

INSIGHT

Innovation and Inspiration: Insight from Dr. John Evans

Orli Goldberg

Medicine is a dynamic field that offers fertile ground for innovation. Throughout the ages, health care practitioners and health policy makers have continuously been forced to invent, innovate, and create in order to keep up with the advent of new diseases, new technologies, and changing political and economic climates. Dr. John Evans is a prime example of an individual who has risen to meet many such challenges and has introduced many innovations over the course of his extensive and influential career. In this inaugural issue, we feature this interview with Dr. Evans and describe his contribution to the establishment of McMaster University's Medical School and its original approach to medical studies, which has impacted the lives and health of thousands of Canadians, and contributed to innovation in Canada and around the world.



Dr. Evans (1971).

Evans was 35 when he became the founding dean of the McMaster Faculty of Health Sciences in 1965. During the next seven years, he led a group of reform-minded educators

in the development of an undergraduate medical program and a philosophy for health sciences education that departed radically from the status quo.



Dr. Evans with Dr. Ray Walker, President of McMaster University Medical Centre, looking at a model of the McMaster Medical Building (circa 1970).

To keep pace with modern medicine's rapidly expanding knowledge base, the founders of the McMaster Medical Programme believed students needed specialized tools to become life-long, self-directed learners who possess strong problem-solving and teamwork abilities. Accordingly, they introduced the concept of Problem-Based Learning (PBL), with students learning through pre-assigned clinical problems, discussion and debates in small group settings, and by addressing real-life situations. A philosophy that was originally met with considerable skepticism, PBL or the "McMaster Approach" has evolved into a cumulative, integrative, and progressive strategy that has been refined and incorporated into the curriculum of some of the world's most prestigious medical schools.

Evans reflects on his historic involvement: “I think McMaster has a rather proud history in innovation and in ideas. The disciplines were important, but the practice of medicine wasn't around individual scientific disciplines; it was around people and their problems. Therefore, you should start from the problem, gather your information, and learn the elements. That methodology is more likely to be useful to you on an ongoing basis. Because medicine is problem-oriented, it is natural to acquire skills to hunt out and analyse information that would be important in your formulation.”

In addition to introducing PBL, McMaster played a significant role in advancing evidence-based medicine and the effective application of clinical epidemiology. “Under David Sackett's leadership,” says Evans, “the Department of Epidemiology and Biostatistics established itself as a resource to help clinical departments become much more objective in analysing, challenging, and measuring, thereby trying to get people to adopt a mentality of critical judgment of performance.”

“The program tried to build a commitment to the ideal that you always have to be searching for the validity of what you're doing in practice. It shouldn't be what some professor



First graduating class of the McMaster University Medical Programme.

told you at an earlier stage that really determines whether you continue to do it; the real issue is whether it does more good than harm. That's a personal responsibility as a professional – to engage in that kind of analysis. While there was lip service in a lot of areas that people should have continuous learning, I think McMaster crystallized that principle in the form of a model of learning right from the time you entered your professional life in medical school.”

Owing in large part to the efforts of Evans and his col-

leagues, McMaster has evolved as one of Canada's most research-intensive universities. Its medical school is the third largest in Canada, and the Faculty of Health Sciences includes the world-renowned schools of Nursing and Rehabilitation Science, as well as an innovative Bachelor of Health Sciences (Honours).

Although much has changed since the inception of the McMaster Medical Programme, it still confronts a myriad of challenges. Evans is constantly analysing and questioning: “How do we ensure that McMaster is part of a dynamic evolution of health science education, health science research, and health care? How do we ensure that we play some role in moving the system forward? How do we make sure that we're not part of the problem? Are we too fixed in our way of doing things and resistant to looking at new ways of approaching problems?”

“Rather than saying it's all the government's responsibility, we ought to be finding ways in which we can take leadership in this endeavour. How do we ensure that, in fact, there is a control system on what we are doing that monitors what we're doing, so that expert groups could, in fact, identify decisions that were abhorrent and flag them – not to reverse the decisions, but to force the practitioner to go back and say: ‘Wait a minute, this is being challenged.’ How do you build in safety and control?”

“We should continually be trying to achieve greater patient satisfaction, greater quality of care, greater relevance of any new technologies that would be truly beneficial, and still be sensitive of the cost to the system, by looking for ways in which we can always be upgrading the value of what we get for the money we spend.”

In the realm of medical education, Evans emphasizes the need for a transition from a problem-based system of education to, what he terms, “a universally accessible information-based system.” He explains: “In a problem-based system, what we try to do is to ensure that there are resources available that people could relate to in a tangible way. That still is needed, but I think we haven't changed the way we practice. We need to start relying less and less on memory and more and more on accessing those sources of information, so that in effect, the memory bank of a computer is not substituting for the memory bank of the individual student and practitioner to a greater and greater degree.”

