

DEAN'S MESSAGE



Dean Dr. Howard Hu

Dear Colleagues,

In the last year, DLSPH faculty embarked on two new initiatives rooted in “exposomics,” a concept deserving of further explanation. In this message, I will walk you through our understanding of the upstream and preventable causes of disease that has opened up a new research field called Exposomics and the Big Data for Health initiative.

Advances in the understanding of the biological basis of human disease and genomics have opened up a new era for medical care. At the same time, population-based advances in the understand-

ing and control of upstream exposures have had profound impacts on the health and productivity of humans. For example, a remarkable decrease in smoking-related cancers and cardiovascular disease was achieved through tobacco policies and health promotion. Another example is the population-wide IQ increase as a result of lead removal from gasoline, paint, and other consumer products.

Based on recent prospective research on large cohorts of monozygotic and dizygotic twins, we now know that a very large portion (60-90 per cent) of cancer, cardiovascular disease, neurodegenerative disease and other chronic conditions are due to environmental factors or gene-environment interactions. However, our knowledge of what those factors are, the genes they interact with, and mechanisms (i.e., the “footprint” of such exposures on health) remains extremely limited. Even for infectious diseases for which the causal pathogen is known, environmental conditions are major determinants of incidence, severity and spread. Much more research is needed in these areas, particularly in the methods for measuring such exposures when they are environmental, nutritional, invisible, time-varying, multiple and transported to humans through multiple pathways.

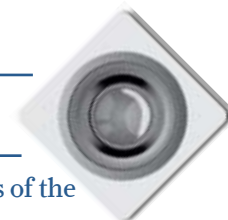
The last few years have seen a major shift in how “exposure” is conceptualized with the development of the idea of the exposome and the development of “exposomics.” As defined by Wild (2012), “the exposome is composed of every exposure to which an individual is subjected from conception to death...it requires consideration of both the nature of those exposures and their changes over time.”

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Share Your Photos!

Snap it and send it in! Send pictures of the DLSPH in action.



The Dean's Office is looking for lab, event, classroom, and field site photographs from each Division to add to our website, Facebook, and e-communications.

Photo submissions will go into a DLSPH photo library. By submitting your photograph(s) you are authorizing DLSPH to use your photograph(s)!

Send Submissions to:
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DEAN'S MESSAGE (CONT.)

Wild identifies three broad categories of non-genetic exposures (Figure 1) that may be considered:

1. Internal (e.g., metabolism, endogenous circulating hormones, body morphology, physical activity, gut microflora, inflammation, lipid peroxidation, oxidative stress, ageing);
2. Specific external (e.g., radiation, infectious agents, chemical contaminants, environmental pollutants, diet, lifestyle factors (e.g. tobacco, alcohol), occupation, and medical interventions);
3. General external (e.g., social capital, education, financial status, psychological and mental stress, urban-rural environment and climate).

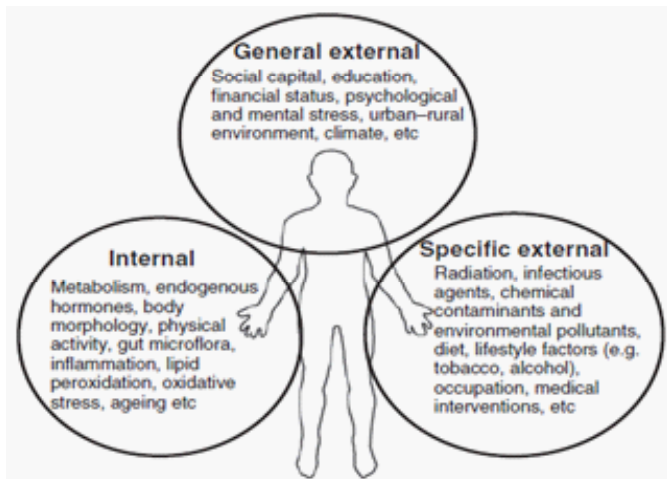


Figure 1: Exposure domains of Exposomics (Wild 2012)

The Institute for Research on Exposomics Based Assessment (IREBA), established in late 2013 by DLSPH Professor Greg Evans and the Department of Chemical Engineering, provides the critical mass of expertise needed to grow and sustain a vibrant exposome research program. IREBA builds on strengths from DLSPH, Engineering, Arts and Science and Medicine and is funded by the Faculty of Engineering and the DLSPH. IREBA addresses a 2011 CIHR Workshop Report on the need to advance work on environmental exposures, especially in relation to new technologies and capacity, in order to uncover the origins of chronic disease (Report on “Measuring Environmental Exposure Workshop;” Summary and Recommendations from the CIHR-British High Commission workshop in Montreal, November 28-30, 2011).

