Building Capacity for CBME Implementation at Queen’s University

Damon Dagnone[1], Ross Walker[2], Leslie Flynn[3], Richard Reznick[4], Denise Stockley[5], Amber Hastings Truelove[6], Rylan Egan[7], Richard van Wylick[8], Laura McEwen[9]

Corresponding author: Dr Damon Dagnone jdd1@queensu.ca

Institution: 1. Queen's University, 2. Queen's University, 3. Queen's University, 4. Queen's University, 5. Queen's University, 6. Queen's University, 7. Queen's University, 8. Queen's University, 9. Queen's University

Categories: Educational Theory, Medical Education (General), Research in Medical Education

Received: 21/01/2017
Published: 30/01/2017

Abstract

Medical education in Canada is currently in a state of transition. In 2013, the Royal College of Physicians and Surgeons of Canada launched Competency by Design (CBD), an initiative which will see all specialty and subspecialty programs in Canada begin transitioning to competency-based medical education (CBME) by 2022. At Queen’s University, we intend that beginning July 2017, residents entering any of our 29 postgraduate specialty programs will be integrated into CBME residency programs. This paper shares Queen’s University’s experience of an accelerated, institutional implementation of CBME in advance of the Royal College’s competency by design (CBD) program.

Keywords: Medical Education

Introduction

In 2012, a consortium of the Association of Faculty of Medicine of Canada (AFMC) and a collection of postgraduate agencies came together for a project entitled the Future of Medical Education in Canada. Among their recommendations was to "develop, implement, and evaluate competency-based, learner-focused education to meet the diverse learning needs of residents and the evolving healthcare needs of Canadians" (AMFC Report p. 18). A relatively new approach to medical education, competency-based medical education (CBME), as defined by Frank and Snell (2010), ”is an approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centredness” (pg. 636).
As a form of outcomes- or criteria-based learning, CBME provides an alternative to program structures organized around knowledge objectives, which may not always ensure that future physicians acquire competence in all required areas, and time-based training which may emphasize time spent on particular aspects of training as opposed to the acquisition of abilities during that training (Frank & Snell, 2010).

In 2013, the Royal College of Physicians and Surgeons of Canada launched Competency by Design (CBD), an initiative which will see all specialty and subspecialty programs in Canada begin transitioning to CBME by 2022. Disciplines are divided into seven cohorts, and the Royal College is currently transitioning its first and second group of adopters (Medical Oncology and Otolaryngology; and Anesthesiology, Forensic Pathology, Gastroenterology, Internal Medicine, Surgical Foundations, and Urology). According to the Royal College, "the greater goal of CBD is to enhance patient care by improving learning and assessment across the continuum from residency to retirement" (Royal College).

At Queen's University we have fully embraced the concept of moving from a time-based system to one based on competence. Furthermore, we felt there was merit in moving forward with the transformation of all of our specialty programs synchronously and collectively. To begin such a large undertaking, we applied to the Royal College’s Fundamental Innovations in Residency Education (FIRE) program for permission to go forward with this educational initiative. Our successful FIRE application allowed us to diverge from the Royal College specialty transitioning schedule and training requirements for our 29 postgraduate specialty residency programs. This enabled our CBME leadership team to move forward with our goal of an accelerated institutional implementation of CBME. In July 2017, we will welcome all new Queen's residents into CBME specialty programs. This unique institutional approach will be the first of its kind in Canada and we have engaged all stakeholders (residents, program directors, faculty, hospitals and community partners) in the transition process.

There have been several advantages to our adopting an institutional approach to CBME implementation, including by-in from the decanal leadership. Support for CBME as an educational initiative at Queen's has involved martiaing resources for one time costs associated with the transition, including making CBME a strategic priority for our alternate funding plan organization, the South Eastern Academic Medical Association of Ontario (SEAMO). Without the decision to do this centrally, these costs would have been prohibitive for many of our specialty programs. Additionally, an institutional approach has allowed the dean to incorporate deliverables for CBME in the performance plans of department heads, and it has enabled us to create a central team to provide guidance and leadership throughout the implementation process.

Finally, our institutional approach at Queen's has allowed us to engage the University by making this transformation one of the priorities of the School of Medicine, and as such, an identifiable deliverable in the strategic matrix for the university. Our accelerated institutional implementation plan for CBME is in keeping with our strategic plan in the School of Medicine, which identifies developing and piloting new models of training as a priority.

