Competency-based CPD: implications for physicians, CPD providers, and health care institutions

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About the competency-based CPD white paper series

The inaugural Summit on Competency-based Continuing Professional Development was convened by the Royal College of Physicians and Surgeons of Canada in Ottawa in April 2015. One of the objectives of the summit was to lay the groundwork for a series of white papers on themes relevant to the transition to competency-based CPD within the Competence by Design initiative of the Royal College. This white paper, the second in the series, is intended to stimulate discussion among Fellows, MOC program participants, CPD provider organizations, provincial medical regulatory authorities, and health care system leaders, and to invite their feedback and collaboration in shaping the strategic direction of competency-based CPD.

SUMMARY

Competency-based continuing professional development (CPD) uses a competency framework to guide physicians in the selection of learning and assessment activities relevant to their scope of practice. It offers a renewed approach to lifelong learning by tailoring education to address identified gaps in competence and performance, with the ultimate aim of improving the outcomes of patient care.

For the individual physician, competency-based CPD shifts the emphasis from documenting participation in CPD activities “for credit” to demonstrating continued improvement in competence, performance, and outcomes. Physicians will continue to use a variety of resources to support learning. For example, through access to multiple sources of performance data they will be able to benchmark their practice against that of their peers and against specific quality measures, and by seeking feedback they will be able to identify and address areas for improvement.

CPD provider organizations will be able to make meaningful contributions to competency-based CPD through the development of activities that facilitate the acquisition of competencies and their translation into practice. CPD provider organizations will be challenged to consider how an interprofessional, team-based approach to learning and care can be fostered to enhance quality of care and the health outcomes experienced by patients.

The health care system will play an important role in competency-based CPD by facilitating and supporting the provision of reliable data to individuals and teams to enable them to continuously assess and enhance their performance and outcomes. Health care institutions, in collaboration with CPD provider organizations and provincial medical regulatory authorities, will provide a safe environment that supports physicians as they seek and use data to address gaps in the quality and safety of care and contribute to the continuous enhancement of the health care institutions in which they work.

Competency-based CPD will shift the centre of learning back to the workplace and contribute to the development of a culture of continuous improvement. This cultural shift will require the development of multiple tools and processes to facilitate the provision of feedback to inform improvements in practice. An extensive educational support strategy will also be needed to teach physicians and CPD provider organizations how a competency framework can guide the identification of needs, the selection or development of learning and assessment activities, and the evaluation of practice outcomes.
RECOMMENDATIONS

The adoption of a competency-based CPD system implies the following expectations for physicians, CPD provider organizations, and health care institutions.

**Physicians will be expected to**
- develop and implement a CPD plan using multiple learning strategies to address identified personal, patient, and population needs
- use a competency framework to guide the selection of learning and assessment activities relevant to processes and outcomes in their scope of practice
- engage in a variety of assessment activities, using data and feedback to inform continuous improvement
- employ workplace and team-based learning opportunities

**CPD provider organizations will be expected to**
- use data on performance variation to identify learning needs and drive practice improvement
- expand opportunities for self-directed learning and direct observation and feedback in the educational setting
- collaborate with health care institutions to enable access to the performance data of individuals, groups, and teams to facilitate workplace and team-based learning
- support faculty development in the use of innovative methods for providing effective feedback to support continuous improvement

**Health care institutions will be expected to**
- create a safe and supportive learning environment
- facilitate access to the performance data of individuals, groups, and health care teams
- develop tools and processes to provide feedback to inform the improvement of practice
- support the standards required to assess the performance of individuals, groups, and teams across the CanMEDS framework.
STATEMENT OF PURPOSE

In this white paper we describe the key issues and implications that will be faced by individual learners, CPD provider organizations, and the health care system during the transition to competency-based CPD and provide recommendations for facilitating that transition.

Illustrative case

Dr. Jones is a general surgeon in a medium-sized community. He has demonstrated a commitment to lifelong learning by attending group learning activities such as departmental rounds and surgical conferences. As a self-directed learner, he regularly reads journal articles and conducts literature searches related to clinical questions derived from his practice. He has been a member of his departmental quality and safety committee for the past 4 years and most recently participated in an audit with division members to review postoperative complications of laparoscopic cholecystectomy.

