AAIM Perspectives

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Subspecialty Milestones and F-CCC: A New Tool to Assess Faculty

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INTRODUCTION

Graduate medical education switched to competency-based education in July 2013. Effective competence requires an effective learning environment and teaching. There has been much effort placed into evaluating and providing feedback to graduate medical education learners,[1] but there is little written or known about how to provide feedback to the clinical teacher, and there is no standardized form or process for learners to use. We set out to develop a tool to assess faculty member clinical teaching and a process for providing feedback to faculty members based on results garnered from the assessment tool.

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Faculty Assessments

Faculty members have multiple roles; some faculty may be more adept at teaching, whereas others may be more adept at clinical or basic science research. Faculty assessments come from multiple sources, including patients, large data, colleagues, supervisors, and learners. Assessment tools vary depending on who is providing assessments and the goals. CanMEDs, adopted by the Royal College of Physicians and Surgeons of Canada in 1996 as a physician competency framework for postgraduate education, evolved to assess competency throughout a physician's career. Updated in 2015, CanMEDs shows how 7 roles of physicians are interconnected.[2] CanMEDs could be used by leadership to assess faculty with multiple roles. In another example, Chang et al[3] provide a framework that department chairs or division chiefs could use to assess clinicians who strive to be expert clinicians and mentors. In 2022, the Accreditation Council for Graduate Medical Education (ACGME) developed Milestones for the Clinical Educator Track with 4 domains—teaching skills, administration, teaching science, and wellness—and 20 subcompetencies.[4] The purpose of the ACGME Milestones is for peer and self reflection of faculty on the clinical educator track.

Learners provide assessment of their teachers, but there is no standardized tool or assessment process. At least one study showed that residents could provide suggestions for improvement in teaching, but their

comments often lacked specific phrasing, which limited their value in performance improvement.[5]

Choosing the Tool

The milestones were developed over several years, with general subspecialty milestones in medicine in 2014, harmonized across the profession in 2016,[6] and hematology-oncology-specific milestones in 2021.[7] All milestones consist of the 6 core competencies of medicine: patient care (PC), medical knowledge (MK), professionalism (PROF), interpersonal and communication skills (ICS), systems-based practice (SBP), and practice-based learning and improvement (PBLI). In addition, under each core competency, subcompetencies show the skills, knowledge, or behavior along a trajectory of development from level 1 to 5.[8] Used twice yearly by the clinical competency committee (CCC) of the individual programs, the milestone assessment is sent to the program director, who uses the information to help provide feedback to resident and fellow trainees and data to ACGME.

> ### PERSPECTIVES VIEWPOINTS
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> - Feedback has no standardized form or process for fellowship clinical teachers.
> - We adapted the Accreditation Council for Graduate Medical Education Milestones to become a tool for fellows to assess teachers.
> - A fellow-run Clinical Competence Committee to go over the results of the form can enable anonymity and normalize outliers.
> - Results may improve teaching competence and graduate education.
> - The similarities of the Milestones between subspecialties could enable the tool to be adopted by any subspecialty program.

We completed a pilot project using the Hematology and Medical Oncology Milestones 2.0 as a template for an assessment tool. We chose this tool for several reasons: milestones are well vetted by ACGME and expert educators, harmonized across disciplines of medicine, and are meant to apply to university-based and community-based programs of any size. Due to fellow familiarity with milestones terminology, they would capably employ the subcompetency anchors when conducting assessments of faculty, including the direct observation of skills, attitudes, and behaviors of their clinical teachers. Like the milestones for residents and fellows, we set up the tool with levels of competence to show progression toward excellence.[8]

Process

The second concept to consider is the process of collecting and delivering feedback. For learners, feedback is essential to improving their competence along a trajectory,[8,9] but consensus has not been reached on an ideal model to deliver feedback. Furthermore, the perspective of the quality of the feedback can vary between the recipient and the teacher.[1] Residents have commented on how they prefer not to get feedback on

their performance from "unapproachable" teachers.[10] In the other direction, when residents and fellows provide feedback to attendings, constructive, honest feedback can be challenging to achieve in a hierarchical environment. In one study, residents said that barriers to feedback were potential encounters with the same attending in the future, destruction of a working relationship with the attending, and frustration about the evaluation system.[11] In small programs, even grouped anonymous evaluations might be identifiable by features of a specific interaction or by the "voice" of the writer. Given the complexity of feedback for the learner and the hierarchical nature of medical training, it is not surprising that there is no standardized process for learners to use.

