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Benjamin Kinnear, Eric J. Warm & Karen E. Hauer

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TWELVE TIPS

Twelve tips to maximize the value of a clinical competency committee in postgraduate medical education

Benjamin Kinnear[a], Eric J. Warm[b] and Karen E. Hauer[c]

[a]Internal Medicine and Pediatrics, University of Cincinnati College of Medicine, Cincinnati, OH, USA; [b]Richard W. Vilter Professor of Medicine, University of Cincinnati College of Medicine, Cincinnati, OH, USA; [c]Medicine, University of California, San Francisco School of Medicine, San Francisco, CA, USA

ABSTRACT

Medical education has shifted to a competency-based paradigm, leading to calls for improved learner assessment methods and validity evidence for how assessment data are interpreted. Clinical competency committees (CCCs) use the collective input of multiple people to improve the validity and reliability of decisions made and actions taken based on assessment data. Significant heterogeneity in CCC structure and function exists across postgraduate medical education programs and specialties, and while there is no "one-size-fits-all" approach, there are ways to maximize value for learners and programs. This paper collates available evidence and the authors' experiences to provide practical tips on CCC purpose, membership, processes, and outputs. These tips can benefit programs looking to start a CCC and those that are improving their current CCC processes.

Introduction

Competency-based medical education requires educators to identify desired outcomes of training, develop processes for assessing performance in these outcomes, and evaluate individual learners' progress over time (Carraccio et al. 2002; Swing 2007; Frank et al. 2010; Nasca et al. 2012; Englander et al. 2017). Postgraduate medical education (PGME) programs, defined here as training programs that occur after medical school or "completion of basic medical qualification" (Weggemans et al. 2017), must collect larger quantities of more varied assessment data to meet these needs (Gruppen et al. 2018). Since group process is thought to lead to better judgments (Lockyer et al. 2017), many programs worldwide have established groups of educators that review and discuss such data. In the United Kingdom, trainees undergo an annual review of competency progression (ARCP) in which a panel reviews assessment data to ensure learner progression (Black 2013; General Medical Council 2018). These groups, referred to as clinical competency committees (CCCs) in the United States and competence committees in Canada, are described as part of programs of assessment (van der Vleuten et al. 2015). CCCs vary widely in membership, processes, and outputs (Doty et al. 2015; Hauer et al. 2015) and although some accrediting bodies have published requirements and recommendations, (Competency committees 2017; Andolsek et al. 2017) limited evidence exists to guide best practices. We aim to provide practical tips based on available literature and evidence for building and sustaining CCCs that maximize value for PGME learners worldwide.

Tip 1

Define the committee's guiding purpose

The first work of a CCC should be to develop a shared mental model regarding the committee purpose to guide their work. A shared mental model represents a common understanding among team members about a system's purpose, functioning, and current state. Individuals working together can develop shared mental models to help with team coordination and adaptation to change (Jonker et al. 2011). While some programs may build a CCC primarily to meet regulatory requirements, the CCC should aim to address the unique and specific needs of the program. Defining a purpose will guide how the CCC balances summative reporting with providing formative feedback to learners, assessors, and the program. It also helps determine ideal CCC structure, which assessment data are needed, and where to focus finite energy and time (Ekpenyong et al. 2017). Some committees may choose a problem identification paradigm that focuses on struggling learners, while others may choose a developmental model that aims to help every learner improve (Hauer et al. 2016). Developing a shared mental model of purpose allows everyone to understand the aim of the CCC within the larger PGME system; without this shared understanding, individuals in the system may act in their own self-interests and thereby threaten the system (Deming 2000). For example, if committee members do not share an understanding that their CCC aims to provide every learner (not just the low performers) with formative feedback for improvement, then individuals may resist reviewing assessment data for average or high-performing learners.