After completing two cycles of the Royal College Maintenance of Certification (MOC) program, he is concerned about changing expectations with regard to demonstrating continuing competence within his scope of practice. He wonders whether his CPD providers will be responsive to his changing needs and provide novel opportunities to identify learning activities that will benefit his practice.

Although he has never considered the CanMEDS framework as a guide for planning future learning, he has been thinking about opportunities to engage in assessment activities beyond the division’s annual practice audit. He found simulation-based training very useful when he first learned laparoscopic skills and wonders whether team-based simulation sessions might offer a means of practising other skills, such as crisis resource management in the operating room.

Given increasing departmental pressures to participate in performance assessment, he wonders how he will find the time and resources to meet this expectation. He wonders whether his hospital will be able to provide him with his own performance data, how to identify appropriate measures to assess his performance, and what supports might be available to enable him to do so more regularly.

KEY ISSUES

A competency-based CPD system will present various challenges for learners, educators, and institutions as they adapt to new expectations for continuous assessment, learning, and improvement.

In the following sections we discuss the potential implications of the transition to competency-based CPD for physicians, CPD provider organizations, and health care institutions.
EXPECTATIONS FOR THE INDIVIDUAL PHYSICIAN

Developing and implementing a CPD plan

Physicians will be expected to develop and implement a CPD plan using multiple learning strategies to address identified personal, patient, and population needs.

As members of a self-regulated profession, physicians have a fundamental ethical responsibility to engage in continuing professional development to continuously enhance their knowledge, skills, and attitudes. Regulatory bodies in Canada emphasize that “all licensed physicians in Canada must participate in a recognized revalidation process in which they demonstrate their commitment to continued competent performance in a framework that is fair, relevant, inclusive, transferable, and formative.” Continuing education in the health professions can be defined as any activity undertaken to support learning, enhance competence, and provide better care for patients. Physicians have traditionally used group learning activities (conferences, courses, rounds, and journal clubs) to expand their medical knowledge and clinical skills. However, the available research evidence suggests that although participation in formal group learning can have a positive impact on physician behaviours and patient outcomes, this impact is generally small.

Competency-based CPD will require physicians to develop a CPD plan tailored to the personal, patient, and population needs relevant to their scope of practice. A practice-specific CPD plan will require physicians to reflect on the context, patient mix, and current roles and responsibilities within their practice, to select learning and assessment activities that are responsive to the needs of the populations they serve, and to continuously enhance the competences required to sustain the delivery of high-quality care. Competency-based CPD will shift the emphasis on educational activities undertaken “for credit” or for the sake of completing an “MOC cycle” to leveraging learning activities with the goal of “doing the right things” and “doing things right.”

Using a competency framework to guide learning

Physicians will be expected to use a competency framework to guide the selection of learning and assessment activities relevant to processes and outcomes in their scope of practice.

The wide range of competencies required for the delivery of high-quality and safe health care includes skills in interpersonal communication, team building, management, leadership, information technology, behaviour change, ethics, and professionalism. Physicians will be required to use multiple learning strategies to sustain competence across all CanMEDS Roles over time, and will need to demonstrate that they are doing so. Recording and reflecting on how learning and assessment activities enable the achievement of important educational and patient or clinical outcomes will become an expectation that supports competency-based CPD.

The CanMEDS 2015 framework includes a set of milestones for each stage of the competency continuum from the beginning of residency education until retirement from professional practice. Milestones are descriptions of the “abilities expected of a trainee or physician at defined stages of professional development.” Integrated within work-based assessment strategies, milestones can enable physicians to track how they have maintained or enhanced their competence in order to sustain a high level of proficiency and expertise throughout their career.
At present, CPD activities can be linked to one or more CanMEDS Roles entirely at the discretion of the learner. In competency-based CPD, learners will be required to align their participation in learning and assessment activities with specific competencies within one or more CanMEDS Roles. They will require a set of tools and processes to track how learning and assessment are contributing to their continued competence in practice.

If competency-based CPD enables them to demonstrate the achievement of meaningful outcomes for practice, then physicians may be better motivated to engage in learning throughout their careers. A white paper by Bankey and Campbell states: “Physicians need to enhance their knowledge and skills regarding the processes by which evidence (scientific and tacit) can be effectively translated into practice over a career life course.” A competency framework will not only guide the development of a CPD plan but will also help to better align assessment and learning activities, so that areas requiring improvement can be more readily identified and addressed. The use of a competency framework will also facilitate the documentation of actions taken to address practice gaps.