As our CBME leadership team began to envision what implementation would look like institutionally and across each program in terms of resources, supports and scholarship, we knew that we wanted our focus to be on collaboration and cooperation between and among the programs and with various educational support units on campus. Our Queen's model imagines a community of teachers, learners and knowledge sharers working together to sustain a high level of continued, ongoing evaluation. To this end, we created working groups that support and enable capacity building required for the successful implementation of CBME. The foci of our community includes academic scholarship, curricular reform, assessment, system reform, faculty development, project leadership, information technology support, and communication. These integrated networks create opportunities to bridge and connect the various programs involved in the implementation of CBME on Queen's campus, thus allowing us to
build a community-based approach to the project; one in which residents, program directors and working groups are all actively engaged in research, and in which all groups assume ownership for scholarship.

Curricular approach

As Queen's transitions to CBME, our curricular approach will be aligned with the vision, principles, definitions, and planned iterative processes for all Royal College specialty programs across Canada. This includes the transition to defined stages of postgraduate training within the competence continuum, the creation of stage-specific entrustable professional activities (EPAs) that incorporate key and enabling competencies across all CanMEDS roles, and the alignment of appropriate assessment systems to assess specific EPAs.

Our programs will be divided into the four defined stages of the RCPSC Competence Continuum corresponding with postgraduate training (Transition to Discipline, Foundations of Discipline, Core of Discipline, and Transition to Practice). A central component of our curricula will be the creation of stage-specific entrustable professional activities (EPAs) that meaningfully bundle enabling competencies and milestones across CanMEDS roles. These will be linked with required training experiences and robust assessment plans to support and track resident development both within and across stages of competence. Each specialty program will implement a comprehensive CBME curriculum with an integrated/accompanying assessment system by July 2017.

Each specialty residency program at Queen's will mirror the Royal College iterative process of CBME implementation. By maintaining an alignment with the vision of the Royal College, our transition to CBME can facilitate knowledge sharing by disseminating the results of our experience.

Faculty development

Ultimately, the success of CBME implementation will be dependent on faculty engagement and involvement. It is the faculty who are responsible for the details of the transition to CBME in each of their specialty programs. Recognizing that faculty will need support and training to feel comfortable facilitating learning within this new curriculum, we have designed a comprehensive faculty curriculum for CBME to ensure that all faculty leaders and educators possess the knowledge, skills, and attitudes required for the implementation of CBME. The faculty development opportunities currently being provided include CBME workshops – that include all specialty CMBE leads; a rotating faculty development series; rotating administrative assistant development sessions; simulation faculty trainer course; assessment tool development sessions; information technology development sessions; and program specific implementation workshops.

These faculty development opportunities provide guidance and training for faculty as programs move through this transition, while also bringing together individuals from multiple programs in ways that are collaborative and rewarding. These sessions provide opportunities for faculty to engage in collaborative learning, while also giving them a voice in the transition process.

Currently, all faculty development programs are for 2016 and 2017. As we continue to move forward with the implementation process, we will identify and develop additional faculty development opportunities in an ongoing, needs-based time frame.
Stakeholder communication

For an innovation as large-scale as the Queen’s transition to CBME, there are a vast number of stakeholders who need to be kept informed of changes, and who must have opportunities to voice concerns throughout the implementation process. At Queen's University, these groups include the decanal leadership, CBME team leadership, program directors, CBME program leads, resident trainees in both the new and existing systems, program administrative assistants, Department Heads and Division Chairs, information technology staff, faculty development and continuing professional development leaders, undergraduate medical education leaders, and all administrators and staff at our affiliated teaching hospitals, including regional providers and hospitals. At the centre of the stakeholders at our institution are the patients and their families.

The CBME leadership team has devised multiple strategies to maintain open and receptive communication throughout the transition. At the centre of these strategies is a focus on partnership and collaboration as the keystones to a successful implementation.

Program evaluation

Part of the formalized process for institutional and program specific feedback from all stakeholders is in our systematic program evaluation of CBME implementation. We envision program evaluation as an ongoing developmental process of gathering and reviewing information to support continued program development and improvement. Our program evaluation is guided by the following questions:

1. How does CBME contribute to outcomes (both intended and unintended) across all levels of the institution?
2. What strategies and resources are required to support & build capacity for the adoption of CBME as an institutional initiative?
3. How are Program Directors, faculty and residents experiencing the transition process?
4. What factors influence the fidelity of adoption of CBME across individual postgraduate programs?
5. Are all programs at the same stage of readiness with respect to implementing CBME for all incoming residents by July 1, 2017?

The backbone of our program evaluation is our use of the concerns based adoption model (CBAM) framework developed by Hall and Hord. This framework has three main components: innovation configuration maps, which provide a sliding scale of components of implementation from an initial, or incomplete implementation, to an ideal implementation against which progress can be compared and tracked; stages of concern questionnaire which indicates the seven stages individuals progress through as they implement an innovation and become confident in using it; and levels of use interviews which identify behaviours associated with the implementation of an innovation. Together they can provide a clear picture of how faculty and administration are using CBME, and what further supports might be needed as the transition continues.

