Tying It All Together? A Competency-based Linkage Model for Family Medicine

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Residency faculty in all specialties will be required by the Accreditation Council for Graduate Medical Education (ACGME) to fully implement competencies into residency programs by 2006. Understanding the new requirements is complicated by having several sets of guiding documents from different sources, including the general competencies of the ACGME, the Residency Review Committee for Family Practice requirements, the competencies developed by the Society of Teachers of Family Medicine, and the Recommended Curriculum Guidelines for Family Practice Residents by the American Academy of Family Physicians. A competency linkage model brings together the various guidelines and shows specifically how they are related. This model helps family practice residency faculty better understand the guiding expectations for their programs and develop more appropriate learning objectives and assessment methods.

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During the 1990s, interest in competency-based education (CBE) in graduate medical education gained considerable momentum. This interest continues to the present. Much has been written to explain the concepts, principles, and history of CBE to medical educators.1-16 The Society of Teachers of Family Medicine (STFM) created a Task Force on Competency-based Education, which identified 26 family practice specialty competencies and grouped them into five categories: (1) interpersonal skills, (2) organizational skills, (3) clinical acumen, (4) personal and professional growth and development, and (5) business practice.3,14 In 1999, the Accreditation Council for Graduate Medical Education (ACGME), through its “Outcome Project,” endorsed six general competencies important to the practice of medicine: (1) patient care, (2) medical knowledge, (3) interpersonal and communication skills, (4) professionalism, (5) practice-based learning and improvement, and (6) systems-based practice. The ACGME requires that the six competencies be fully integrated into all residency programs by 2006 using its approved “minimum language” for the competencies and related evaluation processes. Through its actions, the ACGME intends to address concerns that “Residents were not adequately prepared to practice in the rapidly changing health care environment.” Competencies were seen as a way of specifying what residents “should know and be able to do.” The Residency Review Committee for Family Practice (RRC-FP) has incorporated the ACGME’s minimum language in its requirements.1

The ACGME Outcome Project is a long-term initiative intended to increase, via the accreditation process, residency programs’ accountability for achieving the educational outcomes described in the six competencies, the ultimate goal being that all programs in all specialties will better “educate residents and prepare them for the practice of medicine.” Measurable outcomes are key elements of a system to enable continuous program improvement and to provide information to policymakers and others concerned with issues of patient safety and medical education funding.1

In the early 1990s, predating the STFM and ACGME competencies, the American Academy of Family Physicians (AAFP) developed the Recommended Curriculum Guidelines for Family Practice Residents (AAFP-RCG). In these guidelines, the AAFP defined core content in various curricular areas considered “central to a complete family medicine education” and has since

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advised "timely topics" that "require special attention by those who are teaching family practice residents." Although not competency based, per se, the AAFP-RCG contains learning objectives (knowledge, skills, and attitudes), suggestions for implementation, and resources for further study.

Each set of guidelines has a unique role to play in today's residency programs. Yet, collectively, because of their varied origins and approaches, they present family medicine educators with confusing and seemingly overwhelming expectations for resident education. Faculty understanding of CBE is critical to its successful implementation. Our purpose is to present a "linkage model" that helped faculty at the University of Texas Southwestern (UT Southwestern) Family Practice Residency Program better understand the competencies and how to integrate them into the curriculum and evaluation process.

Process

At UT Southwestern, family medicine faculty, in collaboration with faculty in the Office of Medical Education, followed a four-step process to develop and implement the linkage model. First, faculty and residents reviewed and discussed the various source documents (ACGME, RRC-FP, STFM, and AAFP-RCG) considered viable as a basis for articulating outcomes and learning objectives for residency programs. Second, we developed—and involved other faculty, residents, and external consultants in reviewing—a model that integrated and linked the contents of these source documents. Third, we reviewed our current curriculum and evaluation methodologies in light of the model. Fourth, we implemented several changes in our program based on our review.

Linkage Model

The linkage model attempts to show how the various sets of guidelines are interrelated, or "linked," to help faculty better understand the competencies and develop appropriate goals, objectives, and evaluation strategies. We have found this model useful in curriculum development, outcome assessment, and faculty development. We will explain the linkage concept by offering two examples, each beginning with a single ACGME competency and then demonstrating how the other guidelines can be linked to it. The full linkage model may be viewed on the Web at www.swmed.edu/home_pages/famprac/residency/UTSW/linkagemodel/CompetencyLinkageModel.htm.

Our first example is from the ACGME competency, "Patient Care." The minimum language version of this competency states: "Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health." The full language version contains detailed descriptions of the skills that make up the "Patient Care" competency. For this example, we focus on the skill "Develop and carry out patient management plans."

After linking the RRC-FP Requirements we see very similar language: "They must learn to develop and carry out patient management plans." The RRC-FP further requires residents to "provide appropriate, effective, and compassionate clinical care," "possess knowledge in established and evolving psychosocial, biomedical, and clinical science domains and apply it to clinical care," and "demonstrate rigor in their thinking about clinical situations and know and apply the basic and clinically supportive sciences that are appropriate to their disciplines."

We found related STFM competencies under the "Clinical Acumen" category: "Develop a plan of action that attends to salient medical, ethical, spiritual, psychosocial, family, cultural, and socioeconomic issues; implement the negotiated management plan and inquire into it; and discuss sensitive issues that may impact on the execution of the negotiated management plan."