**Engaging in assessment**

Physicians will be expected to engage in a variety of assessment activities, using data and feedback to inform continuous improvement.

Standards for practice are informed by evidence, evolve in response to regulatory, legal, and ethical expectations, and reflect both public and professional interests. Striving for excellence in patient care is integral to professionalism and the lifelong pursuit of competence. All regulated health care professionals are obligated to aim for continuous improvement in their performance so they can deliver the best possible care.

In a competency-based CPD system, assessment is integral to lifelong learning in practice: assessment drives learning, and learning drives assessment. Assessment provides information about how a physician’s performance is aligned with professional expectations, is consistent with the evidence that informs practice, and meets the expectations of patients. For assessment data to inform behaviour change, they must be integrated with meaningful feedback. Educational strategies based on assessment and feedback can lead to important improvements in professional practice, particularly when dialogue and guidance by colleagues, mentors, peers, or coaches help learners to “make sense of the data” and develop actionable plans.

This is particularly important in view of the evidence that physicians’ self-assessment of performance is less accurate than assessment using external measures. Although physicians may be able to identify some of their learning needs through self-assessment, other needs are likely to remain unperceived without data-based practice assessment and feedback by others. Before 2014, when assessment was mandated as a requirement for all MOC cycles, participation rates in assessment activities included within Section 3 of the MOC program were traditionally between 10% and 15%. In 2015, participation in assessment rose to 43%, generating 18% of the total credits submitted by Fellows or MOC program participants (Royal College MOC program: unpublished data). However, most of these assessment activities focused on the Medical Expert Role, and opportunities to participate in the assessment of the other complex competencies required of a practising physician were limited.

Electronic medical records and other administrative databases will enable assessment processes and tools to draw from individual and aggregate data on practice outcomes in order to benchmark physicians’ performance against national standards, practice
guidelines, the practice of their colleagues, or some combination of these.

In competency-based CPD, individual physicians, groups, or interprofessional teams will require access to performance data, accompanied by feedback to help them understand these data and apply them in developing action plans for continuous improvement. Furthermore, competency-based CPD assessment options will expand to include workplace-based assessments such as practice audits, patient-reported experience or outcome measures, multi-source feedback, peer review, and other forms of direct observation across multiple competency domains.

Access to quality measures will be essential in determining whether a specific standard of practice has been achieved. All quality measures or metrics must enable physicians to assess performance on either process-of-care variables or short-term measurable clinical outcomes. To support collaboratively informed clinical decision-making and improve patient safety, modern health information technology will be required to facilitate access to real-time data at the point of care. Furthermore, information technology and distance learning can mitigate the effect of isolation for physicians working solo or in a small practice in a rural community.

In team-based learning, two or more health care professionals practising together as members of a health care team learn interactively in the context of patient care to achieve desired outcomes. A workplace-based approach to CPD will shift education from didactic classroom sessions to point-of-care learning in the clinical environment. Working and learning together will be an important dimension of a competency-based CPD system designed to promote communication, collaboration, and coordination among team members. Team-based learning not only provides an opportunity for professionals from different disciplines to learn with, from, and about each other, but also fosters the development of a patient-centred culture that promotes quality and safety of care as a collective responsibility.

Multidisciplinary tumor rounds, quality assurance meetings in pathology and laboratory medicine, mortality and morbidity rounds in medicine and surgery, and health care team working rounds are examples of interactive interprofessional and multiprofessional point-of-care learning within the workplace. Nevertheless, because of a number of challenges, most CPD activities remain focused on the individual practitioner rather than on the entire team that delivers care to patients. Competency-based CPD offers opportunities to focus on achieving measurable improvements in patient outcomes. These outcomes may require a greater focus on team-based learning and assessment and will be the focus of a future white paper in this series. Competency-based CPD will facilitate and support team-based learning and assessment by addressing both the content and process of care, incorporating a feedback model to ensure that team members have opportunities to debrief, to learn from critical incidents, and to reflect on objective measures of the quality, efficiency, and cost-effectiveness of the care received by their patients.