Tip 2

Identify and collate assessment data from multiple sources

Collecting and organizing assessment data are two crucial committee tasks. Data should be collected from multiple sources in multiple contexts including end-of-rotation

CONTACT Benjamin Kinnear kinneabn@ucmail.uc.edu University of Cincinnati College of Medicine, Department of Internal Medicine, 3333 Burnet Ave, MLC 5018, Cincinnati, OH 45229-3039, USA

assessments, procedure logs, simulations, standardized patient encounters, in-training exams, citizenship measures, quality improvement initiatives, and informal communications such as emails to program leadership (van der Vleuten et al. 2012). The CCC should determine which data are most valuable and how they will be organized for review. Data collation and organization can be time consuming (Hong 2015) and must be completed before CCC meetings and any necessary pre-review. Collaboration with program leadership is helpful in determining where data will be stored and how it will be retrieved. An electronic data management system (DMS) may allow for more efficient data collation. Administrative staff members involved with this process require sufficient training and protected time.

Tip 3

Recruit the right members

CCC member characteristics can significantly influence outcomes of group decisions (Hauer et al. 2016) and careful thought should go into selection of individual members and overall group composition. In the United States, the ACGME established base requirements (Andolsek et al. 2017), though other accrediting bodies leave significant freedom for programs to choose CCC members (Competency committees 2017). Members should be committed to improving trainee education and be willing to give time and energy as needed outside of CCC meetings to prepare or review data or coach learners (Holmboe et al. 2006). Members who understand how CCCs provide value to learners, assessors, and the program and are intrinsically motivated for this endeavor will contribute to optimal CCC functioning. Expected time commitments and any available financial support should be communicated upfront to CCC members.

Program directors (PDs), who are responsible for PGME programs, should recruit people with diverse opinions, skills, and experiences to provide broad expertise and distribute knowledge of CCC work throughout the training program (Ekpenyong et al. 2017). Members outside of program leadership or new to the CCC may provide valuable divergent opinions (French et al. 2014). Rotating member positions, rather than having all longstanding members, can create a pipeline for new opinions. This revitalization can be accomplished by having chief residents who have completed training serve on the CCC or by setting term limits for some members to allow for other educators to join. Involving individuals with diverse, independently-developed opinions helps mitigate unconscious biases such as availability, confirmation, and selection bias (Dickey et al. 2017). Group size depends on program needs and each CCC must weigh number of members against member quality and level of engagement; with too many members, the quality of individual members' contributions and engagement may diminish. PDs may have varying roles within a CCC including chair, active discussant, passive observer, or not attend at all (Andolsek et al. 2017). CCCs should clearly define the PD's role after considering the potential advantages (e.g. valuable insight into learner performance and knowledge of the assessment system) and disadvantages (e.g. domination of conversation and hierarchy effects).

Tip 4

Conduct regular committee member training

Committee members should receive instructions on CCC ground rules, processes, and expected outputs. Members may vary in their experience with and knowledge of committee processes, assessment tools, and competency frameworks and may have differing opinions on which data are important to make competency decisions (Ekpenyong et al. 2017; Oudkerk Pool et al. 2017). Member turnover, while valuable for reasons stated in Tip 3, also creates a need for regular training. Faculty development is essential for new members and for longstanding members as committee processes evolve. Faculty development may occur during CCC meetings or as separate training sessions. Asynchronous learning using handouts, online modules, or narrated PowerPoints can be beneficial when busy schedules preclude separate faculty development meetings. The frequency and content of faculty development sessions should be tailored to each committee's needs, though at minimum annual training may help sustain a shared mental model. There may be subcommittees within the CCC that require additional training. For example, a subgroup responsible for pre-review and data preparation requires training on the review, analysis, and report-out processes. Other potential faculty development topics include the program's assessment system, frameworks used by relevant accreditation bodies (e.g. ACGME milestones; Promes and Wagner 2014), purposes of assessment (e.g. formative vs. summative), and cognitive biases (Dickey et al. 2017). Designing, implementing, and sustaining faculty development activities requires one or more champions to lead the effort. The best person(s) for this brings experience and expertise with faculty development and does not necessarily need to be the committee chair or program director.