The second initiative proposes to go a step further. Although both genomics and exposomics are independently powerful tools for understanding disease, combining these methods has the potential to open new avenues for discovery and innovation. Linking genomics and exposomics in large popula-

tion studies could dramatically improve our understanding of disease causation, prevention opportunities and treatment. This idea has also generated considerable discussion in recent literature. However, few such initiatives have actually been undertaken anywhere in the world, largely because of the paucity of research centres with the vision and resources to pursue such an ambitious, integrated and trans-disciplinary endeavor.

Enter Discovery BiDESIGN (Big Data for Exposomic Science Integrated with Genomics Network): this initiative, currently a Canadian Foundation Initiative (CFI) application, is led by IHPME Professor Geoff Anderson, DLSPH Professors Greg Evans, Howard Hu and John McLaughlin, and a team of other researchers from DLSPH and U of T. BiDESIGN and IREBA are addressing the challenges of linking genomics and exposomics by creating an infrastructure that will allow genomics and exposomic scientists to work together on large population databases that encompass health outcomes across the whole population and lifespan. The goal is understanding the impact of the exposome and exposome-genome interactions on selected disease processes during vulnerable stages of life (Figure 2). The target populations include those that cover the whole provincial population (e.g., ICES) and major cohort studies that complement each other due to their focus on various stages across the life course. For example, the Ontario Birth Study’s focus on pregnancy and early life; the Ontario Health Study’s focus on adults of all ages; and the Toronto Dementia Research Alliance’s focus on later life.

Will the IREBA initiative and Discovery BiDESIGN CFI application be successful? It is too early to tell, but there is no doubt that these initiatives embody part of the “molecular” dimension that comprises the future of modern public health. Stay tuned.

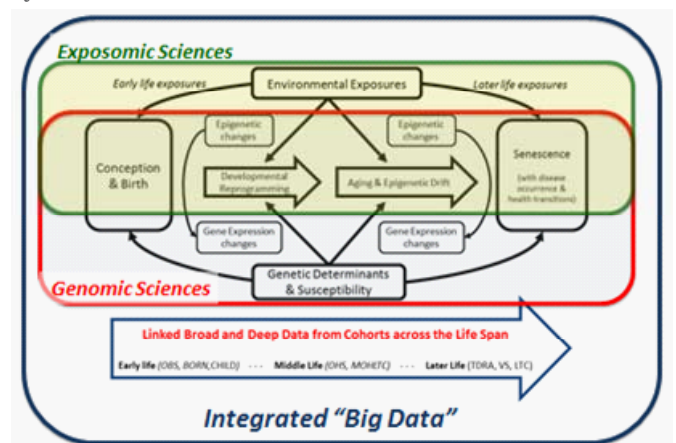


Figure 2: Conceptual Framework for Discovery BiDESIGN

Howard Hu, M.D., M.P.H., Sc.D.
Dean

WHAT'S NEW

Canadian Partnership for Tomorrow Project enrolls close to 300,000 volunteers in landmark chronic disease research project

The [Canadian Partnership for Tomorrow Project](#) — including British Columbia's [BC Generations Project](#), Alberta's [The Tomorrow Project](#), Ontario's [Ontario Health Study](#) (led by DLSPH Professor Vivek Goel), Quebec's [CARTaGENE](#), and Atlantic Canada's [Atlantic PATH](#) — has enrolled close to 300,000 Canadians to participate in one of the largest Canadian research cohorts designed to study the causes of cancer and other chronic diseases.



The project will follow healthy people over a long period, providing researchers with a valuable tool to investigate cancer and its causes. It provides an excellent platform for exploring multiple factors that can influence the development of cancer and chronic disease in individuals, including their genetic makeup, personal lifestyle choices, general health status, and cultural background.

To date, more than 110,000 blood specimens, as well as thousands of additional biological specimens have been gathered and stored for future analysis. Some participants will also be assessed by a one-time MRI scan of the brain, blood vessels, heart and liver as part of The Canadian Alliance for Healthy Hearts and Minds.