Team-based care has become central to the management of most acute and chronic illnesses. 

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Using workplace and team-based learning

Physicians will be expected to employ workplace and team-based learning opportunities.

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IMPLICATIONS FOR CPD PROVIDER ORGANIZATIONS

Facilitating the identification of needs

CPD programs predicated on well-conducted needs assessments have been shown to be effective in changing behaviour. In competency-based CPD, an emphasis on identifying previously unperceived needs will be essential to the creation of programs focused on performance improvement. Gap analysis studies – by which health care processes and outcomes observed in practice are examined against those potentially achievable in the light of current knowledge and best practices – are a powerful means of identifying learning needs. CPD providers have the expertise to facilitate needs assessment to identify performance gaps. A competency framework can provide a basis for describing variations in performance or practice.

In competency-based CPD, physicians will need practice data to help them identify areas where plans for improvement can be implemented. CPD providers can work with health care institutions to facilitate access to external data sources through electronic health records, patient registries, public health data, and other data sources. These data sources can then be used to determine whether existing practice gaps (with respect to knowledge, competencies, or attitudes) can be addressed through educational interventions. Performance data can also be leveraged to help physicians develop personalized learning plans and goals for practice.

In competency-based CPD, provider organizations will be expected to use data on performance variation to identify learning needs and drive practice improvement.

Expanding opportunities for learning

CPD provider organizations will be expected to expand opportunities for self-directed learning and direct observation and feedback in the educational setting.

Given the small or limited impact of group learning on behaviour change and patient outcomes, CPD provider organizations will need to employ a range of educational strategies to enable physicians to demonstrate their continuing competence across the CanMEDS framework. Currently, most CPD activities are focused on the dissemination of knowledge without necessarily producing significant changes in behaviour. In a competency-based CPD system, a successful change in practice can be realized only when physicians are actively engaged in identifying problems and seeking ways to solve them. Competency-based CPD will require the application of multiple methods of assessment across the CanMEDS Roles.

CPD providers with an in-depth understanding of effective methods of continuing education can develop programs aimed at enhancing performance and fostering changes in practice. In addition, programs will need to address factors that determine behaviour change, such as motivation and clinical context. CPD providers can also collaborate with experts in quality improvement to integrate quality improvement initiatives in CPD events and show participants how to identify quality gaps in their own practice and then use specific methods to address them. Engagement with key stakeholders in knowledge translation, quality
improvement, and patient safety will support the creation of learning opportunities to drive changes in practice.

Assessment provides physicians with the ability to measure how they are doing relative to a standard of practice. Self-assessment programs allow physicians to complete learning activities at their own pace and obtain feedback on their performance, and may highlight unperceived learning needs. CPD providers, content experts, and instructional designers can collaborate to develop effective self-assessment programs relevant to practice. Expanded opportunities for self-assessment programs will allow physicians to access activities within their own scope of practice. Self-assessment activities may also be incorporated into group learning activities; this may allow physicians to more accurately gauge their performance against that of their peers and motivate them to change their practice.

Direct observation with feedback allows practitioners to engage in mentored, deliberate practice to develop expertise. Hence, CPD providers must be engaged in developing opportunities for the direct observation and feedback in the educational setting that is crucial to the development of expertise and central to competency-based CPD. Deliberate practice improves performance through repetition and the progressive refinement of skills to maximize the benefit gained from feedback, and allows individuals to monitor improvement in their performance. Deliberate practice can also be used in conjunction with rigorous assessment in mastery learning programs. Simulation-based medical education, which uses aides such as human simulators, task trainers, standardized patients, and virtual reality simulation to replicate clinical scenarios, has been shown to be highly effective in imparting skills through deliberate practice. It is followed by debriefing, a process in which learners are guided by a facilitator to reflect on their actions in the simulation with the goal of developing plans for improved performance in similar situations in the future. Different models for debriefing and facilitation have been developed to provide a conversational framework to help learners review their actions and reflect on which went well and which require improvement. CPD providers with a knowledge of simulation systems can be highly effective in guiding the development and dissemination of this learning modality.

Enabling access to performance data

CPD provider organizations will be expected to collaborate with health care institutions to enable access to the performance data of individuals, groups, and teams to facilitate workplace and team-based learning.