In April 2002, in recognition of Evans' leadership and vision, Alcan Inc. donated \$1 million to the McMaster University Faculty of Health Sciences to create the endowed John R. Evans Chair In Health Sciences Education Research. McMaster University has matched this amount. At the dedication ceremony, McMaster President, Dr. Peter George, acknowledged the gift, saying: “The creation of the John R. Evans Chair in Health Science Education Research is a pivotal occasion for Health Sciences at McMaster...There are many of Dr. Evans' disciples scattered

around the world. The John R. Evans Chair will further enhance his legacy.” George said the gift will enable McMaster to make educational breakthroughs in how technology and computer-based learning are integrated with clinical experience to produce better doctors and health care professionals.¹

At the same time, John Kelton, Dean and Vice President of the Faculty of Health Sciences, recognized the pivotal role Evans played in the development of McMaster’s medical school. “He was one of the original pioneers of Problem-Based Learning. We are going to build on his innovation, and research new ways to teach medicine that are just as exciting and revolutionary as PBL was in the 1960’s.”¹

The John R. Evans Chair in Health Sciences Education Research was established to explore some key questions including how people learn from experience and its relationship to classroom learning, how problem solving skills are best taught, how to optimally design and utilize computer-based experience materials, and how this will transform the way medical schools and other health sciences programs around the world approach student learning.

After serving as founding dean of the McMaster Medical School, Evans went on to become the president of the University of Toronto from 1972 to 1978. Currently, in addition to participating in a range of councils and organizations, he serves as chairman of the Torstar Corporation.

His efforts to actualize positive change in many areas of our society and globally, have been recognized by awards such as the Companion of the Order of Canada and Member of the Order of Ontario, as well as honorary degrees from fourteen universities in Canada, the United States, and Europe. He has served as Chair of the Board of Trustees of the Rockefeller Foundation, Chairman of Alcan Inc., and was founding Director of the Population, Health and Nutrition Department of the World Bank in Washington, D.C. He is a Fellow of the Royal College of Physicians of Canada, Master of the American College of Physicians, and Fellow of the Royal Society of Canada.

Recognizing Evans’ wealth of experience and insight, the federal government asked him to chair the Canada Foundation for Innovation (CFI), a \$3.6 billion fund established in 1997. By investing in research infrastructure projects of Canadian universities, colleges, research hospitals, and other non-profit institutions, the CFI supports world-class research and technology excellence and helps strengthen research training at institutions across Canada.

Evans has been associated with the development of Canada’s biotechnology industry for decades. He has served as Chair of the Board of the MaRS Discovery District, a major biotechnology commercialization infrastructure project currently being built in downtown Toronto. The objective of the Medical and Related Sciences (MaRS) project is to stimulate innovation and biotechnology com-

mercialization by integrating university, hospital, investment, and industrial research and development activities in order to create a biotechnology cluster in Toronto of global significance.

“Innovation is possible all around us, all the time, but very few people exercise that opportunity to invent,” remarks Evans. “They tend to go along and do the same thing. The challenge is to try to train people to be more inventive, to accept that as part of their responsibility. Then you will see coalitions of people who become more interested in those inventions and innovations. Students are probably more inventive than residents, and residents are probably more inventive than junior clinicians, and junior clinicians are much more inventive than very senior people, and so on. It isn’t something that you should delay until you rise to the top of the administrative ladder.”

“Innovations start with individuals,” says Evans. “We should stop looking to governments and outside commissions and groups to provide the sparks for innovation. Innovative ideas come from individuals who see a problem and find a different way of dealing with it. Some of these innovations make major differences.”

In his distinctly avuncular way, Dr. John Evans evokes a profound understanding of the role and responsibilities of a leader. He understands that the onus is on each individual –



Dr. Evans (present).

each student, each physician, each public health officer, each politician, and each citizen – to exercise his or her ability and responsibility to innovate. “That’s the pinnacle of scholarship: to be able to generate ideas, to see disjunctions and discontinuities, to ask why they exist,” states Evans. “You’re half way when you ask why the question exists. If you also have the good fortune to have the kind of mind that says, ‘Here are the possible directions that need to be looked

at,’ that’s terrific. That can be occurring anywhere in the system. That gives people a great sense of excitement – when you can make a little change in the system.” †

AUTHOR BIOGRAPHY

Orli Goldberg is a medical student in her final year at McMaster University.

REFERENCES

1. “Alcan commits \$1 Million to McMaster University Chair Creation of the John R. Evans Chair in Health Sciences Education Research.” Press release, April 11, 2002. www.mcmaster.ca/ua/opr/nms/newsreleases/2002/evansalcanchair.html