By collecting, studying and comparing the data from the large number of participants over decades of follow-up, researchers will be able to answer questions about why some people get cancer and/or other chronic diseases, such as diabetes and heart and lung disease, while others don't.

This data will be available to biomedical sciences and public health researchers in spring 2015. For more information, visit the Canadian Partnership for Tomorrow Project's [website](#).

DLSPH Alumni Publication chosen by NIH National Cancer Institute

A research paper by DLSPH and CIHR STAGE alumnus Darren Brenner (PhD '12 in Epidemiology), was one of ten publications selected by the [Epidemiology and Genomics Research Program](#) (EGRP) this year for its potential scientific and/or public health impact. Brenner's mentors include: [Shelley B. Bull](#) (Professor in the Institute of Health Policy, Management and Evaluation), [Rayjean Hung](#) (Professor of Epidemiology) and others at DLSPH.

Each year, EGRP selects ten papers from all of its grantees to feature in its Research Highlights. The paper, "[Hierarchical modeling identifies novel lung cancer susceptibility variants in inflammation pathways among 10,140 cases and 11,012 controls](#)," was published by Brenner et al. in the journal *Human Genetics* and was one of the ten selected papers in 2013.

EGRP funds research in human populations to understand determinants of cancer occurrence and outcomes. EGRP, the largest funder of cancer epidemiology grants in the US and worldwide, annually supports more than 400 grants and cooperative agreements.

Congratulations to the authors of this multidisciplinary team for their valuable contributions to genomics and epidemiology.

WHAT'S NEW (CONT.)



Distinguished researcher gives CIHR STAGE International Speaker Seminar Series talk

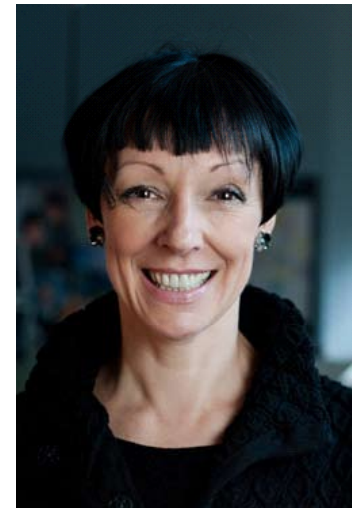
Dr. Chris Amos, Associate Director for Population Sciences at Norris Cotton Cancer Center and Professor at the Geisel School of Medicine at Dartmouth College, led the March 7, 2014 CIHR STAGE International Speaker Seminar Series, which was broadcast in New York.

His talk, “Genetic Architecture of Lung Cancer Susceptibility,” drew more than 90 participants. While in Toronto, Dr. Amos met with the CIHR STAGE community, including post-doctoral fellows, students and researchers. For more information, please visit the [CIHR STAGE Website](#).

France Gagnon named President-Elect of the International Genetic Epidemiology Society and receives teaching award

On January 1, 2014, Dr. France Gagnon, Associate Professor of Epidemiology at DLSPH and Co-Director of [CIHR STAGE](#), assumed office as President-Elect of the International Genetic Epidemiology Society (IGES). IGES is a vibrant global community of interdisciplinary scientists committed to the development and application of innovative study designs and statistical approaches with the ultimate goal of improving population health through research that aims to better understand the contribution of genetic components in complex biological phenomena.

Dr. Gagnon is also a recipient of a 2014 Faculty of Medicine Graduate Teaching Award for Early Career Excellence. She will be recognized at the Faculty of Medicine’s Education Achievement Celebration on May 13, 2014.



Six Dalla Lana School of Public Health students receive Gordon Cressy Student Leadership Award

Six Dalla Lana School of Public Health students were awarded a Gordon Cressy Student Leadership Award in recognition of their outstanding contributions to improving the world and inspiring others to do the same. The Award was established in 1994 by the University of Toronto Alumni Association and named after Gordon Cressy, former vice-president of development and university relations, who had a strong commitment to higher education, fundraising and community service.

This year’s recipients include: Beth Rachlis (PhD Epidemiology), Rivka Kushner (MPH Health Promotion), Victoria Holla (MPH Community Nutrition), Wendy Dobson (MPH Health Promotion), Stephanie Della Smirra (MPH Epidemiology) and Benjamin Chu (MPH Epidemiology).

“I am honoured to have served as chair and lead fundraiser for the 2013 Dalla Lana Healthy Toronto Conference where our student-led team organized a space for young minds to celebrate and expand healthy community initiatives,” said Chu in his application. “Taking leadership roles in student-led activities has been integral to my personal and professional growth and I hope to continue my community involvement throughout my career.”