Educational scholarship

An important consideration for our CBME leadership team was facilitating educational scholarship related to Queen's accelerated transition to CBME. Our goal is to build a CBME community of scholars who will further collective work, provide supports, and enable individuals/groups to collaborate both internally and externally, while
also providing encouragement to apply for grants, write, and present CBME scholarly work.

Central to our commitment to CBME scholarship was the creation of an Educational Scholarship Working Group that could review measures to strengthen, enhance and promote the output of scholarly activity related to Queen’s School of Medicine’s educational model. This group brings together representatives from the Royal College and Queen’s University School of Medicine in a combination of diverse, but interconnected perspectives that facilitates scholarship that is rigorous and robust while providing empirical data about what has worked, and what has not, during CBME implementation.

Queen’s is committed to sharing the results of this experience with other institutions and disseminating findings to the medical community. Our goal is to create a collaborative approach to scholarship and invite those interested from various postgraduate medical education programs to write and present a series of abstracts, presentations, articles, and reports and contribute to an edited book.

Conclusion

At Queen’s, we recognize that the institutional implementation that we are undertaking is both ambitious and daunting. As with the implementation of any new innovation, buy-in from stakeholders has been uneven, with some individuals and programs excited about the transition from the beginning, and others having more concerns and reservations about what the process will look like in practice. Over the past two years, we have worked towards addressing the suggestions and concerns voiced by all our stakeholders. Our focus on collaboration, cooperation, and communication through each stage of our transition has facilitated the implementation process by allowing stakeholders to voice their concerns to a receptive audience who can provide needed supports. Taking an institutional approach to CBME implementation has allowed for a more equal distribution of resources across programs, while allowing us to make changes to our existing infrastructure in ways that support all programs.

Take Home Messages

1. Queen’s University has embarked on an ambitious accelerated path to institutional CBME implementation across all of its specialty programs, beginning in July 2017.

2. The implementation of CBME at our institution requires the engagement of numerous stakeholder groups across the university and hospital organizations, and not just educational program leaders.

3. Essential elements of our institutional approach to CBME implementation includes the coordination of academic scholarship, curricular reform, assessment, system reform, faculty development, project leadership, information technology support, and communication.

4. The use of a robust and systematic institutional program evaluation model is critical to the ongoing developmental process of gathering and reviewing information to support continued CBME development and improvement.

Notes On Contributors

Dr. Damon Dagnone is the Faculty Lead for Postgraduate Medical Education at Queen’s University. This role
involves directing the transition to CBME based curriculums for all 29 postgraduate specialty-training programs within the School of Medicine.

Dr. Ross Walker is the Associate Dean, Postgraduate Medical Education at Queen’s University. In 2008 he received the Certificate of Merit Award from the Canadian Association of Medical Education.

Dr. Leslie Flynn is the Vice-Dean Education in the Faculty of Health Sciences and an Associate Professor in the Department of Psychiatry, and is a Department of Family Medicine Clinician Educator.

Dr. Richard Reznick is the Dean of the Faculty of Health Sciences at Queen’s University, and the Chief Executive Officer of the Southeastern Ontario Academic Medical Association.

Dr. Denise Stockley is a Professor and Scholar in Higher Education with the Office of the Provost (Teaching and Learning Portfolio), seconded to the Faculty of Health Sciences, and cross-appointed to the Faculty of Education at Queen’s University, Kingston, Canada.

Amber Hastings Truelove is a Research Analyst involved in projects with the Faculty of Health Sciences and the Office of the Provost. She is also doctoral student in the Department of English.

Dr. Rylan Egan is the Director of the Office of Health Sciences Education, and Assistant Professor at the School of Nursing. He has expertise in research methods, assessment, evaluation, curriculum design, and institutional quality assurance.

Dr. Richard van Wylick is the Director of Faculty Development and an Associate Professor of Pediatrics. He is also the Director of Student Progress, Promotion and Remediation for the School of Medicine.

Dr. Laura McEwen is the Director, Assessment and Evaluation Postgraduate Medical Education and Assistant Professor in the Department of Pediatrics. She has expertise in research design, assessment and evaluation, educational technology, and faculty development.

Acknowledgements

Bibliography/References

Snell, L. S., & Frank, J. R. (2010). Competencies, the tea bag model, and the end of time. Medical Teacher, 32(8), 629–630. https://doi.org/10.3109/0142159X.2010.500707

The Future of Medical Education in Canada. (2012) A collective vision for MD education http://www.afmc.ca/pdf/fmec/FMEC_PG_CollectiveVision.pdf

Royal College of Physicians and Surgeons of Canada http://www.royalcollege.ca/rcsite/cbd/competence-by-design-cbd-e

Appendices
Declaration of Interest

The author has declared that there are no conflicts of interest.