CBME Program Evaluation Summit 2020 – Evaluation for Adaptation

Opening Plenary – Why Evaluation is Critical for CBME Adaptation

Dr. Andrew Hall, Chair of the CBME Program Evaluation Summit, opened the day by welcoming attendees and reviewing the goals of the Summit.

Program evaluation can help us to understand if CBME is being implemented as intended, what the outcomes of CBME are, and more. The Summit is intended to be a space where attendees can share and develop ideas, network and foster collaborations, refine evaluation plans, and be inspired about evaluation.

Dr. Hall then introduced the Opening Plenary speakers:

- Dr. Samantha Buttemer, PGY-5, Public Health and Preventive Medicine, Queen's University, and a member of the Queen's CBME Resident Sub-Committee
- Dr. Olivier Fortin, PGY-4, Pediatric Neurology, McGill University, and President of the Fédération des médecins résidents du Québec (FMRQ)

Dr. Samantha Buttemer

Dr. Buttemer spoke of her experience as a resident training in both a fully established competency-based medical education program (Family Medicine) and in a program transitioning from the traditional system to a competency-based system (Public Health and Preventive Medicine), and how program evaluation has helped with the stages of implementation.

Dr. Buttemer shared that she stepped into the Triple C competency-based curriculum in Family Medicine with ease. She received frequent supervision, completed assessments at the end of every clinic, and knew exactly what experiences and assessments she needed to achieve through the use of a dashboard.

After one year of training, Dr. Buttemer moved into the CBME Resident Sub-Committee to help Queen's transition to CBME. As she learned about CBME, she realized she didn't know her objectives of training within Public Health and Preventive Medicine. She thought initially that the content in Public Health was inherently less organized than the content in Family Medicine. However, she later realized that this difference was due to the set-up of the program. She also learned that it took years of work, a lot of faculty development, and a lot of effort for resident and faculty buy-in to get the Triple C Family Medicine curriculum to where it is now.

Based on her experience helping Public Health move towards CBME, Dr. Buttemer highlighted how much refinement is needed to actualize of model of CBME in a program that didn't have one to start. A change like this is messy, and the approach must be iterative. One way to be iterative is through repeated program evaluation. Program evaluation allows for the opportunity to look back at where the program was, where it is now, and what is still needed to improve the training experience.

The aim of program evaluation is to understand how a system is working, and if you need to make any changes – program evaluation creates accountability. If you want to have a program go from the traditional model to fully implemented CBME, you need program evaluation to help with the steps in the middle.

Through her membership in the CBME Residency Sub-Committee at Queens, Dr. Buttemer had the opportunity to learn about the issues of implementation across programs, and see and hear about program evaluation that has been completed. One thing that stood out to her is that the resident perspective has really been valued. By including residents, residents feel their perspective is an important one. This is noteworthy, because without resident success and satisfaction, a program isn't meeting their goals. The resident perspective should be valued when thinking about evaluation and changes associated with it.

Program evaluation is flexible, and gives us the opportunity to evaluate what we value. This Summit allows us to come together to think about what we value in evaluation, and how we will evaluate it.

Dr. Olivier Fortin

Dr. Fortin has experience with CBME program evaluation through his involvement in FMRQ's evaluation of CBME. Dr. Fortin contributes to this evaluation through his position as the president of FMRQ, and previously through other positions within the FMRQ.

Dr. Fortin highlighted unintended consequences in his presentation. Unintended consequences are bound to occur with such a large change – how do we uncover these potential impacts, and how do we address them swiftly and rapidly? Dr. Fortin suggests two ways to do this: make room for constructive criticism in the program evaluation framework, and conduct resident-centered evaluation with resident-focused outcomes.

Dr. Fortin highlighted constructive criticism first. CBME as a whole grounds itself in sound theoretical framework. However, the application of CBME involves additional factors, such as the involvement of people, and CBME can be applied in ways that were not intended initially. Some of these applications are not useful, and we need to identify when something is not right. Program evaluation should not always confirm what we want to hear, it should also be used to uncover challenges, issues, and where things didn't go as intended.

Next, Dr. Fortin highlighted the importance of involving residents in program evaluation. Residents end up being the end users of CBME and are by-products of the system, but are also the first impacted by unintended consequences. This is why residents should be at the forefront of program evaluation efforts. We need to include residents and resident centered outcomes in program evaluation. Residents are experiencing impacts and unintended consequences of CBME, and we need to look into this further using program evaluation.

Program evaluation is critical for CBME implementation. If it is done right, program evaluation enables residents and education leaders to showcase when things are done well, but also to rapidly identify things that are done less well and flaws that are occurring, and to address them closely. Dr. Fortin suggests that much like the growth mindset, CBME is a theoretical model that needs all the feedback and coaching it can get. It is the job of medical education leaders and residents to put in place a framework where this feedback can be uncovered and freely discussed.