To overcome the barrier of anonymity, we created a process of a fellow-run clinical competency committee (F-CCC). This committee is given the time, space, and anonymity to allow the fellows to make a group assessment of their teachers. Collated results on the assessment tool are discussed, outliers normalized, and comments made with a final determination of competence reported to the program director.

RESULTS OF THE PILOT

We ran a pilot of our tool and assessment process, using the ACGME Hematology and Medical Oncology Milestones 2.0 as a template. The pilot project received institutional review board exemption at all institutions, as it had no direct connection to personal protected information and therefore, it did not represent human subject research.

Milestones are composed of the 6 core competencies, with subcompetencies under the core. Subcompetencies further define the activities, behaviors, or knowledge that is part of that core. Within each subcompetency, growth from novice to expert is shown on a 5-point scale, with level 5 the highest. Through online homework, 3 Zoom (San Jose, Calif) meetings, and an iterative process, the authors started with the language in level 5 for the subcompetencies that fit the goal for the faculty educator. Eleven sub-competencies remained at level 5, 4 were modified slightly, and 3 were added for essential components of teaching (providing feedback, role models equity and inclusiveness, displays a caring attitude while maintaining boundaries). For subcompetencies that did not "fit," the team

critically examined the intent of the competence and determined if it should stay in the form or if an entirely different competence was needed. The final document had a Likert scale for each subcompetency.

Four fellowship programs—Gunderson Health (6 fellows), Scripps Clinic (12 fellows), University of Pittsburgh (18 fellows), and Jacobi Medical Center (6 fellows)—convened a one-time F-CCC near the end of the academic year 2022 (July 2021 to June 2022), where the tool was discussed. Three programs sent the tool out electronically to fellows prior to the meeting so that the fellows could make their assessments, which were then electronically collated. One program had the fellows view the form for the first time at the meeting. Fellows looked at the results of the F-CCC and normalized the values to rule out outliers. Following the meeting, a final assessment of teaching was sent to the program director, who had the choice of delivering the feedback directly to the faculty member in person, delivering it by e-mail, or sending the feedback to the division chief.

Forty-two fellows participated in the F-CCC, and 26 returned a follow-up survey. Twenty-one fellows said

Patient Care

1. Serves as an expert in formulating management plans.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Shows how to perform procedures when applicable.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Medical Knowledge

1. Provides resources and evidence-based instruction on specialty disorders.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Provides guidance for assimilation of literature into clinical practice.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Figure 1 Assessment tool: Fellow assessment of faculty preceptor based on Milestones 2.0 for hematology and medical oncology (February 2023). The purpose of this assessment tool is to promote excellence of teaching by faculty. Based on the Accreditation Council for Graduate Medical Education Milestones 2.0, the tool reflects the knowledge, skills and behaviors that are key to promote excellence of teaching. This form has each core competency in bold followed by the subcompetency. Each subcompetency has a descriptive anchor (Not Observed, Never, Rarely, Sometimes, Often, Always) and a corresponding number (0,1,2,3,4,5).

Systems-Based Practice - relevance is rotation specific.