Award recipients will celebrate at the 20th Anniversary Award Ceremony on Wednesday April 16, 2014. For more information, please visit the [website](#).

WHAT'S NEW (CONT.)

IDEAS & U of T Introductory QI Program and Needs Assessment Survey



Improving & Driving Excellence Across Sectors (IDEAS) is a province-wide learning initiative to build capacity in quality improvement across all health care sectors. Led by IHPME and the Faculty of Medicine, IDEAS and U of T are launching a two-day Introductory Quality Improvement Program in the Toronto-area for nurses, physicians, interdisciplinary health professionals and managers participating in quality improvement (QI) initiatives. Tuition costs will be covered by IDEAS. Take the 10-minute needs assessment survey at www.ideasontario.ca/QI-survey and receive advance notice of upcoming programs.

Bernard Choi represents Canada at Pan American Health Organization working group

Dr. Bernard Choi, a Professor in the DLSPH Division of Clinical Public Health and Senior Research Scientist at the Public Health Agency of Canada (PHAC), is Canada's representative on the Countries Working Group (CWG) for validation of the [Pan American Health Organization \(PAHO\) 2014-2019 Strategic Plan](#) baselines and targets. The CWG consists of 12 countries: Bahamas, Brazil, Canada, Chile, Costa Rica, Ecuador, El Salvador, Jamaica, Mexico, Paraguay, Peru and USA. The CWG will present its recommendations to the PAHO Executive Committee in June 2014 and the PAHO Directing Council meeting in September 2014.

The PAHO CWG will:

1. Establish a comprehensive and accountable monitoring and assessment system to report on the implementation of the 2014-2019 Strategic Plan, using existing PAHO information systems;
2. Complete the Compendium of Indicators and conduct a validation process for baselines and targets of the 2014-2019 Strategic Plan;
3. Revisit the programmatic priorities stratification methodology in order to improve the methodology and apply its results to future programs and budgets.



Dr. Benard Choi (fourth from the left) and PAHO experts in Washington, DC during a PAHO Expert Workshop meeting in 1999.

The PAHO CWG will work from February to September, 2014. If you have any comments or suggestions for the PAHO 2014-2019 Strategic Plan, please contact Dr. Choi at Bernard.Choi@phac-aspc.gc.ca.



UPCOMING EVENTS

DLSPH

ALUMNI REUNION

All DLSPH faculty, staff, students and alumni are invited to attend the first alumni and faculty reunion and networking event at the Canadian Public Health Association conference on May 27 from 5:30-7:30 p.m. at the Sheraton Hotel's Birchwood Ballroom.

Click [HERE](#) to register.

Call for Nominations 2013 - 2014 Faculty and Staff Awards

Nomination Deadline: **May 9, 2014.** Awards will be presented at the Faculty and Staff Dinner on June 12, 2014.

Nomination Procedure: To nominate a faculty member, fill out the form and a well-documented letter providing the rationale for your nomination and send to: facultyaffairs.dlsph@utoronto.ca.

Click [HERE](#) for the form.

Outstanding Staff Award

The Dalla Lana School of Public Health employs administrative, research and technical staff who contribute greatly to the Schools vision, mission and values, outlined in the School's Strategic Plan (2012-2015). They support our students, help to recruit and retain our faculty, service our research and maintain and improve the vast infrastructure upon which our academic enterprise relies. The Outstanding Staff Award honours staff whose work and dedication have helped to make the Dalla Lana School of Public Health the celebrated Faculty that it is today.

The Anthony Miller Award for Excellence in Research in Public Health Sciences

This award is designated in honour of Dr. Anthony Miller and his commitment to excellence in research. We wish to recognize the outstanding contributions to research of faculty in the Graduate Department of Community Health.

Eligibility:

All faculty with current (or past) SGS appointments in the DLSPH's Graduate Department of Public Health Sciences are eligible to receive this award.

Criteria:

The committee deciding the award will consider qualities including, but not limited to, a combination of the following:

- The development of specific new areas of scientific inquiry;
- Recognized, significant contribution to knowledge in a particular field of inquiry;
- Pioneering new methods of analysis, models of processes under investigation, or theoretical perspectives that are subsequently widely acclaimed;
- Candidate's work is widely cited in the literature as "definitive", "classic" or "important" studies in their field of inquiry;
- Commitment to the dissemination of research findings and their application in community and practice settings.