Other examples are chosen from "Care of Older Patients" and "Patient Education." In the "Care of Older Patients" guideline, we linked to an attitude of "continuing accessibility to and accountability for his or her patients," knowledge of "the characteristics of the various types of long-term care facilities and alternative housing available to the elderly," and skills of "formulating a plan of management, investigation, and need for expert advice with an awareness of the risks and costs of the investigation and the value of the information that will be obtained," and "communicating to the patient and/or caregivers the proposed investigation and treatment plans in such a way as to promote understanding, compliance, and appropriate attitudes." We also identified links to the "Patient Education" guideline (e.g., the skills "discuss treatment plans in terms of specific behaviors," "assess patient's ability to carry out treatment plan, identify barriers, and individualize treatment plan accordingly," "involve patient in setting treatment goals and treatment plan," "provide patient with adequate feedback on progress toward goals," and "respond to patient's interest in health promotion with specific suggestions for behavior change."). Certainly, the identified knowledge and skills are relevant to the ACGME-defined skill of developing and carrying out patient management plans.

Even though one might argue that the AAFP-RCG is not competency based, many family medicine educators are familiar with this document and how it has shaped content decisions in their programs. By linking it to ACGME and STFM, faculty can view the new competencies through a more familiar lens of AAFP-RCG. Table 1 shows the linkages described above.
A key insight gained was that the linking process required more than simply pairing each competency statement to its single counterpart in each of the other documents. Multiple links often can, and should, be made. For example, we linked “Patient Care” not only to the STFM’s “clinical acumen” but also to “interpersonal skills” and “organizational skills” and with AAFP-RCG attitudes, knowledge, and skills in several guidelines. Thus, in linking, it is necessary to examine each competency in relation to all others. The result is an integrated network of linkages and no unlinked competencies.

Table 2 further illustrates the linkages using as an example the ACGME competency “Systems-based Practice.” The meaning of this competency is less obvious than “patient care” to most residency program faculty, and its linkage is slightly more complex. It is linked to STFM competencies in “business practice,” “organizational skills,” “interpersonal skills,” and “personal and professional growth and development” and to AAFP-RCG content from various guidelines. In our example, we again show only the linkages involving “Care of Older Patients” and “Patient Education.”

**Implementation**

Having completed development of the linkage model, we then introduced several minor changes in our program. First, we changed the language on the evaluation forms to match the competencies; this was done during an orientation workshop prior to the start of the academic year. Second, we encouraged residents to review the changes in our semiannual evaluation form, noting the changes in wording and categories. Third, we asked residents to draft a learning contract from this new language and meet with their advisors to have it in place for the academic year. Fourth, we made posters and displayed them in the continuity clinic, resident work areas, and precepting office to further expose residents, staff, and patients to the new competency language. Fifth, preceptors began using a daily clinical precepting form highlighting certain competencies the residents and faculty selected to focus on as a group. Sixth, faculty used the new evaluation forms in sharing observations with residents after their clinic.
Table 2

Linkage of ACGME Competency “Systems-based Practice . . . ”* to STFM, RRC-FP, and AAFP-RCG**

| ACGME Systems-based Practice: Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. |
| STFM Business Practice: Bill the patient fairly and appropriately for services rendered (in accordance with their insurance option), referring those who need financial assistance to appropriate business office personnel. Organizational Skills: Conduct the visit in a time efficient and professional manner. Personal and Professional Growth and Development: Engage in activities that will foster personal and professional growth (in mind, body, psyche, and spirit) as a family physician. Interpersonal Skills: Work together with front desk staff and nursing staff in a manner that fosters mutual respect and facilitates the effective handling of patient care issues. |
| RRC-FP The residency program must ensure that its residents are aware that health care is provided in the context of a larger system and can effectively call on system resources to support the care of patients. Residents are expected to understand how their patient care practices and related actions impact component units of the health care delivery system and the total delivery system, and how delivery systems impact provision of health care. Residents must learn how to advocate for quality patient care and assist patients in dealing with system complexities. They must be taught how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can impact system performance. |
| AAFP-RCG Care of Older Adults: Skills of coordinating a range of services appropriate to the patient’s needs and support systems, integrating factors in the patient’s family, home, and general lifestyle into the diagnostic and therapeutic process, and consulting with physicians and other health care professionals, including the critical evaluation and selective use of consultant advice and the integration of management in critical care situations. Patient Education: Health promotion skill of enlisting assistance of other health care professionals (eg, nurses, health educators, dietitians, certified fitness instructors). |

* “Systems-based practice: Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.”

** There are currently 33 guidelines in the AAFP document; we have selected examples from two of them.

ACGME—Accreditation Council for Graduate Medical Education
STFM—Society of Teachers of Family Medicine
RRC-FP—Residency Review Committee for Family Practice
AAFP-RCG—American Academy of Family Physicians Recommended Curriculum Guidelines for Family Practice Residents

Conclusions

Nationally, many family medicine educators are addressing the ACGME competencies, and we believe that integrating the other guidelines (RRC-FP, STFM, and AAFP-RCG) will help them use the broad knowledge base of our specialty to enrich the educational experience of residents.

The linkage model can help educators see how much of what is required is already in place. It can be used in faculty development and can guide gradual curriculum revision, including the linking of learning objectives, instructional activities, and evaluation methods to each competency. Curriculum revision may follow a linear approach or, as in our own case, a more flexible process that Quillen* described: “Start with the evaluation strategies and work in a circular fashion to review the goals and refine the objectives and teaching strategies.” In our program, we modified existing tools and did not see a need for radical changes to meet the ACGME’s requirements.

The process of linking competencies helped our faculty gain confidence in their ability to successfully implement CBE and to perform curricular planning, outcome assessment, program evaluation, and ongoing curriculum improvement. It also fostered faculty and resident teamwork in ensuring that accreditation requirements are met. Our faculty better understood the various guidelines by viewing them through the unifying perspective of the model. The model has limitations in that it was developed at a single institution and has not been widely used or reviewed. Further study of the model is necessary to determine its efficacy.

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