1. Role models disclosure of patient safety events to patients and families.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Considers value when making diagnostic and therapeutic recommendations.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Practice-Based Learning and Improvement

1. Reviews expectations at the beginning of a rotation.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Provides the fellow with feedback during and after a rotation.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Figure 1. Continued

that the tool always or mostly enabled them to assess the faculty member's ability to teach. Four fellows commented that the form was too long, and one comment stated that some questions grouped varying assessments into one question, making it difficult to answer specifically. During the F-CCC, the fellows also changed assessment based on the group consensus sometimes (22 of 26 respondents) or mostly (2 of 26 respondents). Fifty-nine faculty were assessed as part of this process. An optional survey was sent to the faculty. Seven of the 10 faculty respondents stated that the tool was an accurate reflection of their skills as a teacher, and 7 indicated they would make changes in the way they teach based on the

assessment tool. The 4 program directors in the pilot noted the tool highlighted attributes about faculty educators, provided feedback that was not captured with the previous system, and allowed the fellows a systematic framework for fair assessment.

POST-PILOT

Based on feedback about our assessment tool, it was revised; the final version (Figure 1) kept the milestones template, with the 6 core competencies and the concept of subcompetencies. There are 2 items per competency except in professionalism, which

Professionalism

1. Demonstrates ethical principles; integrates social and ethical aspects of medicine in the clinical learning environment.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Values the fellow's time and well-being.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

3. Role models equity and inclusiveness.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

4. Demonstrates prompt attendance, accountability, and availability.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Figure 1. Continued

has 3. Each item is focused on teaching skills, attitudes, and behaviors.

After the pilot, we created a process map (Figure 2) and a standard operating procedure (SOP) for the F-CCC. In the process map, the first step is to determine which faculty are working with fellows in clinical settings to establish whom to assess. Fellows complete the form online near the end of the academic year and the results are collated electronically prior to the F-CCC, held sometime in May. At the meeting, the fellows work collaboratively on assessment, using the collated results for discussion and normalizing outlier issues. Following adjudication of the tool at the F-CCC, results are delivered to the program director, who can analyze results for programmatic trends and then provide the final document to the division chief for individual feedback. The F-CCC SOP (Figure 2) emphasizes that the intent of the F-CCC is a transparent process with a goal to improve faculty teaching, thereby leading to individual growth by the faculty member and improvement in learning by fellows. A byproduct of F-CCC might be improving fellow self-awareness of their teaching skills, which might impact their skills as future attendings. A fellow who has been coached by the program director or associate program director on the goals and process of the F-CCC should chair the meeting. Programs with a chief fellow may wish to assign the chief this responsibility.

Interpersonal and Communication Skills

1. Role models shared decision making in patient/family communication.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Displays a sensitive and caring attitude towards patients while maintaining boundaries.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Teaching

1. Appropriate teaching to the level of the learner.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

2. Showed enthusiasm for teaching.

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Figure 1. Continued

ADOPTION BY OTHER SUBSPECIALTY PROGRAMS

Because our form started with the hematology and medical oncology milestones as its template, and recognizing the unmet need for assessment forms for faculty teaching across internal medicine, we considered whether the revised form could be used across the board for fellowship programs. We compared the ACGME Subspecialty Milestones for cardiology, endocrinology, gastrointestinal disease, infectious disease, nephrology, palliative care, pulmonary, and sleep medicine with the ACGME Milestones for hematology and medical oncology.[12] MK and PC have, as anticipated, most of the differences among t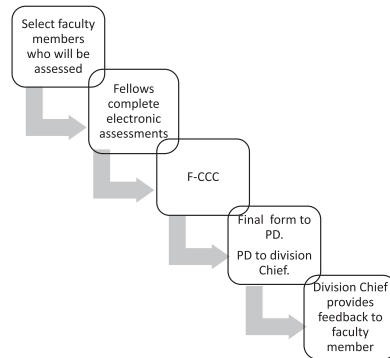he specialties. The harmonized subcompetencies—PROF, ICS, SBP, and PBLI—are either the same or only slightly different. Examples of a few differences in SBP included, in cardiology, specific words in SBP3, "Seeks knowledge in nonclinical topics needed for independent practice (eg, malpractice insurance, government regulation)"; in palliative care, an additional sub competency devoted to hospice medicine; and in infectious disease, "actively engaged in influencing health policy through advocacy activities at the local, regional or national level." Within ICS, palliative care added a subcompetency for complex communication around serious illness. Given the similarities of the milestones between subspecialties and the intent of the assessment tool to bring out attributes of faculty