As is typical of adult learners, clinicians are more successful in changing their practice when they are actively engaged in their learning and can see its relevance to their practice. Workplace learning allows this to happen at the individual and the collective level. It has been shown to contribute to professional and personal growth and to increase confidence. The practice of medicine has also moved beyond an exclusive focus on the practice of the individual clinician; now, physicians need to be equipped to function as integral members of a team. Team-based learning goes beyond individual competence and brings together an interprofessional group of health care professionals to address both the content and the process of care from multiple perspectives. The acquisition of new skills such as crisis resource management is important for effective teamwork and may help to change the cultural hierarchy of our current teams, ultimately resulting in better patient care. CPD providers can work collaboratively with hospital institutions to create meaningful practice-based learning experiences, such as in-situ team-training.
exercises that allow practitioners to practice real-life scenarios in a safe learning environment.

Teamwork has been recognized as an essential component of high-quality and safe care. When unfavourable occurrences or complications occur, shared goals and good communication are vital to prevent team failure. Salas and colleagues proposed that “the science of teams contributes to team effectiveness in the same way that the science of individual performance contributes to individual effectiveness.” Yet, in contrast to the individual team members’ knowledge and procedural skills, which can be measured using conventional tools and traditional rating scales, teamwork is difficult to measure. There is a need for a robust, reliable, valid, diagnostic measurement approach that can be applied across different conceptual aspects of collaborative teamwork. TeamSTEPPS is one tool available to measure the function of a team, but it focuses mainly on the communication component of team behaviour. Collaborative efforts will be required to develop a more comprehensive team-based learning and assessment framework.

Providing faculty development

CPD provider organizations will be expected to support faculty development in the use of innovative methods for providing effective feedback to support continuous improvement.

Faculty development will be an essential component of facilitating the transition to competency-based CPD. Given that personal unguided reflections have limited accuracy compared with external measures of performance, physician self-assessment must be guided by “a set of processes through which individuals use external and internal data to generate an appraisal of their own performance.” Competency-based CPD will require faculty who can provide effective feedback on performance to their peers. CPD providers can create programs to enable skills development in coaching, facilitation, and debriefing. CPD providers will also need to collaborate with leaders in faculty development to teach effective methods for giving feedback to drive performance improvement.

IMPLICATIONS FOR HEALTH CARE INSTITUTIONS

The diversity of workplaces, the variation in patient populations, and the wide range of practice support services, among other factors, speak to the importance of context in measuring and enhancing the competence and performance of physicians. Although physicians have a responsibility to sustain their knowledge, skills, and abilities and to demonstrate that they are meeting established standards, the workplace can exert important influences on how competence and enhanced performance are supported and sustained. Although “competence” and “quality” can be viewed as charged terms, assessment within competency-based CPD must be focused on continuous quality improvement, the provision of meaningful feedback, and supports to guide future learning and behaviour change.

Given the diversity of competencies required for practice, there is a growing expectation that each workplace will play a critical role in enabling the transition to a competency-based CPD system. A position paper on physician practice improvement by the Federation of Medical Regulatory Authorities states that physicians’ assessment of practice, “whether by themselves or by an external agency, is an important component of life-long learning that helps them identify learning needs.” Although assessing one's practice was viewed as an essential part of ensuring high-quality health care, there was an explicit expectation that assessment must also be a collective responsibility in which physicians are
provided with tools, guidelines, and resources to help them measure performance against established professional practice standards.

Given that a significant number of patient complaints are focused on issues of communication and professionalism, assessment with feedback across all CanMEDS Roles will encourage physicians to act in the best interest of the patient. Although health care institutions are responsible for monitoring and ensuring the quality of care provided, their role in supporting continuing learning has been less clearly defined. In the transition to a competency-based CPD system, health care institutions will be relied on to contribute in the four areas described below.

Creating safe and supportive environments for learning

Health care institutions will be expected to create a safe and supportive learning environment.

