MedBiquitous®
THE STANDARDS DEVELOPMENT PROGRAM OF THE AAMC

MedBiquitous Roundtables: Competency Based Education (CBE)

Dates: Sept 6, Sept 20, and Sept 27, 2022

QUESTIONS

- **What is your timeline for implementing competency-based education (CBE)? Do you have the tools needed?**
- **For Credentialing community:**
- **Has your constituency transitioned to competency-based education? If not, what is timeline?**
- **What is your timeline for competency-based education? Do you have the tools needed to implement the change?**
- **Vendor version: Does your organization provide the tools for your customers?**

Summary of Responses

Respondents are at different stages of implementing competency-based education. The schools that have not transitioned had plans to do so, but did not provide a specific timeline. Respondents expressed frustration with the limits of the tools available to implement CBE change. There is a desire for tools that can measure complex processes. Standard multiple-choice questions are not able to adequately capture complex processes like the impact of teamwork and incorporate narrative data. Although some tech companies are beginning to address these issues, the limitations of the current tools are producing data that does not provide an adequate account of the complexity of the issues faced by faculty evaluators. Schools of dentistry want a central repository of data; each school uses its own software.

RESPONSES

- Have some tools for checking (data dashboards; evaluation).
- Some schools have competency committees/review boards, mostly in assessment.
- Starting a new regional campus, still discussing timelines, major changes will be helped by roundtables' shared discussion.
- Medical radiation sciences program has been competency-based for a while. Made an evaluation tool for clinical setting.
- Different set of evaluations for psychomotor / verbal follow-up competency profiles, which they need to follow.
- Created 2021 competency essentials. Goal to transition to comp-based in next few years.
- Next two years. Challenge: how collect the right data; student communication; data visualization; narrative comments/how to incorporate?

- Working with schools. Easy to implement competency-based education for clinical courses (e.g., clerkships). More of a challenge for pre-clerkship components. Hard to measure knowledge acquisition. Outcomes traditionally seen as learning objection and written in Bloom taxonomy, but this only looks at final outcome/target. However, competencies really defined as the "middle of the scale." Competency objectives is the minimum needed to pass.
- In university school of medicine's competency-based education there's strong tendency to regress to multiple choice questions. Can't handle frequency and complexity of data to make proper judgment. E.g., teamwork: Tough to write multiple choice questions regarding teamwork.
- Quality of data needs to be more meaningful. And right now, most data is "bad."
- Quality of assessments are marginal. Clinical observations are even worse.
- Are tools in place to collect data digitally? From the national sense, the compendium collects to move to independence over time – though not all dental schools may not be there yet.
- School of Dentistry assessment module. School also uses portfolio software; School of Dentistry assessment – progress to independent practice over time. Each institution developed individually, so different packing to vendors. If a more standardized repository was available, it would be helpful.

What do you need to support?

Looking into the future, what tools and data do you anticipate you'll need (that don't currently have)?

RESPONSES

- Data visualization dashboards that ALL can access and update in real time.
- Different ways to slice/dice data, track different groups of students, any hurdles to performance
- More notifications earlier. When data is populated, it doesn't remain static, rather alerts are sent to coaches/mentors/stewards to reach out.
- Tracking data over time (regarding assessment data and what people want DaVinci to provide)

Host: What types of algorithms needed?

- Ontario Canada has students attending out of home province. Analytics for each clinic would be great for predicting, early invention to ensure success, students can track too for self-evaluation. The record at the end is just as important.
- Still lots of paper; still looking for a system to offer everything they need/want.
- Previous institution used handheld comp-based education assessments – supported timeliness.

- Quality of assessment data. Thousands of data points collected to determine competency, schools not able currently to collect that data. Need a better method.
- E.g., Collecting data from test banks. Can one link their questions to those practice test questions?
- On clinical level observations, can select out. Not a good way to document portfolio and professionalism.
- Needs to be part of clinical piece.
- Can also evaluate how faculty is evaluating.
- How effectively use that info, which is hard to quantify?
- Bias and structural racism – how have visibility into influences on data.
- Wishes more of a consortium approach rather than depend on one vendor.
- EPA assessments rolling out/she's working on that project.

What data integrations do you currently have that currently support your mission forward? Or anticipate needing to move mission forward?

Summary of Responses

Respondents expressed concerns about how data is being collected, analyzed, and utilized. Some felt that a concentration on outcomes of data is overshadowing an important conversation about data collection methods. Respondents advocated for a shared understanding of metrics including how to provide feedback. Without this shared meaning there is a greater risk of misinterpreting the data. There is a need for an expanded conversation that addresses the changes in behavior and beliefs needed for competency-based education to succeed.

RESPONSES

Vendors

Faculty consortium to build what the vendors don't because it requires financial investment.

It used to be a consortium of users which helped to inform, but now it is much smaller.

Used to inform vendors of what was wanted/needed, and then vendors would be encouraged to create/provide.

Vendors report that there isn't a demand, so they're not focusing on it.

Vendors need to apply across the university and play well with other systems. There can be too many permutations for things to go awry.

Med schools are all different = Vendor challenge so they're less likely to invest the money.

Electronic Health Record (HER)

EHR made for dental education/for that particular day/on the spot before patient checks out/how independently did student perform.

If EHR is used as a tool, then it adds another layer of complexity.

Challenge: data is locked in the EHR. Needs to be extracted first. That's the step that is needed.

Spent years trying to integrate with EPIC.

Simulation

Started as procedure-oriented before migrating to competency-based education. Simulation now is particularly good. Now even avatars are available, which can level the playing field especially in the clinic setting/can create a wider range of diverse experiences.

Simulation will be essential to implement and having that data communicate with other schools is important.

Dental educational training has a strong simulation experience; assessments provide robust data. Need to dashboard that data with the clinical, which is the challenge.

Universally, will simulation play a larger role in competency spanning from beginning of school through career? Documentation.

Other

- PCRS – many schools using EPAs, what is future direction.
- Mapping/info is lost. EPA is a more skill specific competency; PCRS is broader. Mapping to only one results in loss of comps data.
- Just moved to CanMEDS and following that profile. NOTE: Undergraduate medical education etc. not used by Canada.
- Evaluation context vs data outcome. Evaluators can mis-match qualitative/quantitative data.
- There is a larger conversation needed for how data is being used/evaluated/interpreted.
- We need to think about this systemically.
- Predictive analytics – are we incorrectly/prematurely reading data. Not just getting the data, we also need to consider how we interpret it. Is it good data? Are we too outcome focused rather than examining input?

- Along with the algorithms, you need numerous education to the evaluators and students and the understanding of what and the how.
- I still see that depending on which one we use as our primary mapping tags that we seem to miss useful information in the reports.
- Monitoring longitudinal progress.
- About moving forward in comps from novice to expert.
- Give/receive feedback is important part of faculty training/development.
- Create shared mental model in addition to carving out time and building processes.
- Need to develop a shared understanding of what this all means.
- The feedback and doing it halfway well is a huge part
- Currently have nothing. Not from lack of effort. Always run into an original and unforeseen barrier. Haven't made much progress in ten years.
- Have outlined what would like (integration with board certification systems/test scores; data from clinical databases/ residency management, etc.) Nothing in practice, all theory right now.
- Very few understand advances of LER world (learner employment record). Those verifiable credentials are what's needed. Need to adapt processes that aren't self-built.
- PESC doing excellent K-12 world, but many aren't familiar with them.
- Competency-based education will require behavior/culture/mindset changes.