An Interview With Dr. Ann McKibbon
Director, MSc eHealth program at McMaster University

Story by Gavin deAlmeida

Professor Ann McKibbon has forged a name for herself in the field of eHealth, with a fantastic global reputation particularly in information retrieval. She has been a health librarian for over 30 years, more than 20 of which she has spent as a researcher at McMaster University. She has a PhD in Medical Informatics to her name, from the University of Pittsburgh, and her dissertation is “Effect of Risk Attitude and Uncertainty Comfort on Primary Care Physicians’ Use of Electronic Information Resources.” McKibbon’s impressive and extensive resume in eHealth has seen her: author a range of articles and monographs, oversee in excess of 50 peer-reviewed articles, and teach hundreds of workshops in information retrieval, evidence-based medicine, and knowledge translation.

Hailing from Lowbanks, Ontario in central Canada, Ann McKibbon was raised by a family captivated by technology. She notes “one of their (her parents’) bedrock foundations was that one could do anything he or she put their mind to.” As a child, her father built TVs out of old World War II radar equipment and old plywood. As a result she grew up thinking all TV screens were “small, round, and green.” Strangely enough she finds correlation between the beginnings of television and the work of modern-day pioneers in eHealth and informatics. She sees a lot of potential for the expansion and development of eHealth with the technological tools at our disposal today.
With her list of accomplishments in the field it may come as a surprise to some that Professor McKibbon originally had a slightly different career path in mind. Starting out as a chemist she actually had no intention of completing a PhD. "Chemists have the largest literature of any domain, much much bigger than healthcare, so I transferred to Library Science so that I would be able to use my academic background without another 8 years of school."

Few would know that, despite her achievements at the prestigious institution, McKibbon was actually hired at McMaster to be the photocopy clerk. After a short break to raise her family, McKibbon’s career started to take shape. She was recruited to work on knowledge synthesis, focusing on the correlation between continuing education and clinician behavior, as well as patient outcomes. This led to her working with (McMaster colleague) Dr. Brian Haynes on knowledge translation projects and the transferal of new evidence into practice. She also accumulated valuable experience working on clinical queries in Medline and OVID, ACP journal club, clinician use of Medline, reviews of patient adherence, and studies into evidence-based medicine.

Eventually McKibbon discovered she was driven by a love to teach, and she came to the realization that to pursue this path at university she needed a PhD. Leaving her family in Hamilton she moved to the University of Pittsburgh over three consecutive winters to attain her PhD in medical informatics. Having done so, she returned to McMaster to spearhead the new MSc program in eHealth.

The person who inspired Professor McKibbon the most was renowned eHealth authority Brian Haynes and his colleagues in the EBM movement. “Brian has ideas galore and is more than willing to support and enable his staff to carry out projects.” She notes his leadership and his teaching abilities set him apart, with his “exacting standards” yielding great results; she points out more of his students are lost to PhD and MSc programs, rather than other jobs. She stresses Haynes never fails to point out the significance of the content side of eHealth, ensuring that the focus on technology doesn’t distract from the importance of evidence. She also cites legendary Canadian pioneer in evidence-based health David Sackett as an influence, although the two greatest lessons he taught her had far less to do with clinical research and much more to do with life in general: “First is that our future is in our students and we owe them time, energy, and respect. Second, that unless you are having fun something is not right and you need to reassess how you are approaching your work. Fix it or stop.”

McKibbon’s sheer passion for teaching is hard to suppress. “To be perfectly honest, I do research so that I can teach. Many other academics feel the other way around. I am much happier working with others on their research or doing research to be able to involve students.” McKibbon very recently completed a substantial evidence report for the U.S. Agency for Healthcare Research and Quality on the effect of health information technology on medication management. One key aspect in the process that she relished was incorporating students into the project. She muses, “I will never be given prizes for huge research advances or get rich on my patents or intellectual property. My main focus has been, and will likely be until I retire, my students and their progress as they grow towards graduation.”

The vast majority of her time in health research has been in her native Canada. On her McMaster home page video, Professor McKibbon states that Canada will require 6,000 to 12,000 new jobs in eHealth. She finds the nation is lagging behind the rest of the developed world in terms of the proliferation of eHealth programs relating to all facets of the health industry, including in training. She finds by comparison the United States, by way of its National Library of Medicine training programs, has a more advanced eHealth training development and she views this as a potential benchmark.

