

Accreditation Council for Graduate Medical Education

EDITOR'S INTRODUCTION

The Accreditation Council for Graduate Medical Education publishes the **ACGME Bulletin** four times a year. The Bulletin is distributed free of charge to more than 12,000 individuals involved in residency education, and is also available on the ACGME's world wide web site (www.acgme.org) for viewing and printing. The ACGME receives and publishes letters to the editor in the interest of furthering dialogue about accreditation, program quality and matters of general interest in residency education. Inquiries, comments or letters should be addressed to the editor.

Ingrid Philibert
Editor

515 North State Street
Suite 2000
Chicago, Illinois 60654-4322
**(New Zip Code, effective
July 1, 2008)**

Phone 312.755.5003
Fax 312.755.5498
Web www.acgme.org

The Competencies: The ACGME and the Community in 2008 and Beyond

Ten years ago, the ACGME, through the Outcome Project, began a multi-year initiative to place greater emphasis on educational outcomes in the accreditation of residency programs. The six general competencies emerged as organizing concepts for this outcome movement. In 2002, requirements for teaching and assessment of the competencies were included in the ACGME common program requirements.

In the ten years since the introduction of the general competencies several issues of the *ACGME Bulletin* have been devoted to them wholly or in part. This issue continues that tradition; yet it also represents a departure from it, and introduces a new perspective on the use of educational

"The milestones project brings together the ACGME, the RRCs and the academic specialty communities to develop specialty-specific "educational milestones" residents are expected to attain at specific times throughout their education."

outcomes in program accreditation. Dr. Nasca's CEO column introduces a new initiative – the milestones project, which brings together the ACGME, the RRCs and the academic specialty communities to develop specialty-specific "educational milestones" residents are expected to attain at specific times throughout their education. Aggregated to the program level, data on the achievements of residents in this area will become an important part in program accreditation in the not too distant future.

Important as these milestones will soon become, they are not envisioned as the sole measure of residents' educational achievements. Used alone, such a reductionist approach might advance nationally comparable measurement of the

competencies beyond its current state in 2008, yet it also could drive curricula and teaching toward minimalism. In a thought-provoking article in the July 2008 issue of *Academic Medicine*, Delese Wear cautions against approaches that de-contextualize the complex process of professional development necessary for the education of physicians, particularly when the desire to use simple tests and checklists is applied to complex, deeply contextual phenomena such as socialization and habit, ethical action or manifesting professionalism.¹ Citing Barnett's important work written 14 years earlier,² she warns that reducing professional education to narrow sets of practical skills could impede the larger goal of students' and residents' moral, personal and professional development and socialization into the profession. Her comments create an important distinction between the use of the competencies for generative conversations about the teaching and assessment of physicians, and viewing them as the culminating achievement of physician education and professional development.

“In the next approach to the competencies, programs and sponsoring institutions will play the leading role in the formative assessment of residents, providing them with meaningful feedback to facilitate the development of physician competence and professional development for independent practice.”

Through the milestones project, the ACGME will limit its efforts to create a nationally comparable approach to assessing the competencies to a few important measures. However, this does not suggest that a minimalist approach to the education and assessment of physicians or even the competencies is the aim of this effort. Rather, in the next approach to the competencies, programs and sponsoring institutions will play the leading role in the formative assessment of residents, providing them with meaningful feedback to facilitate the development of physician competence and professional development for independent practice. The milestones will be just what their name suggests – important markers, applied in a periodic fashion, to ensure residents, the program, the educational community and the public that basic measures of educational progress are in line with comparable programs and general expectations currently being developed in a collaborative effort involving the ACGME, the Residency Review Committees and the education and specialty community.

Ongoing formative assessment, tailored to local needs and with feedback to the learning will interdigitate with the milestones, and will have a critical role in the professional development of physicians during residency and fellowship. For these assessments, the ACGME will not specify the tools and measurements to be used, but it remains deeply interested in the teaching and assessment approaches that emerge from these efforts. A number of the articles in this issue describe work done by members of the educational community at the forefront of this process. They include the work by Dr. Graham and colleagues to develop a taxonomy and behavioral measures to assess resident performance in Systems-Based Practice; the article about the Cleveland Clinic Lerner College of Medicine's assessment of the competencies as preparation for residency; Scott and Medio's summary of effective instructional methods for courses to teach resident teaching skills; and the summary of an ACGME project to explore two approaches (“top-down” and “bottom-up”) for resident involvement in quality improvement projects and what they teach residents about Practice-Based Learning and Improvement and Systems-Based Practice. In addition, Lambertson and colleagues describe the mental health and counseling services for residents at the Medical College of Wisconsin.