The transition to a competency-based CPD system will require a fundamental shift from the periodic “assessment of learning” in favour of continuous “assessment for learning.” Assessment for learning will be regular and relevant to a physician’s professional practice. Currently, assessment in CPD is sporadic and anxiety-generating. By contrast, assessment in competency-based CPD will take a programmatic approach, using multiple strategies and tools across a range of contexts. This will require a learning environment that embraces assessment as a normative aspect of practice and that values the identification of strengths and of areas for improvement. The need for a safe and supportive environment for professional growth has been reflected in various initiatives that seek to promote dialogue and discussions surrounding critical incidents, with the goal of enhancing patient safety and quality of care. Similarly, negative perceptions and attitudes toward assessment in CPD can be mitigated by adapting the language surrounding assessment so that it fosters a “culture of acceptance”; this attitudinal shift, essential to the implementation of competency-based CPD, will encourage physicians to regularly seek and accept feedback that promotes sustainable change.

Making performance data available

Health care institutions will be expected to facilitate access to the performance data of individuals, groups, and health care teams.

Health care institutions are important sources of data on how individuals, groups, and health care teams are performing against a set of established standards, performance measures, or metrics. Health care institutions can capture a range of data to regularly monitor, among other things, which medications were prescribed for specific indications; tests ordered to assess specific conditions; complications experienced by patients undergoing a specific procedure; and the patient outcomes realized, and with what level of satisfaction, for specific acute, chronic, and palliative conditions.

In addition to the routine collection of data pertaining to measures of quality of care, health care institutions can focus on data-collection strategies that are specific either to their physician population (e.g., hand-washing frequency, use of checklists in the operating room, outbreaks of specific infections) or to components of the institution, such as operating rooms (e.g., intra-operative complications), the emergency department (e.g., time to assessment and referral, return to the emergency department after discharge), or the intensive care unit (e.g., complications of intubation). The challenge for health care institutions will be to develop processes whereby
the data that are routinely collected are reliable and easily accessible to individuals, groups, or teams in an understandable format – while also protecting the privacy of patients and providers.

**Tools and processes for feedback**

Health care institutions will be expected to develop tools and processes to provide feedback to inform the improvement of practice.

Although the quality and reliability of various data sources are important to the ability of physicians and health care teams to apply sound evidence to their learning and improvement, effective feedback within work-based assessment systems also enables behaviour change. To that end, health care institutions should build on current strategies (e.g., safe-surgery checklists) to develop multiple tools and strategies that will facilitate the provision of feedback to improve practice. Examples of potential strategies include:

- Developing multi-source feedback instruments to provide physicians with the perspectives of peers, colleagues, health care professionals, and patients on important competency domains.
- Creating practical, reliable toolkits with concrete examples of how to perform assessments within the workplace (e.g., chart audits, communication tools).
- Promoting access to online or in-situ simulations so that individuals or teams can practise scenarios to improve collaboration, communication, and teamwork.
- Using trained facilitators or coaches to lead discussions with groups of physicians to review their collective performance data and discuss the appropriate use of these data in decision-making with potential strategies for improvement. By giving peer-to-peer feedback at an institutional or departmental level, trusted peers can support individuals as they interpret their performance data and develop an action plan. The “informed self-assessment” model articulated by Sargeant and colleagues provides an effective framework for peer review, mentoring, and coaching.

- Using patient feedback to drive learning and assessment.

The specific challenges to the development of workplace-based assessments within a competency-based CPD system will necessitate not only expanded access to data and tools, but also a range of supports, including strategies to train individuals to provide effective feedback and to ensure that physicians are able to apply the data and feedback made available to them.

**Supporting common standards**

Health care institutions will be expected to support the standards required to assess the performance of individuals, groups, and teams across the CanMEDS framework.

Given that much of what physicians do in practice might not have been learned during residency, the standards that define quality measures or indicators of competence must evolve over time to reflect changes in practice. Because of the increasing complexity of care across a range of contexts and health care teams, there is a pressing need for multiple indicators and strategies to identify which measures align with which components of care, and how to apply them appropriately to individual or team performance.
Health care institutions can contribute to and facilitate the development of standards and quality measures of competence and performance, including by ensuring that all such standards or measures
• are continuously evaluated to ensure they are informed by and responsive to emerging scientific evidence
• reflect the breadth of the CanMEDS competences
• demonstrate reliability, validity, cost effectiveness, feasibility, acceptability, and educational impact
• enable physicians to benchmark their practice against that of their colleagues with respect to both processes of care and outcomes, including patient-reported outcomes.

