

Supporting lifelong learning for physicians: Continuing professional development and knowledge translation

Good educational programming and strong partnerships are needed when charting a course for excellence in physician learning and patient health outcomes.

ABSTRACT: To provide high-quality evidence-based medical care to patients, our health system and our physicians must keep up with the latest knowledge and skills. Continuing professional development initiatives using both conventional and innovative electronic information technologies can help meet physicians' educational needs and translate exemplars of care into routine health practices. Through educational programming, research, e-health, strong partnerships with like-minded organizations, and effective knowledge management and translation, the Division of Continuing Professional Development and Knowledge Translation at the University of British Columbia strives to support the excellence of our health system and practising health professionals, and to contribute to optimal patient outcomes in our province and beyond.

In an era when medical evidence and knowledge are generated at unprecedented speed, health professionals may find it difficult to stay up to date, not just with the burgeoning amount of research, but also with the ever-changing technologies in health care. The demands of a busy practice and personal commitments combined with the daunting task of learning how to use new equipment and software can be overwhelming. The Division of Continuing Professional Development and Knowledge Translation (CPD-KT) at the University of British Columbia offers physicians across BC assistance in the timely uptake of knowledge and skills in a form that suits their busy schedules and takes advantage of new educational technology. CPD-KT also provides training and education on the transformation of the health system through knowledge of evidence-based patient care. The term continuing professional development (CPD) encompasses traditional continuing medical education (CME) but also includes a broader range of relevant areas such as practice management, interprofessional patient-centred care, and teaching.

CPD and education programming

UBC develops and delivers roughly 500 hours of wide-ranging accredited educational events each year, and conducts large-scale needs assessments to shape overall programming in an effort to meet the broad learning needs and development goals of practising physicians in BC. Conferences such as Be Smart and Live Well with Diabetes, Hot Topics in Psychiatry for Primary Care, Dermatology Review for Family Practitioners, and the Paediatric Emergency Medicine Update provide a forum for the introduction of new information, techniques, and training, while bringing the community of health professionals together. CPD-KT also offers videoconferences,

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small group workshops, Internet-based sessions and handheld programs to assist clinicians with their clinical—and nonclinical—practice improvement. Courses and programs such as the ongoing CME on the Run series and the Rural Outreach Video-conference Program use interactive methods to deliver education and training. A new educational support

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program to assist the integration of temporarily licensed international medical graduates is being developed using web-based, live conference, and communities-of-practice learning technologies. A number of round table discussions and presentations are available for viewing online, free of charge.

Acting in partnership with the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada, CPD-KT develops and implements standards for accredited education and professional development. In working with many educational providers, the application of these standards helps ensure programs delivered in

BC reflect the highest ethical standards and represent the best practices in adult education.

CPD and research

In addition to providing programming based on today’s best educational approaches, CPD-KT engages in research in order to elucidate how these educational initiatives for health professionals ultimately lead to improved patient outcomes through the translation of knowledge into practice. It is important to engage physicians in educational research not only to understand and address their learning and practice needs, but also to identify unconventional approaches and contextual learning methods, and to ensure effective use of modern information technologies (IT) such as the Internet, computers, and personal digital assistants (PDAs) to support physician learning and practice. CPD-KT’s research capacity and expertise include areas of technology-enabled knowledge translation, Aboriginal and community health, physician needs assessments, and program evaluation of educational initiatives. Current projects include:

- Tele-wound Care in Rural Aboriginal Communities.
- eCommunities of Practice (eCoP).
- From Evidence to Excellence (E2E), a program in emergency medicine.
- CliniPearls—Clinical Practice Guidelines at the Point of Care.
- Commitment to Change, a strategy for enhancing the effectiveness of physicians’ learning experiences.

CPD e-learning and e-health

Some 8000 research papers are published each week, and with such an explosion of information, physicians need to find ways to close the gap between their perceived knowledge/skills deficits and desired level of

competence. Modern IT can provide immediate access to information and tools most relevant to physicians’ personal learning and practice needs. The power of e-learning and other electronic tools is in their ability to support “just-in-time” learning, making evidence-based knowledge available as questions arise.