Tip 5

Develop methods for real-time sharing of assessment data during CCC meetings

CCCs should develop processes to maximize both the quality and efficiency of information sharing to support optimal decision-making. CCCs may review data during meetings to augment information sharing, validate pre-reviewers' findings, or facilitate discussion (Dennis 2016; Hauer et al. 2016). In addition to discussion, data can be shared on handouts or projected on a screen. The latter may allow for the CCC to perform real-time "deep dives" into data sources such as spreadsheets or electronic DMSs when there is a question. This capability requires that meetings occur in a room with appropriate audio/visual resources and that at least one committee member or staff person can efficiently navigate such systems.

Increased information sharing has been linked to improved decisions (Lu et al. 2012; Dennis 2016) and dashboards have been successfully used to improve information-sharing during meetings. Some CCCs use spreadsheets that collate data from multiple assessment tools (Choe et al. 2016; Friedman et al. 2016). Others have employed more graphical dashboards which may be more intuitive for viewers, allow for better contextualization of data, and facilitate easier identification of trends and patterns (Wheeler 2000).

Many electronic DMSs have dashboard capabilities, though some CCCs may prefer homegrown dashboards to align with their particular combination of data sources and program-specific learning analytics (Boscardin et al. 2017). Once developed, dashboards should be automated to limit time expended building or populating them prior to each meeting. Multiple members should have expertise in how the dashboard functions in order to provide in-meeting troubleshooting.

Tip 6

Establish ground rules for committee meetings

Establishing meeting ground rules helps meetings run smoothly and reinforces purposes and procedures of the CCC (Catalano 2016). Rules are ideally generated by the members to promote collective ownership and evolve over time as the group revises and improves its procedures. The chair should reiterate ground rules at the start of each meeting (O'Dea et al. 2006). Inviting introductions that include what role each individual serves is important to engage all participants in discussion. Greater clarity about the group's goals for the meeting leads to higher group performance than with vague, overly general, or undetermined goals (Weldon and Weingart 1993). Other relevant ground rules include reinforcing the confidentiality of the discussion and data, outlining the meeting plan, listing the data to be reviewed, a brief orientation to the data, describing the expected discussion format, and inviting participants to share information. A ground rule about how to manage personal trainee information guides participants regarding what information is appropriate to share or not share. For example, the chair might specify that the committee should not discuss details of a trainee's health issues unless they affect his or her fitness for duty and the learner provides consent to discuss such details in the CCC. If the learner does not give consent, fitness for duty can be discussed in the CCC, but details of health issues should not be discussed in the committee. An updated, written copy of the ground rules should be kept for committee member reference.

Tip 7

Use a structured format for committee discussion

Structured, systematic group procedures lead to better decisions than *ad hoc* procedures. CCC discussions should follow standard procedures (Colbert et al. 2017), starting with the information to be presented for each trainee and who will present it. Committee members should have a shared understanding of what data are reviewed before and during the meeting, what constructs they represent (i.e. which competencies or expected outcomes they address), and what should be reported at committee meetings. For example, a committee member who reviewed a learner's data first summarizes the learner's performance using a format agreed upon by the CCC, followed by comments from members who also reviewed that file or who worked with that trainee clinically. The discussion should then allow for information sharing among all members (Stasser and Titus 1985). The discussion should have defined goals, which for a CCC typically include identifying competency or milestone ratings, areas for growth, and any additional needs or recommendations for that learner. A competency expert from within the group may be designated to comment on certain competencies for each learner or for learners below a certain performance level (Ketteler et al. 2014). After discussion of a learner, the chair should summarize the discussion or decision. The chair can use a "parking lot" for issues that arise that may be important for the program but are not directly focused on the CCC agenda.