Notable is the variety and richness of this work. It is evidence of the key role the medical education community has played and will always play in advancing the teaching and assessment of the competencies. ■

¹Wear, D. On Outcomes and Humility, *Academic Medicine*, 83(7), July 2008.

²Barnett, R. *The Limits of Competence: Knowledge, Higher Education and Society*, Buckingham, UK: Open University Press, 1994.



Where Will the “Milestones” Take Us? The Next Accreditation System.

Thomas J. Nasca, MD, MACP

In the CEO's column in the last issue of the *Bulletin*, I discussed the opportunity and challenge of taking the next step in our quest for outcomes-based accreditation. This will entail establishing expectations that each resident must meet competencies appropriate to his/her clinical discipline at key points in his/her progression toward initial specialty certification. These expectations are beginning to be called “Milestones,” and their establishment gives the ACGME and the educational community specialty-specific benchmarks of performance along the path to proficiency in each domain of clinical competency against which residents' performance can be measured.

The milestones will allow programs to be tracked and evaluated on the progress their learners demonstrate against these expectations. An example of one approach for how a Residency Review Committee (RRC) might track a given program is shown in *Figure 1*. In this theoretical example, the specialty has identified six key dimensions of each competency that require longitudinal tracking. These are markers of

“The ACGME would be able to look at the percentage of residents who have met or exceeded each milestone and compare that rate to a national average of all programs in the specialty.”

the proficient graduate. At appropriate points during their education, residents' performance will be below, at, or above the expectation of the specialty for their educational level. Thus, for this hypothetical program, the ACGME would be able to look at the percentage of residents who have met or exceeded each milestone and compare that rate to a national average of all programs in the specialty. We anticipate that this information will be available to each RRC, likely on a twice yearly basis.

In the theoretical example on page 4, you can see that the program's performance is at or above expectation in five of the six domains of clinical competency, but falls more than two standard deviations from the mean in Practice-Based Learning and Improvement.

The current accreditation system is unable to effectively utilize this information to rectify this apparent educational deficiency in a timely fashion. This is due to its approach to accreditation review, which essentially takes a biopsy of the program every four to five years, and assumes that this 1) represents the longitudinal experience of the program; 2) predicts the future performance of the program; and 3) is relevant to the performance of program graduates. Furthermore, it is based largely on the process of education and attributes of the delivery system (faculty, facilities, resources, etc.), and not on the educational outcomes or patient care outcomes of the residents.

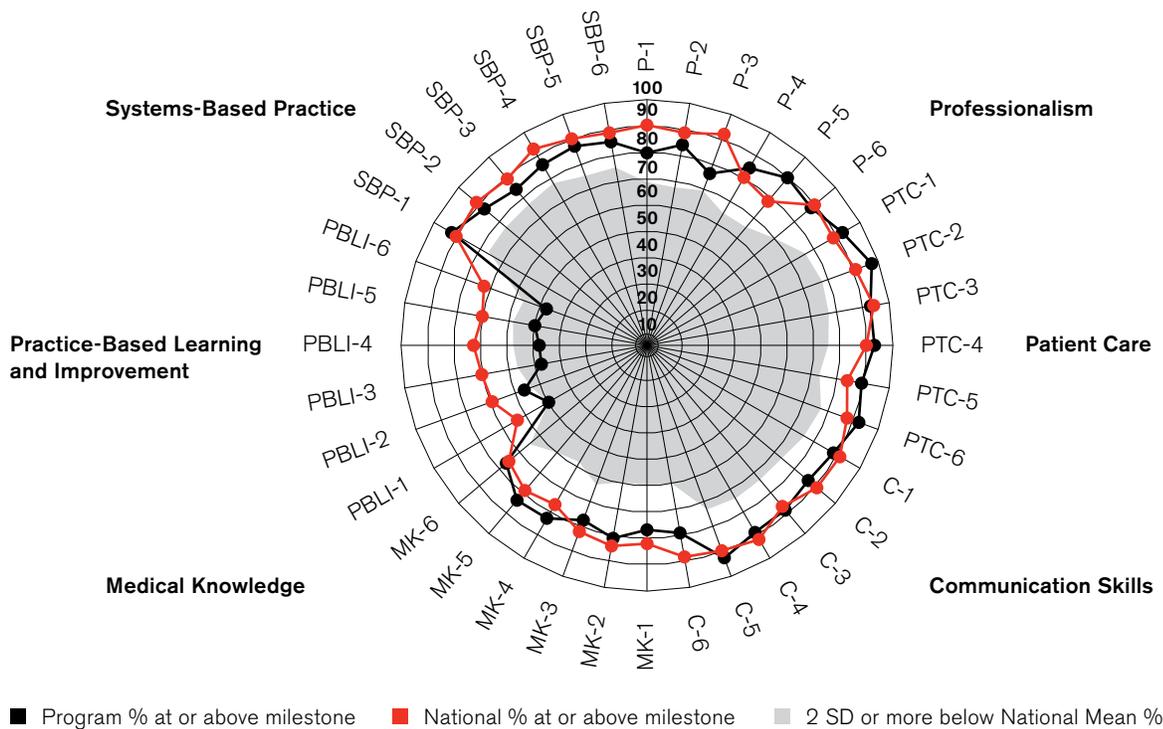
This perspective on the current accreditation system is validated by observing the challenge that the annual data acquisition through the resident questionnaire currently presents to the RRCs. The approaches used in 2008 provide the RRCs with no tools other than Progress Reports, shortened review cycles and moved-up site visits to address concerns about duty hours, the learning environment or other elements of the accreditation standards.