CPD-KT supports the exploration and development of a variety of just-in-time learning programs—from online courses and web-based opinion leader discussions to PDA-based clinical practice guidelines and electronic communities of practice. Programs such as Preparing and Delivering Dynamic Presentation: Skills, Strategies and the Use of PowerPoint provide health professionals with the tools to refine their skills in adult education and facilitation. A number of courses, ranging from those for the novice, such as Introduction to Computers for Physicians, to those for advanced learners, such as Introduction to Health Informatics, are aimed at improving the use of IT in the facilitation of online learning and practice.

As more physicians and health facilities use electronic records to document patient encounters, tremendous opportunities arise for incorporating electronic decision-support tools in the record-keeping process, thereby synchronizing patient management with documentation, improving adherence to evidence-based practice, and advancing patient safety. CPD-KT collaborates with provincial, national, and international bodies in the implementation and evaluation of e-health—the use of IT in health service delivery, health data usage, and knowledge management—and is keenly interested in understanding how to improve e-health practices and implementation strategies, and educate physicians and trainees in its uptake.

Since the fall of 2006, CPD-KT

has been engaged in health consumer informatics research that provides community members with evidence-based medical knowledge to improve self care and explore approaches to their own health management. One of these projects, the Chinese Online Health Network, allows patients in the Lower Mainland to communicate through a web site (www.iconproject.org) and associated public health forums about diabetes. Soon information about other disease entities of concern to the Chinese population, including myocardial infarction, stroke, and dementia, will be added to the web site. Eventually this initiative is expected to lead to a meaningful and long-term partnership between physicians and patients interested in achieving excellence in health outcomes.

Knowledge translation

Knowledge translation (KT) refers to the assessment, review, and utilization of scientific research for evidence-based health practice. The fundamental question is, "Once knowledge is generated through research, how long will it take for this knowledge to be applied in routine practice?" Putting research knowledge into practice not only requires educating health professionals, it also requires bringing together health policymakers, health researchers, administrators, and other stakeholders.

Knowledge is information that has been authenticated, validated, and finally trusted. Through data "mining," bioinformatics, and testing, knowledge can be focused on a huge volume of emerging therapies. However, genuine knowledge needs to be authenticated by evidence and validated through sound practice. To illustrate, the unauthenticated and unvalidated medical information found on blogs and wikis and elsewhere on the Internet does not represent true

Table. Recommended resources for continuing professional development and knowledge translation.

Resource	Content provided
UBC Continuing Professional Development and Knowledge Translation (www.cpdkt.ubc.ca)	Information about educational and research services, events, and resources
College of Physicians and Surgeons of BC Library (www.cpsbc.ca/cps)	Electronic journals and books; online resources
Guidelines and Protocols in BC (www.health.gov.bc.ca/gpac/)	Clinical practice guidelines developed by and for BC clinicians and specialists
CliniPearls (www.clinipearls.ca/)	BC clinical practice guidelines for cancer and chronic disease for downloading to PDAs
Health Canada adverse reaction newsletter (www.hc-sc.gc.ca/dhp-mps/medeff/bulletin/carn-bcei_v18n2_e.html) and vigilance program (www.hc-sc.gc.ca/dhp-mps/medeff/vigilance_e.html)	Information about adverse reactions to medications reported to Health Canada
Pubmed (www.ncbi.nlm.nih.gov/pubmed/)	Indexed scientific research articles
Medline Plus (www.nlm.nih.gov/medlineplus/)	Evidence-based information familiar to health professionals but tailored for patients and health consumers

knowledge, even though the sources often claim to be providing real-time information. Only when there is qualified supervision of input and content validation can these sites be said to contribute to authentic knowledge management and translation.

CPD-KT promotes effective knowledge translation not only to authenticate and validate the knowledge source, but also to assemble the right strategies to coordinate knowledge uptake by individual practitioners. For example, one such course, Internet Search Tools for Physicians, is designed to help health professionals navigate the web for credible evidence-based medical information, online databases, and search engines for online publications, listservs, and user groups.

Conclusions

Through active research, good pro-

gramming practices, and strong partnerships with like-minded organizations and health policymakers, UBC aims to give practising health professionals access to cutting-edge technological applications, the latest research, and the most valuable new tools, and to chart a course for excellence in physician learning and patient health outcomes. For more information on CPD-KT and other resources for lifelong learning, see the **Table**.

Competing interests

The Division of CPD-KT receives unrestricted educational grant funding from pharmaceutical companies and BC Ministry of Health funding for some of its conferences and educational initiatives. The Division receives granting agency funding (e.g., CIHR, SSHRC, MSFHR) and government funding for many of its research activities. **BBMJ**