The group should guard against groupthink (Janis 1971), the tendency of members of a group to make decisions that preserve group unanimity rather than represent their individual views or preferences. This desire for conformity is common in multiple fields including medical education (Beran et al. 2014). A chair can employ strategies to minimize groupthink by inviting differing opinions, allowing sufficient time for discussion, providing access to information about trainees in written as well as oral form in the meeting, and avoiding dominating the discussion (Kerr and Tindale 2004). Because social hierarchy influences information sharing and decision making (Lorenz et al. 2011; Chahine et al. 2017), the committee chair should foster an environment in which all members feel comfortable and empowered to speak.

Tip 8

Employ strategies for time efficient member participation before and during the meeting

Faculty may perceive CCCs as too time intensive or as unfunded mandates (Hong 2015; Bartlett et al. 2017). To mitigate this concern, programs may establish time limits for CCC meetings and processes. However, time limitations can push groups toward premature conformity and agreement (Chahine et al. 2017), with dominant or talkative people having greater influence on decisions. Less time means less consideration of divergent viewpoints that enrich decisions (Dennis 2016). One time-efficient strategy is the "pre-review", in which one CCC member or subgroup examines data in advance and shares a summary or interpretation at a full committee meeting (French et al. 2014; Promes and Wagner 2014). Other committee members can then ask questions, debate and come to consensus on decisions and feedback for the learner. Pre-reviewers can be assigned to specific cohorts of learners (Donato et al. 2016; Nabors et al. 2017) or competencies (Ketteler et al. 2014; Klutts et al. 2015). Another approach is to develop subcommittees based on learners or competencies. Subcommittees hold regular meetings and only periodically report out to the full CCC (Cole et al. 2014). These strategies can ensure that someone performs an in-depth review of all data for each learner, but every data point does not need review during full committee meetings. Other ways to maximize efficiency include sharing information before meetings via handouts or dashboards, having standard procedures for in-meeting information sharing, attaching time limits for each part of the agenda, maximizing audio/visual resources for data review, and appointing a chair who is adept at managing meetings.

Tip 9

Integrate the CCC into a program of assessment

A program of assessment requires a master plan to centralize and coordinate assessment activities across a curriculum (van der Vleuten et al. 2015). Programmatic assessment requires not only performance data, but also central planning for all assessment activities, learner feedback, coaching for change, and curricular improvements that follow from the assessment activities. Because all assessment information should flow through the CCC, the committee is optimally positioned to drive a program's master plan (Colbert et al. 2015). CCCs should have assessment information available along the continuum of stakes, from lower stakes formative assessments to high stakes summative assessments (van der Vleuten et al. 2015), to ensure that trainees are learning and progressing towards unsupervised practice. CCCs should have access to all components of the assessment master plan and be deliberate in identifying and enhancing deficient areas to best meet the needs of the learners and the program (Brateanu et al. 2017; Colbert et al. 2017). For example, CCCs may note a paucity of assessment data in certain competency areas. The committee can provide this feedback to program leadership to guide development or adoption of new assessment tools or new curricular experiences. A CCC may also identify specific faculty members who provide substandard learner feedback to drive faculty development. It should be clear who is responsible for addressing programmatic assessment issues identified by the CCC (Colbert et al. 2015; Ekpenyong et al. 2017).

Tip 10

Have standard CCC output for stakeholders (program, learner, and accrediting bodies)

CCC output or work product should be formatted in a standard way specific to each stakeholder and should align with overall committee purpose. For the program, desired outputs may include a summary of each learner's performance on expected competencies, recommendations for each learner's next steps to improve, and meeting minutes. Meeting minutes include key points of the CCC discussion, decisions and identify learners who need extra support, including those advancing with recommendations or requirements. While the CCC does not function as a remediation committee, the group can determine the initial steps to support or remediate struggling learners and identify those deserving extra opportunities. For learners, the outputs of the CCC discussion should align with meeting minutes to promote transparency (Lockyer et al. 2017). Learners should receive their competency assessments, contextualized with information about their trajectory of assessments over time (Harris et al. 2017) and any recommendations from the CCC. Learners should have a mechanism to appeal CCC decisions that lead to extension of training, termination, or documentation of problems on their permanent record (Julian 2017). The PD should not directly handle appeals, particularly if he or she serves on the CCC. Appeals should go to the department chair, an appointed appeals committee, or the PGME office. Institutions should have appeals processes written by designated officials that CCCs can follow. Learners may choose to appeal CCC decisions or the processes used to make decisions and whether due process was followed. Focusing appeals on processes rather than individual assessments given by faculty can avoid creating a sense that critical evaluations are negotiable and can be overturned (Hays et al. 2015; Andolsek et al. 2017). Due process includes the learner being provided documentation of any deficiencies leading to disciplinary action, evidence supporting such claims, and a chance to appeal the decision (Colbert et al. 2017).