Breakout Sessions

Dr. Hall thanked the speakers, and transitioned attendees of the Summit to abstract breakout rooms. Attendees joined one of four breakout rooms to hear abstract presentations from those engaged in program evaluation at different sites. After the abstracts, attendees joined one of six discussion breakout rooms to discuss pertinent CBME program evaluation topics.

Closing Plenary and Reflections

Dr. Hall introduced Dr. Saad Chahine, the closing plenary speaker. Dr. Chahine is an assistant professor of measurement and assessment in the Faculty of Education at Queen's University, and a member of the Queen's Assessment and Evaluation Group.

Dr. Saad Chahine – Imagined Realities and Actualized Outcomes

Dr. Chahine shared three goals for his presentation:

- To start the conversation on beginning to use outcomes, especially healthcare outcomes, to evaluate CBME.
- To leave people with some resources they can use in order to think about beginning their own work.
- To give some approaches on how to begin to evaluate outcomes of CBME.

Our understanding of CBME, and our goal for medical education, is that with better selection, enhanced training, and robust assessment, we would have improved health care outcomes. This is from a shared belief that what we do in education will change healthcare outcomes later on. This can be used as the impetus for educational changes.

How do we begin to look at improved health care outcomes?

To start with, we need to implement an evaluation framework. Frameworks have four key elements: inputs, processes, products, and outcomes. There are a variety of CBME frameworks that can be used.

Once a framework is in place and outcomes have been identified, data has to be collected to measure the outcomes. Dr. Chahine highlighted a selection of papers that may be helpful in considering outcomes when thinking about CBME:

- Two studies that use assessment data to develop mathematical models to project if a resident is on track. This information can be used not only in relation to outcomes, but also to inform training.
- Studies that look at outcomes in terms of the connection between education and healthcare, such as looking at physician complication rates and relating that back to where a physician has trained.
- A study where they use certain "quality" indicators to create composite scores to measure the effects of physician performance on quality of care.
- Studies that describe how you can feed performance metrics back to physicians (i.e. bounce back, prescribing rates, ratings of patient quality care).

When looking at outcomes, there are many things we can look at. Typically, we look at three large categories: assessment of undergraduates, assessment of residents, and assessment in practice.

These can be put along an “outcomes stream”. There are many metrics within this stream that can be used. However, what is missing is providing performance metrics back to residents, and using this to measure outcomes.

In order to do this, we must select indicators. Some indicators are better than others: they are more sensitive to education and residents. Dr. Chahine shared a process he has been involved in – creating a “resident practice score”.

This process, led by Dr. Dan Schumacher, uses a multilevel measurement model for studying residents and the clinical encounters they have, using a large set of indicators. This data can be used to determine which indicators are better predictors of performance than others, which indicators help differentiate between stronger or weaker residents, and the amount of weight to be established for each indicator. A composite score can then be produced and tracked over time to determine the effectiveness of a change to the system.

Dr. Chahine closed with the resources necessary to perform this type of data modeling: a team of people that are knowledgeable in clinical practice, educators that have a good sense of what residents would have control over, someone to help pull the data from the healthcare system, and support from a statistician. It is doable, and it is possible, but it takes risk-taking, and trial and error.

Dr. Jason Frank – Closing Reflections

Dr. Hall introduced Dr. Jason Frank to give his closing reflections on the Summit. Dr. Frank is the Director of Specialty Education, Strategy and Standards at the Royal College of Physicians and Surgeons of Canada, and the Co-Lead of Competence by Design Implementation.

Dr. Frank began by sharing a personal story around the implementation of seatbelts. At first, his father showed a lot of resistance to seatbelts – he asked where the evidence was, and argued they could create danger. However, as time went on, wearing seatbelts became routine, and there was a realization that they make a lot of sense. Dr. Frank suggests that this story is a good reminder that all implementations are a journey.

Dr. Frank reflected on the sessions of the Summit, noting that there were great speakers, rich discussions, and a lot of wonderful work happening in program evaluation that should inform us all. Some of the words he wrote down throughout the day, such as “refinement needed”, “change is messy”, “platform problems”, “culture”, “trust”, “bolted on”, and “unintended consequences”, are important phrases that reflect the state of play with Competence by Design and other CBME programs.

All journeys towards implementing a new curriculum are journeys towards fidelity and integrity. Fidelity is the degree to which a given curriculum has all the elements prescribed to it. For instance: you have a competence committee, you are doing direct observation, and you are using EPAs. Fidelity often operates on a very superficial and observable level. Integrity goes deeper – it involves culture change, and is the alignment with the intention of the curriculum. The challenge with implementation is making sure we move towards fidelity, and then continue on towards integrity.

Dr. Frank closed by emphasizing that it takes an entire village to implement a major curriculum like CBME, and to have the positive outcome that is intended.