**McKibbon refers to the following site as the source of the figures on eHealth job gap.** http://www.coach.org/com/COACH/publications/him_resources_report.htm

However, she sees potential for Canada to develop its eHealth resources through resourceful cost management strategies, smarter use of up-to-date knowledge management systems, and in general, more efficient use of computer technology, particularly in terms of data storage. She thinks this, in conjunction with newer advances in evidence-based clinical research, will help improve the quality of healthcare in Canada.

McKibbon says there are many eHealth and informatics programs in Ontario, all of which cover a range of significant elements within healthcare, whether producing graduates that can benefit industry, or hospital-based healthcare. She sees the role of the MSc eHealth program at McMaster University as producing highly skilled practitioners who can foster cooperation between clinicians, computer scientists, and administrators. “We strive to produce people who know, respect, and can harness the differences in culture, language, and goals of the different players to produce and implement effective eHealth applications.” She asserts that the goal of the course is to produce graduates who have academic skills as well as practical experience, something which is exemplified through their eight-month internship.

McKibbon says McMaster University puts a premium on the quality of eHealth education and they want to produce graduates with an MSc level of training. (However, she does qualify that the broad scope of eHealth means there are natural limitations to how much they can teach within that time frame.) The curricula is based on the Canadian education guidelines set by the country’s advisory body COACH. The core three courses...
are in health, business, and computing, with related elective classes and seminars set within the sphere of eHealth.

*Mckibbon says the course at McMaster encourages the collaboration of clinicians, computer scientists, and business administration in the development and integration of informatics tools in healthcare, to ensure that effective evidence-based approaches can be successfully actualized. She emphasizes that each field provides a significant value, but it is in their combination that progress in eHealth can be made: “each of the three domains in question have their own large body of knowledge and skills. This knowledge and skill set is also embedded within different cultures, procedures, norms, and language.” She refers to informatics pioneer Charles Friedman’s “first theorem of informatics,” which finds a skilled clinician is far more useful when he is equipped with effective informatics tools than without them. Further, she notes that the best of the business management people need to be involved to ensure the smoothest and most efficient integration of eHealth programs possible, stressing cooperation is an essential part of this process: “no one person acting in their professional silo can make good systems that are used.”

Mckibbon feels that, while essentially, all areas of healthcare would benefit from eHealth programs, the fields of chronic and complex care would benefit most from efficient informatics applications. However, she advises that there is a long way to go, stressing the discipline is still relatively young and key tools are still in development. “We have made great strides in our imaging work as this is one area where good technology is absolutely essential. My dream in eHealth is that we will soon be able to intelligently mine our collected clinical data so that we can start to intelligently use the information to provide patients with prognostic information.”

Professor Mckibbon finds that essentially, the biggest barrier to the implementation of eHealth practices is culture. She asserts the culture of medicine needs to be taken into account within the process of planning and development of eHealth and notes practitioners have been “burned previously with systems that do not work well for them and their care processes. They are busy and often, set in their ways, as well as intimidated by the computer scientists.” However, she says these issues can be overcome through the assistance of experienced and well-trained eHealth professionals, however, she cautions that failing to acknowledge the culture of medicine in the implementation of eHealth programs will result in flawed systems.

Even so, Mckibbon thinks there is scope for evidence-based care to broaden its scope and increase in relevance, going forward: “I see that the EB folks may need to recognize and come to terms with other forms of evidence. With intelligent handling of the huge amounts of data (data mining) we may be able to learn more from the experience of say 500,000 people than we can learn from a very small randomized trial of 50 people. This approach goes against the ‘usual rules’ of evidence that RCTs almost always ‘trump’ observational data.” She also finds that there is a need to simplify and accelerate the process of systematic reviews and suggests the American ‘comparative effectiveness’ movement is an example of a step forward in this context.

Mckibbon feels that there is scope for greater collaboration and cooperation between medical librarians and eHealth experts. She points out that while eHealth is focused on the computer-based research and analysis of health information from patients, populations, and medical data, a lot of the same evidence is also covered by medical librarians: “this overlap in content and the similar skills needed to manage great amounts of electronic data shows that both groups have similar skills and abilities and can learn from each other.” However, although she finds that fostering understanding between the two professions is essential, she notes an ideal way to achieve this is difficult to pinpoint. She states both groups ultimately want to produce intelligent evidence-based systems which provide the most efficient way to deliver the best care. She declares that this is the “holy grail” that unites them both.

Ultimately, between Mckibbon’s generous passion for education and the substantial wealth of her work with evidence-based healthcare - particularly in information management - it’s fair to say her contribution to health research as a whole has been nothing short of remarkable. Yet, like many other high achievers, she retains her humility and perspective. “I have been given some wonderful opportunities and experiences over the past 30 years and have been exceedingly blessed to be where I am today.”