Tip 11

Use a standard framework to provide feedback on performance and learning planning

Assessment data should be shared with the learner to provide transparency and promote the learner's ability to use the information for improvement. Feedback should be reviewed in-person in the context of a longitudinal coaching relationship, with faculty members guiding learners to deeper understanding of the feedback and specific plans for improvement. The faculty member delivering feedback should be a clinician invested in the learner's growth, who ideally does not participate in summative decision-making about the learner (Hays et al. 2015; Colbert et al. 2017). The benefits of a coaching approach extend to all learners, not just those who may be struggling, and can promote their insight, growth, and well-being while fostering a mindset of continuous personal development (Palamara et al. 2015; Deiorio et al. 2016; Rassbach and Blankenburg 2017). A structured framework for feedback increases its likelihood of success. For example, the R2C2 model proposed by Sargeant et al. (2015) includes rapport building, exploration of the learner's reactions to the feedback, discussion of the learner's understanding of the feedback content, and coaching for change. Another structured approach to learning goals is to develop Specific, Measurable, Attainable, Relevant and Time-bound (SMART) goals (Langley et al. 2009). Although self-assessment can be inaccurate (Dunning et al. 2004; Davis et al. 2006), it can be improved with provision of evidence about performance relative to defined standards (Sargeant et al. 2010). Requiring the learner to complete a structured self-reflection prior to the feedback meeting can promote critical thinking about personal progress and goals, provide faculty immediate insight into the learner's understanding of personal strengths and areas for growth, and can serve as the starting point for the feedback discussion.

Tip 12

Engage in continuous quality improvement of the committee

CCCs should adopt a mindset and habits of continuous improvement of their procedures (Brateanu et al. 2017). CCCs should set aside time periodically to review the work of the committee in a deliberate manner, with feedback solicited from all members. The CCC can develop questions to guide member reflection. Did participants have the right information to make decisions? Did everyone have a shared understanding of the work? Were voices missing that could provide value – are new or different committee members

needed? Were the tools used during the meeting appropriate – did they provide the assessment data that the committee needed? Do learners benefit from the work of the group? Were all decisions defensible? Were the reports generated for regulatory bodies accurate? Were efforts to improve the work of the committee effective? CCCs should regularly examine their processes and outcomes to optimize performance over time.

Conclusions

CCCs should standardize their procedures in ways that reflect the values and aims of the program, contribute to trainees learning, and enhance the program as a whole. These tips provide a framework for thoughtful planning and engagement of the right mix of members that educators can use to guide their CCC development and improvement efforts.

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Notes on contributors

Benjamin Kinnear, MD, is the Assistant Program Director for the Med-Peds residency and Assistant Professor of Internal Medicine and Pediatrics at University of Cincinnati.

Eric J. Warm, MD, is the Program Director for the Internal Medicine residency and Richard W. Vilter Professor of Medicine at University of Cincinnati.

Karen E. Hauer, MD, PhD, is the Associate Dean of Competency Assessment and Professional Standards and Professor of Medicine in the School of Medicine at University of California, San Francisco.

ORCID

Benjamin Kinnear http://orcid.org/0000-0003-0052-4130
Eric J. Warm http://orcid.org/0000-0002-6088-2434

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