Similarly, most programs have little interaction with the RRC pertinent to the quality of education they provide other than the brief interaction with the site visitor that occurs every 4 or 5 years. Thus, their interaction is reduced to preparing for an episodic, high-stakes decision that has long lasting effects on faculty, staff, residents and the institution. What is missing is ongoing communication and guidance with the goal of continuous improvement of the program.

Six years ago, the ACGME promised the community that the Outcomes Project would produce a better accreditation system. I believe that we can now begin to see the elements of that system. Let me share my thoughts about the attributes of that improved system with you.

I believe we are moving toward a continuous dialogue based on a desire to improve educational outcomes, rather than an intermittent interaction based on satisfaction of rules. That does not suggest the future system will not have rules. Rather, it assumes that programs will follow a more limited set of standards, and that accreditation will go beyond rules that govern process and infrastructure to a system of examining and fostering high quality educational outcomes, as judged against the milestones set by each specialty. Future rules would be structured in a way that frees the creativity of the program director and faculty to maximize the benefit of the particular

A Hypothetical Example of the Milestone Project's Assessment of the Competencies



educational environment, while assuring the RRC and the public that the clinical education provided is producing physicians who are proficient in all aspects of the six domains of clinical competency unique to their chosen specialty.

In this new system, the accreditation cycles (the time between scheduled site visits) will be longer, potentially extending to 8 to 10 years. The rules (program requirements) will be stable for a longer period as well (with the ability to modify elements if the specialty changes). Residents, fellows, and faculty will evaluate the effectiveness of their program through annual questionnaires. Faculty will continuously evaluate residents and fellows, and periodically (every 6 months) report their progress to the RRC through the ACGME portfolio, facilitating a comparison of the program's performance to the specialty-specific national milestones. Finally, program directors and institutional officials will annually report program and institutional data to the RRC and ACGME.

This new system will provide the RRC with longitudinal data to track the program's educational performance, as well as assure the public and the residents that educational outcomes are commensurate with what the profession and the public expect. It also will provide program directors with national comparative information with which to judge the progression of their residents and fellows.

Should difficulties emerge in a program or sponsoring institution, the RRC will have the tools to interact with the program to assist in or facilitate timely remediation. This will prevent residents and fellows from prolonged exposure to deficiencies in the educational environment, as well as assure the public of the effectiveness of our educational system for physicians.

Let me say a word about intent. The intent of such a system is clear. First, it seeks to assure the public that the educational environment is safe, for them and for residents learning a clinical specialty. Second, it will contribute to educating residents in a humanistic fashion that fosters professionalism and commitment to their patients. A third goal is to reassure the public that physicians entering clinical practice have demonstrated the educational outcomes and proved their proficiency in all dimensions of the domains of clinical competency required to graduate from an accredited program.