Overall

1. Would you recommend this faculty member continue to work with fellows?

Not observed	Never	Rarely	Sometimes	Often	Always
0	1	2	3	4	5
○	○	○	○	○	○

Figure 1. Continued

Process

SOP for the F-CCC

- The goal of the F-CCC is to improve assessment of faculty teaching.
- Improved faculty teaching leads to individual growth for the faculty member and improves learning for the fellow.
- Evaluations are aggregated for each faculty member and provided to the fellows on a spreadsheet.
- The meeting is chaired by one fellow. Programs with a chief fellow can select the chief as chair.
- Individual subcompetencies averages are assessed for accuracy and a final number is assigned.
- After a short discussion, comments are included on the final version.

Figure 2 Process of faculty assessment and standard operating procedure (SOP) at the fellow-run clinical competency committee (F-CCC). The process flow on the left shows steps that programs can follow from determining which faculty should be assessed by the fellow to getting the feedback to the faculty member. The SOP on the right is the process that the fellows could use at their actual meeting to go over the results of the forms that have been distributed in the electronic platform.

teaching, the tool could be easily adapted by any subspecialty program.

FURTHER THOUGHTS: DELIVERY OF FEEDBACK TO THE FACULTY MEMBER

The pilot did not specifically address a system for provision of feedback to the faculty member. The final assessment of teaching was sent to the program director, who had the choice of delivering the feedback directly to the faculty member in person, delivering it by e-mail, or sending the feedback to the division chief. In our process flow, we have suggested that the results of the assessment form go from the program director to the division chief and that the division chief provides feedback to the faculty member. Program directors tend to be more familiar with the educational outcomes, while division chiefs need to see the multiple roles their faculty members are providing. The job of a faculty member can be complex, and the emphasis varies from person to person. Faculty members who excel in research and have teaching as part of their role

would have a different conversation with their division chief compared with the faculty member on clinical education track with a primary role of a clinician and mentor. Nevertheless, the tool and the process could be helpful for any faculty member involved in clinical teaching.

We also hope to see a culture around accepting feedback as part of a process of personal growth, a partnership between the faculty member and the division leader as "coach." By striving to achieve the highest level of competence in clinical teaching, the faculty member could feel like he or she is striving toward excellence.

SUMMARY

Feedback of faculty by learners, essential to improving competence, has no standardized tool or process in the clinical learning environment. The milestones, carefully developed, harmonized, and applicable to large and small university-based and community-based programs, were easily adapted by 4 hematology-oncology fellowship programs in a pilot, then appropriately revised. We

compared the milestones for cardiology, endocrinology, gastrointestinal disease, infectious disease, nephrology, palliative care, pulmonary and sleep medicine with those in hematology and medical oncology and found, as expected, similarities in the harmonized milestones sub-competencies. Although MK and PC differ across the subspecialties, it can be reconciled by the fact that the form assesses how well the faculty member teaches, rather than their specific knowledge or specialty in specific patient care. We believe that the form could be used across internal medicine subspecialty training programs.

Recognizing that providing feedback in medicine is complicated by the hierarchical nature of training, learners have been reluctant to provide honest assessment.[11] A well run F-CCC with a clearly elucidated purpose in which results of assessments are collated and normalized could improve the problem of anonymity.

Feedback on clinical teaching should come from the division chief, as this person will have a perspective on all the roles of the faculty member. Our process did not address the broader issues of effective feedback culture within institutions, but future work could examine how the tool and process contribute to a context of trust and feedback-seeking behavior.[13]

This innovative contribution provides programs with a tool they can readily adapt to their programs and an SOP where the tool could be used as a framework at an F-CCC to look for the skills, attitudes, and attributes of a good teacher. We think specific feedback will help programs adjust their curricula and faculty develop self-reflection around improved teaching strategies.

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