To facilitate these contributions, health care institutions will need to develop clear and transparent policies that will not only guide and govern the purpose and utility of standards and measures but also provide the necessary safeguards that will enable physicians or health care teams to pursue continuous improvement to improve patient outcomes. Health care institutions have an opportunity not only to promote the development of individual or aggregate measures of team performance, but also to build greater continuity between continuing professional development and quality care initiatives within their institutions.

SUGGESTED METRICS AND OUTCOME MEASURES

The move toward competency-based CPD requires the use of metrics to support the continuous assessment of competence and performance in a wide range of practice settings. These metrics will need to include measures of patient experiences and outcomes and, ultimately, of population-based outcomes. Multiple strategies will be needed to assess the quality of learning activities and their impact on the achievement of desired outcomes for various aspects of professional practice. For example, for physicians in practice, sources of data will need to be stratified and measured at different levels, such as acquisition of knowledge and skills, attitudinal changes, knowledge translation, and individual and population health outcomes using established quality indicators. Engagement in multiple learning activities using a competency framework, ongoing assessment of knowledge and skills across the domains of professional practice, and participation in team-based learning can be captured by the Royal College MAINPORT ePortfolio. Patient-reported experience and outcomes measures (i.e., satisfaction with treatment, subjective quality of life, and the quality of the therapeutic relationship), multi-source feedback, quantitative and qualitative patient safety data, simulation, chart audits with feedback, and various other tools will be used to assess different domains of practice and quality of care. Patient outcomes relevant to the individual physician can be compared with those of close peers, as well as with national and international gold standards (e.g., as part of performance assessment). Although linking individual physician practice to population-based outcomes is challenging, physicians are expected to maintain awareness of these outcomes (e.g., through provincial, national, and international databases) and to consider how their own practice can potentially influence them.

CASE RESOLUTION

Dr. Jones starts by reflecting on what he does in his surgical practice and identifying the professional tasks he typically performs day to day. He realizes that his practice continues to evolve in light of emerging new evidence, advances in surgical techniques, and changes in his role in the hospital.
The recent emphasis of his hospital on quality improvement metrics made available through the electronic medical record, and on benchmarking performance against provincial and national metrics, makes him realize that it will be increasingly important for him to continuously evaluate and update his competencies. With that in mind, he identifies several areas within his practice that he wants to target with respect to performance assessment and improvement of patient outcomes. He decides that, over the next two years, he will

- invite colleagues to observe him in the operating room and provide him with feedback on his technical competence in two surgical procedures he regularly performs
- use a standardized questionnaire being implemented by the hospital’s quality and safety committee to assess how his patients are experiencing the care he and his team provide
- develop a learning project to identify how he will learn a new surgical technique that he heard about at the recent annual meeting of his national specialty society, and engage with the society to help him advance his performance of new surgical techniques by taking some simulation-based courses
- complete one of the approved knowledge assessment modules recently accredited by his national specialty society and use the resulting feedback to guide future learning
- attend mortality and morbidity rounds every 3 months to identify strategies to reduce risks and enhance quality of care
- discuss with the other team members how work rounds could be used as opportunities for team-based learning
- participate in the pilot phase of a 360-degree multi-source feedback process his hospital is developing to assess and reflect upon his communication skills with feedback from a mentor

Although this case illustrates some of the key expectations for competency-based CPD, the strategies and tools that Dr. Jones selects cannot be applied equally to every clinical practice or practice setting. In addition, the limitations of current evidence in the medical education and CPD literature should be acknowledged. That being said, several areas require special attention for the successful implementation of competency-based CPD. These include developing a business model to support funding for competency-based CPD programs and initiatives; achieving effective coordination among all stakeholders to avoid duplication of effort; developing a pragmatic team-based learning and assessment framework; adjusting physicians’ workload and allotted time for learners and educators; establishing a robust and multi-faceted assessment system; and sharing data without compromising patient or provider privacy and confidentiality. It is conceivable that, in parallel with the implementation of competency CBD in residency education, some components will be piloted at local and national levels with an increased research capacity and in-depth evaluation guided by various evaluation frameworks to effectively support a successful transition to competency-based CPD programs.
RECOMMENDATIONS

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2. Implications for physicians, CPD providers, and health care institutions

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