It must be clear that such a system will not permit inadequate, unsafe, or unprofessional local environments to continue to educate our future physicians. It will assist such environments in improving, or facilitate their removal from the system. However, it also must be clear that such a system is built to systematically enhance the quality of education of

the next generation of physicians, based not on a belief about what educational process the RRC thinks is best, but based on the range of educational processes that actually produces the best demonstrated outcomes.

Such a system will be within our grasp within a few years. We have taken the first step by initiating the process of developing the Milestones. Three major specialties have been asked to undertake this task in the first phase, and begin to populate the portfolio. An Assessment Committee appointed by the ACGME Board of Directors 18 months ago is rendering its final report in September 2008, and will inform us of the work yet to be done to develop and utilize valid, reliable tools to evaluate the competencies.

Finally, we will work with our partners at the American Board of Medical Specialties to develop tools to be used in each specialty in the competencies of medical knowledge, patient care, and Practice-Based Learning and Improvement. And we will collaborate with other organizations, such as the National Board of Medical Examiners, to foster development tools in the four “horizontal competencies” of professionalism, interpersonal and communication skills, Practice-Based Learning and Improvement and Systems-Based Practice to bring valid and reliable tools to the task of evaluating learners. We will work with our partners in the educational world, such as the

“Our collective ability to assure the public and our residents that we have established specialty specific educational outcomes and can demonstrate proficiency in those outcomes in our graduates will validate the public’s trust in the graduate medical education system in the United States.”

Association of American Medical Colleges, the American Medical Association, the Association for Hospital Medical Education, the Alliance of Independent Academic Medical Centers, the Organization of Program Directors Associations and their specialty Program Directors Organizations, and other organizations involved in faculty development to enhance the evaluation and feedback skills of teaching and supervising faculty.

This journey will be a long one. However, our collective ability to assure the public and our residents that we have established specialty specific educational outcomes and can demonstrate proficiency in those outcomes in our graduates will validate the public’s trust in the graduate medical education system in the United States. Please join us on this journey! ■

Systems-Based Practice Defined: Developing Taxonomy to Identify Resident Roles and Measurable Behaviors

*Mark J. Graham, PhD, Zoon Naqvi, MBBS, EdM,
Kelli J. Harding, MD, Madahbi Chatterji, PhD, and
John A. Encandela, PhD*

Introduction

In medicine and the other health professions, there is a growing focus on providing services within the context and constraints of the health care system. This growing emphasis has emerged from a number of stimuli, including an increase in knowledge and technologies that require a more *systems-based*, rather than *individual practice* emphasis; increased attention to widely publicized health care errors; and consumers’ higher levels of information and expectations for access to a variety of services within a system of care.^{1, 2, 3, 4, 5, 6}

In medicine, an important goal of having physicians understand, and practice within, the larger systems of care is to enable them to assist patients in accessing a full range of services. In physician education, the focus on practicing within a system is reflected in the accreditation standards for resident and fellow education.

The Accreditation Council for Graduate Medical Education (ACGME) requires that all residents demonstrate competency in Systems-Based Practice (SBP). The other five competency areas designated by ACGME are Medical Knowledge, Professionalism, Patient Care, Interpersonal and Communication Skills, and Practice-Based Learning and Improvement. The ACGME defines Systems-Based Practice as the demonstration of “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.”⁷ To begin to operationalize this domain, the ACGME has stated that residents must obtain and demonstrate competency by meeting the following six expectations:

1. Understanding and working effectively in various health care delivery settings and systems relevant to their clinical specialty.
2. Coordinating patient care within the health care system relevant to their clinical specialty.
3. Incorporating considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate.
4. Advocating for quality patient care and optimal patient care systems.

5. Knowing how to partner with health care managers and health care providers to assess, coordinate, and improve health care and knowing how these activities can affect system performance.
6. Participating in identifying system errors and implementing potential systems solutions.

Our present purpose is to demonstrate use of a theoretical framework to identify the core elements embedded within the ACGME definition of SBP and to organize them into a taxonomy of resident roles, actions, and, finally, observable behavior in context. This taxonomy building process is a necessary, yet often overlooked, prerequisite for developing operational definitions and, eventually, valid measures to assess performance. A theoretical blueprint of the taxonomy is shown in *Figure 1* on page 7.

