them with a depth of knowledge on discipline-specific topics and research methods; the TUTOR-PHC program provides trainees with substantive content and research knowledge of PHC and real-world interdisciplinary skills to successfully carry out PHC research.

Important issues in PHC, such as chronic disease management, preventive medicine, and the collaboration of health professionals across PHC practice, are complex and benefit from the unique skills and knowledge of many disciplines. To address this, TUTOR-PHC creates purposeful interaction among trainees that allows them to draw on their unique skills but also to recognize that by working together, research in PHC can be strengthened. The program emphasizes to trainees how to work collaboratively with many disciplines relevant to PHC research, and forces trainees to think outside of their discipline and research paradigm. Although the curriculum content is not always covering an explicitly interdisciplinary topic, the group composition always leads to interdisciplinary discussions and learning.

Trainees in TUTOR-PHC are mentored by 22 PHC researchers, representing 11 universities (University of Western Ontario in London; University of British Columbia in Vancouver; University of Saskatchewan in Saskatoon; Wilfrid Laurier University in Waterloo, Ont; McMaster University in Hamilton, Ont; University of Ottawa in Ontario; University of Montreal in Quebec; McGill University in Montreal; University of Sherbrooke in Quebec; Dalhousie University in Halifax, NS; and Memorial University of Newfoundland in St John's).

Transdisciplinary achievements of TUTOR-PHC trainees

The TUTOR-PHC program has trained 128 graduate students, postdoctoral fellows, and midcareer health professionals since 2003. The TUTOR-PHC trainees gain invaluable interdisciplinary experiences that implicitly

foster knowledge translation in both directions between research and clinical practice. Half (51%) of TUTOR-PHC trainees are health professionals (in family medicine, nursing, social work, pharmacy, midwifery, psychology, occupational therapy, and dentistry) who are especially attuned to the immediate translation of their learning into practice. The interdisciplinary experiences drive trainees to pursue interdisciplinary and transdisciplinary PHC research, collaborating with other health professionals as well as health service researchers, epidemiologists, and social scientists. One trainee said, "I found the program was helpful to advance my research project, but more importantly, I valued the connections made with interdisciplinary colleagues and mentors with interest and expertise in primary care research."

Alumni tracking has allowed the monitoring of the productivity of the 56 trainees who have entered the TUTOR-PHC program since 2010. (Published articles and grants are tracked through alumni curricula vitae.) They have published at least 177 research articles, and have been investigators for at least 77 grants that total at least \$16.8 million for research projects. (Only publications and grants that were accepted or published after the trainees entered the TUTOR-PHC program were included in these figures. For example, current trainees' publications are only included for the period from May 2013 to the present, and the previous year's trainees' publications are included for the period from May 2012 to the present.) Their research projects are largely interdisciplinary, employ a diverse set of methodologic approaches, and span a breadth of content areas relevant to PHC, including chronic disease, comorbidity, health promotion and prevention, health service delivery, vulnerable populations, electronic medical record use, medical education, knowledge translation, interprofessional education, and quality of care across the life course.

Conclusion

The volume and quality of TUTOR-PHC trainees' research is evidence of the program's success in training researchers who are able and ready to tackle current and future challenges in PHC.



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Competing interests

None declared

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