The John Hastings Award for Excellence in Service to the University & the Community

This award is designated in honor of Dr. John Hastings and his commitment to excellence in the service of the University and the community. We wish to recognize the outstanding contributions of faculty to the University, as well as to the development of professional practice in community health and in the service of the community. Excellence in service to the University is considered a minimum requirement for nomination, with contributions to a discipline or profession and to the community being seen as additional strengths. A balance between contributions in service, teaching and research will be favoured, though clearly excellence in service will be a prerequisite.

Eligibility:

Nominations will be accepted for all faculty with current (or past) SGS appointments in the Graduate Department of Public Health Sciences, and/or with a primary appointment at the Dalla Lana School of Public Health.

Criteria:

The committee deciding the award will consider qualities including, but not limited to, a combination of the following:

- Exemplary professional practice in the candidate's profession;
- Leadership in a profession (and thus evidence of recognition and importance in one's field);
- Leadership and support in a professional capacity in community settings;
- Demonstrated passion, sense of mission, and dedication to a community health-related cause;
- High level of social responsibility, and commitment to social justice;
- Leadership, innovation and excellence in the application of knowledge to practice;
- Strong acceptance by the professional community;
- Service on major task forces and have a significant impact on the future of community health or other segments of the university;
- The development of a new program, unit, centre, or institute;
- Administrative service during times of major transition;
- Leadership in the service of teaching (e.g., development of innovative methods, leadership in curriculum renewal, recognized scholarship in health science education);
- Leadership in the review, administration and dissemination of research (e.g., journal editor, establishment of academic centre of excellence or renowned research unit/centre or program, leadership in research council, commitment to dissemination of scientific findings, leadership in translating research findings into public policy and/or public health/medical practice, and/or community settings).

The C. P Shah Alumni Award for Excellence in Public Health Sciences

The C.P. Shah Alumni Award of Excellence in Public Health was established to recognize graduates of any of the academic programs offered by the Dalla Lana School of Public Health who have advanced the field of public/population health in Canada or its provinces/territories by his/her contribution and/or sustained efforts in one or more of the following fields:

Practice of Public Health:

- Development of new delivery models of public health services;
- Expansion of existing public health services in a creative manner to deliver added services;
- Strong advocacy of public/ population health which resulted in new changes to healthy public policy.

Teaching:

- Development of teaching programs/ material which excite and move forward the field of public/ population health education for undergraduate, graduate, postgraduate and/or continuing education.

Research:

- Applied or basic research which improves or modifies the delivery of public health and/or population health services.

The Robin Badgley Awards for Teaching Excellence in Public Health Sciences

These awards honour Professor Robin Badgley and his commitment to graduate education. We wish to recognize the outstanding contributions of faculty to the training and experience of students in our graduate programs, in all aspects of teaching: from the direction or teaching of a course, leading a seminar, supervising theses or practicum experiences to acting as a mentor to students in a particular program or stream. Effective teachers in our School have shaped the thinking of a generation of public health professionals and researchers, and the Robin Badgley Awards recognize the teaching excellence and dedication to students of exemplary faculty.

Up to two awards may be given in each year: the early stage award is to recognize promise in faculty that are still within five years of their faculty appointment; and the open award for all eligible faculty.

Eligibility:

All faculty with SGS appointments in the DLSPH's Graduate Department of Public Health Sciences are eligible to receive this award. The Early Stage award is restricted to teachers in the early stages of their career and within five years of their academic appointment at the DLSPH.

Criteria:

The committee deciding the award will consider qualities including, but not limited to, the following:

- Commitment, as evidenced by: quantity of teaching, range of teaching environments, accessibility to students, research and publication in education;
- Excellence in communication skills;
- Stimulation of critical, independent and analytical thinking in students, and support for organizing their own learning;
- Ability to organize material and emphasize principles;
- Stimulation of interest in and enthusiasm for the subject;
- Innovative, creative and experimental teaching methods;
- Contribution as a role model, whether as a researcher, practitioner or both.