Building a taxonomy of SBP behaviors is important because the definition offered by the ACGME is appropriate in terms of defining what SBP is about, but it is ambiguous in terms of how to evaluate resident behavior.⁸ This is the classic problem for assessment to define – in highly specific, well-elaborated terms – exactly what it is that one is trying to measure.⁹ Researchers involved in developing assessments discover well into the process of piloting instruments that

“This is the classic problem for assessment to define – in highly specific, well-elaborated terms – exactly what it is that one is trying to measure.”

their ideas are more vague than they thought. This frequently requires a ‘return to the drawing board.’⁹ It is possible that the competency of Systems-Based Practice runs this risk as well. Thus, additional empirical efforts are required to analyze and make operational all the expectations listed within it. The explicit purpose of doing so is to reduce SBP’s *construct ambiguity* as much as possible.

One way to insure against this premature instrument piloting that we mention is to use already established and empirically tested theoretical models of measurement and evaluation in a step-by-step fashion. The *process model* of instrument development is one such approach.¹⁰ It stipulates a “design, check, revise, confirm” strategy, and ultimately provides guidelines for the design and validation of educational instruments. *Figure 2* illustrates the steps of the model through the lens of Systems-Based Practice, and more details are provided in the methods section.

Methods

To develop a comprehensive taxonomy for Systems-Based Practice we used qualitative methods organized within a two-stage process. The context is provided by two large, academic, urban medical centers in New York City, although the researchers realize there are other health care settings potentially with different attributes and needs that may affect the context of their SBP taxonomy. The goal is to have approximately 20 valid and reliable evaluation items emerge that will represent general SBP behavior. Our focus here is to describe the process of establishing the taxonomy and initial development and analysis of the items. These processes are graphically represented in *Figure 3*, which shows the steps that were taken at each stage. While the two stages are described separately – both were carried out at the same time – and the outcome from both ultimately will be ‘matched’ together.

The first stage entailed literature review and content analysis. It involved identifying the concepts and learning outcomes associated with each SBP Core Expectation. For this step, experts have recommended starting with a comprehensive review of the published literature¹⁰ and other written documentation (such as the actual ACGME Outcomes Project documents). A member of the research team (ZN), using content analysis, identified the essential elements for each of the six ACGME-SBP Core Expectations. The outcomes of this step are described in the Results section.

As shown in the blueprint (*Figure 1*) and in *Figure 3* (page 9), the second stage is independent from the first stage. Using a nominal group process methodology, the researchers conducted formal, methods-driven discussions with multiple groups of health care professionals (n = 88). Participants included nurses, social workers, attending physicians, and pharmacists, and this research is described in the literature.⁸ The aim was to gather opinions about the knowledge, skills and dispositions stakeholders believe to be necessary for residents to demonstrate competency in SBP. Once obtained, the researchers conducted a content analysis of this information to determine the themes emerging from the opinion statements.¹⁰ We define a theme as a representation of multiple, similarly worded opinion statements obtained from the stakeholder sessions that describe what they believe to be good resident behaviors related to Systems-Based Practice.

Three raters then used cross-validation and triangulation¹¹ to match the themes derived from the second stage to the behaviors identified in the first stage (*Figure 3*). It is important to note that to justify inclusion into the SBP taxonomy there had to be a direct and obvious connection – what we called a match (*shown in Figure 3*) – between the identified behaviors (Stage 1) and the themes that emerged from the stakeholder groups (Stage 2). A match is defined as occurring when a theme from the stakeholder groups in Stage 2 was overlapping with an action or behavior derived from the existing literature or

Figure 1
SBP Taxonomy Development Blueprint

	Action	Behavior		Context	Role		Item
Label	Key Action	Essential Behavior (Stage I)	Essential Behavior (Stage II)	Contextual Definition	Systems-Based Role		SBP Indicators
Source	ACGME-SBP Core Expectations	Published and Source Literature	Nominal Group Process Data (Graham et al, 2008)	Physician Experts	CanMEDS Literature	Current SBP Taxonomy	Current SBP Taxonomy
Definition	<i>Something residents can do to demonstrate their competence in SBP yet is, in its present form, described in a way that is not measurable.</i>	<i>A set of activities that multiple stakeholders (Stage II) as well as the published literature (Stage I) agree that residents do during their daily routine that demonstrates systems-based proficiency.</i>		<i>A behavior indicating competence in SBP that can be observed in a measurable way.</i>	<i>A representation of all key actions and essential behaviors that symbolize one of the ACGME's Core Expectations of SBP</i>		<i>Ratings of residents' competence in Systems-Based Practice</i>
How Extracted?	From ACGME-SBP Text	Theme Identification from Literature and Source Text	Theme Identification from All Stakeholder Opinion Statements (Aggregated)	Established Context and Content	From CanMEDS Text	From Current SBP Taxonomy Development Process	From Current SBP Taxonomy Development Process
Outcome	Six Key Actions Identified	Match => 35 Essential SBP Behaviors		Numerous examples (+100)	Six Overarching Roles		Through Iterative Culling => 42 Items Representing Each Role
Example(s)	Identify System Errors	e.g.: <i>Identify system constraints; Suggest system improvements.</i>		e.g.: <i>Resident discusses proper protocols to perform procedures.</i>	System Evaluator		<i>I have observed [resident] providing constructive feedback to [interns, nurses] about performing procedures.</i>
Remaining Problem(s)	Not observable Not measurable	Identified behavior Not yet observable or measurable		Closer to being observable and measurable	Role alone is not observable through context in SBP taxonomy		None. Observable and Measurable

documentation found in Stage 1. As illustrated in *Figure 3*, this match joined Stage 1 and Stage 2. *The final SBP Taxonomy consists of only the themes and behaviors that met this threshold.*

After the matching of behaviors to themes was complete by the three researchers, we confirmed the process by asking physicians with expert knowledge about residency programs (n = 4: two attending physicians, one fellow, and one chief resident) to meet with a member of our team (ZN) individually. Once the confirmation of what matched was complete (over after several iterations) and indicators were written, an additional task was to have the experts help make operational each new indicator of the new SBP Taxonomy. For each indicator, we asked our experts to provide examples of routine activities that residents do which are relevant to the “system”. Their examples became the contextual definitions, which are defined as a behavior indicating competence in SBP that can be observed in a measurable way.¹²

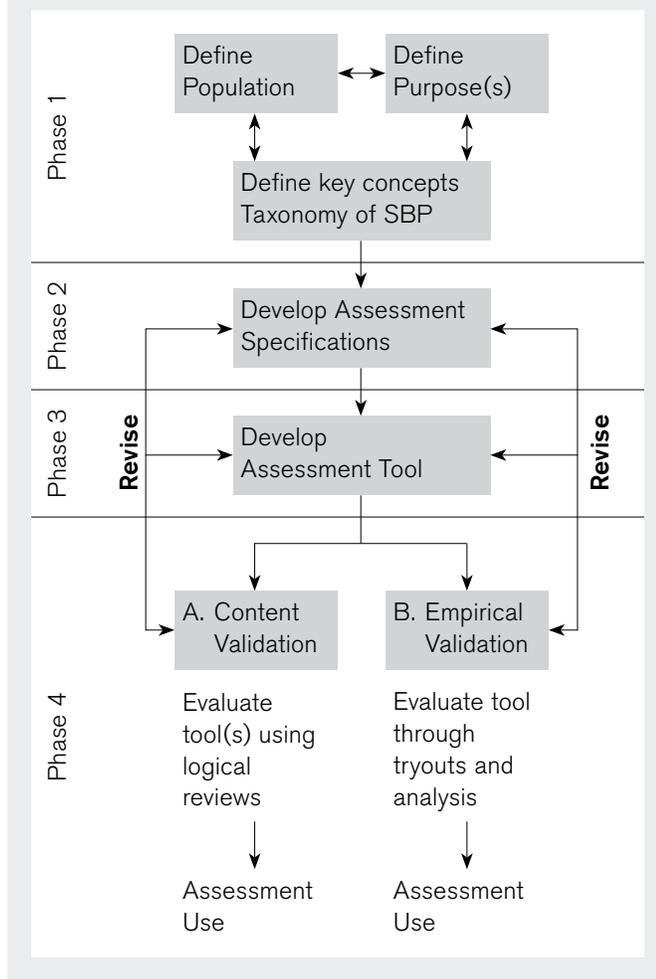
The final step to complete the SBP taxonomy was to group and classify the contextual definitions in a meaningful way into performance-oriented resident roles. We define residents’ role in SBP as a representation of all key actions and essential behaviors that symbolize one of the ACGME’s Core Expectations of SBP. To reiterate, the final SBP Taxonomy consists solely of the actions and behaviors that could be matched and contextually defined by expert physicians. The content of the final taxonomy and resulting resident roles in SBP will now be described. At the end of the description, for illustrative purposes only, the SBP evaluation items that resulted from the taxonomy development process are displayed through the results of exploratory factor analysis (*shown in Figure 5*). Within our on-going research efforts, these items continue to be tested and refined using psychometric methodology like Rasch analysis.¹³