The Canadian Medical Hall of Fame

*Le Temple de la renommée
médicale canadienne*

The Canadian Medical Hall of Fame Nominations

Nomination deadline for the 2015 Induction: **Monday, June 30, 2014**
For more information about the nomination process, visit www.cdnmedhall.org

The Canadian Medical Hall of Fame invites you to nominate someone, living or posthumous, whose contributions to medicine and the health sciences have led to extraordinary improvements in human health. Candidates are recognized for their innovative leadership in one or more of the following categories:

A. Leadership in building excellence in health for Canadians and the world

- Excellence in health education and the development of health professionals in Canada;
- Creation or development of organizations or institutions that enabled health care improvement;
- Political leadership and/or activism that facilitated major changes in health or health care;
- Advancement of the profession or public awareness of a health issue(s) through oral and written communication expertise and media.

B. Leadership in health promotion, illness prevention and care

- Exemplary patient care over a lifetime for particularly disadvantaged, remote, or underserved populations, often denying one's own self-interest and in the service of others, thus creating a 'legend' of validated, amazing stories of professionalism;
- Outstanding, widely recognized contributions to public and population health and/or health promotion;
- Evidence of humanitarianism both within and outside the profession is likely prominent;
- Research may or may not be an important part of their story of accomplishment.

C. Leadership in research with national and international recognition for a scientific contribution

- Innovative ideas and hypotheses, observations and experiments of critical significance to health science; definitive clinical trials, implementation research or leading scientific advances;
- Possibly an outstanding single discovery but more likely a lifetime of scientific endeavour with peer approval through journal publications with substantial impact;
- Likely recognized by other honorary societies such as the Canadian Academy of Health Sciences, the Royal Society of Canada etc.

ALUMNI SPOTLIGHT

**Corinne Hart**, MHS (1988), PhD (2006)

Associate Professor, Daphne Cockwell School of Nursing at Ryerson University

How did you become interested in your field of public health?

As a new nurse I was drawn to public health almost from the start of my career. I realized early on that I liked the mix between working at the individual level of home visits, teaching prenatal classes, and working in schools, and the broader population level of health promotion and population health. The emphasis on social justice and equity that is inherent in public/community health practice also resonated strongly with my own personal and professional lens.

What led you to DLSPH?

After working in public health for several years I realized that if I wanted to move forward and have career options I needed to increase both my knowledge and skill in relation to public health theory and practice. The program at DLSPH (then the Department of Behavioural Science) provided that mix. At the time, (1986!) health promotion was beginning to gain prominence; I was in the master's program in 1986 when the Epp report, the Ottawa Charter and Action Statement for Health Promotion came out. These documents then framed much of my learning at the time, as well as my subsequent practice. In many ways, these documents created the foundation for both my teaching and my nursing practice more broadly.

In what ways has your DLSPH experience had an impact on your career?

The MHS program (now MPH) provided me with the theory, practical skills, and more important the critical lens that has guided my practice for the last 25 years. Equally important, it directly led me to my doctoral studies. Following my MHS I worked as a co-investigator and research coordinator for a two-year project looking at children and community participation; the primary investigator was Dr. Ilze Kalnins, then a professor in Behavioural Science. This project taught me valuable research skills and convinced me that I needed to continue my education. Because I was known in the department, having done both my MHS and subsequent research there, I was admitted to the doctoral program; the first student to be admitted without a thesis-based master's degree. In this way, my experience at DLSPH led directly to my current position at Ryerson.

Was there a specific faculty member or course that was particularly influential?

Dr Ilze Kalnins, Dr. Joan Eakins (my PhD supervisor) and Dr. Raisa Deber were all especially influential.

“It is really important to use the program to your own advantage — think about what you want to get out of it and make it work for you.”

What have you been doing since leaving DLSPH?

Initially I went back to public health after obtaining my master's degree in 1988. From 1989 to 1991, I worked as a research coordinator. In the early 1990s I also worked as a clinical nurse consultant in what was the teaching health unit in Toronto Public Health, a counselor at the AIDS hotline (now the sexual health hotline) and taught prenatal classes. I have had a full-time teaching position since about 1995 and am currently a tenured Assistant Professor at Ryerson.

What advice would you give to younger alumni or current students who aspire to follow a similar career path?

Don't be afraid to go into open doors, even if they do not seem to be the ones that you expected. Careers do not need to be linear; take opportunities as they arise. Most of what I have done in my career has been the result of good preparation, critical thinking and serendipity.

What would you say to a prospective student who is considering DLSPH?

It is not the actual content of the courses that is the most important — it is the lens that frames the program, and the willingness to take risks in learning. It is really important to use the program to your own advantage — think about what you want to get out of it and make it work for you.