Results

First, using content analysis, we identified key and essential language of each ACGME-SBP expectation, and then converted this into what we now call the key action. The final SBP Taxonomy is presented in *Figure 4*. To illustrate its content and use, we offer the following example. The key action nested within the core expectation for the resident to “*incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate*” was identified as, simply, “*perform cost-benefit analysis.*” For the purposes of the present study, we further define the key action term to mean something residents can do to demonstrate their competence in SBP yet is – in its present form – described in a way that is not measurable. Thus, the key action extracted from the SBP expectation – perform cost-benefit analysis – by itself, is not measurable.

Continuing with the current example, to create a behavioral definition for the key action “perform cost-benefit analysis” we incorporated from the published literature the efforts of different researchers to identify the following relevant behaviors: “perform cost-benefit analysis” and “use resources.”^{14, 15} Regarding the obvious terminology overlap, we expected that there would be redundancies with the SBP language of the ACGME. We then went through the list of stakeholder opinion statements obtained from the nominal group process.⁸ From this, we extracted words that described residents’ knowledge, skills, and dispositions. We deemed that these words represent what each group of stakeholders personally believes necessary for residents to demonstrate competency in SBP. Upon completion of the matching procedure described in the Methods section, the combined list from Stage 1 and Stage 2 identified what we call the SBP essential behaviors for residents. In other words, an SBP essential behavior is a well-constructed list of activities that multiple

Figure 2
Process Model of Designing Educational Tools for Systems-Based Practice



stakeholders as well as the published literature agree that residents do during their daily routine to demonstrate proficiency. As can be seen in *Figure 5*, 32 such behaviors were extracted.

It was at this point that the expert physicians were brought in to establish the context and content for each of the 32 SBP Essential Behaviors identified. Context and content here refers to the Contextual Definition for the behaviors. When defined at this level, the roles, actions, and behaviors identified through our matching process are now a giant-step closer to being observable and, ultimately, measurable. In the final step, we asked our expert physicians to take each contextual definition and give examples of how it could be observed (e.g., for ‘practices professionalism’ an example behavior identified by the expert physician group was ‘the resident answers pages promptly’).

Drafts of more than 100 SBP items were written, which are presently being subjected to rigorous validation methodology (e.g., Item Response Theory and Rasch Analysis). The goal

is to reduce the initial number of 100 to about 20 rating items. Within the limitations of our research design, the final outcome should be a short and concise SBP instrument that succinctly and reliably represents general SBP behaviors for residents. Examples of the items created and the findings from an initial exploratory factor analysis are presented in *Figure 4*. All items had a structure similar to the following: “On a scale of 1–5 [1 = never or not applicable, 2 = rarely (once or twice during the rotation), 3 = sometimes (5–10 times during the rotation), 4 = many times (11–15 times during the rotation), and 5 = most of the time (more than 15 times during the rotation)], I have observed this resident conducting detailed and prioritized sign-outs.”

Discussion

An extensive examination of the ACGME’s Systems-Based Practice (SBP) competency requirement was conducted based on a theoretical model of instrument development and using multiple, triangulated data sources. This study provides a taxonomy of broad roles, actions, and behaviors for residents to demonstrate effective System-Based Practices, and it introduces some evaluation items at the initial stages of validation.

For the development of valid and reliable educational tools, the construction of this SBP taxonomy has demonstrated the application of the first phase of Chatterji’s iterative *Process Model* as adapted to SBP in *Figure 1*.^{10, 13} This first phase involves defining the purpose of the SBP competency, what population is to be evaluated, and what key concepts can be extracted from existing SBP definitions. Through the theoretical lens of this model, we aspired to do a ‘validation in context’ – which is argued to be a pre-requisite activity to minimize measurement errors when dealing with educational concepts that are not tangible. In principle, Phase I of this model requires Identification of Stakeholders and Taxonomy Development to be done prior to Instrument- or Item-Development (Phase II and Phase III). We believe that what we have described is one way of going about defining SBP – succinctly, and in a context that renders it measurable. The same principle could be applied to other ACGME competencies which are proving difficult to conceptualize or measure (e.g., Practice-Based Learning and Improvement or Professionalism).

In the present study the SBP Taxonomy development is the initial phase of the item writing and validation process. The taxonomy is a framework that can be used to guide residency programs in developing valid assessment tools for measuring competence. Another intended outcome of the present effort is that residency programs may gain a better understanding of how to develop and use such a methodology to better inform the content of their ACGME competency-related curricula or their own internal assessment and evaluation processes.

Figure 3
Two-stage Model of Taxonomy Development

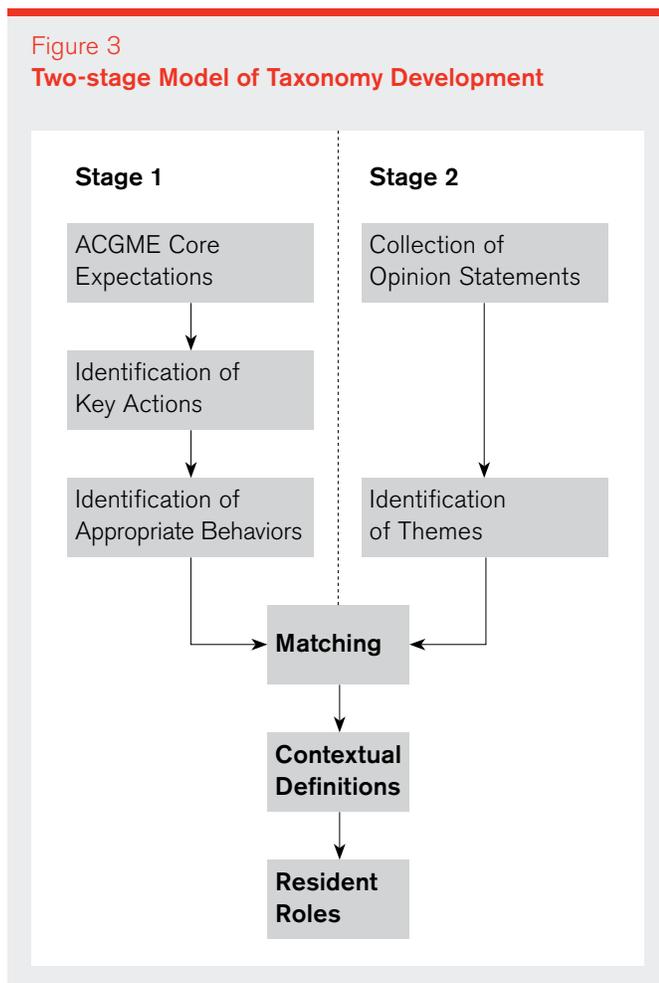


Figure 4
The Systems-Based Practice Taxonomy

Role	Action	Behavior	Contextual Definition
<i>Resident as:</i>	<i>Must:</i>	<i>By:</i>	<i>For instance:</i>
Care Coordinator	Understand effects of practices on the system	Demonstrating patient care	Collect patient information; perform procedures; follow-up; plan care
		Practicing professionalism	Demonstrate responsibility; reliability; confidentiality; availability; courteousness; leadership; organization.
System Consultant	Understand the system delivery	Knowing different delivery systems	Distinguish between different systems; utilize different systems; be familiar with patient insurance information
		Recognizing resources	Identify resources; be aware of costs
		Educating patients	Advise; guide; and empower patients
Resource Manager	Practice cost effectiveness in resource use	Performing cost–benefit analysis	Understand; make cost-effective decisions.
		Using resources	Monitor resources; allocate resources
		Providing quality care	Suggest improvements; changes/modifications; understand quality assurance
Patient Advocate	Believes in patient advocacy	Giving priority to patients' needs	Put patients needs first, sensitivity
		Working within system constraints	Limitations, restraints and constraints
Team Coordinator	Use team approach	Communicating with health care personnel	Demonstrate verbal communication; written communication; networking; manage relationships
		Taking interdisciplinary approach	Recognize the role of other services; multi-disciplinary assistance
System Evaluator	Identify system errors	Conducting systematic analysis of the system's processes	Discuss protocols to perform procedures
		Identifying errors and constraints; suggest improvements, changes, modifications	Report evidence-based benefits and risks for treatment plans

Figure 5
Preliminary SBP Items and Exploratory Factor Analysis

Sub-Domains	Items	Factor					
		1	2	3	4	5	6
Collect info	Verifying prior health information (past history) of inpatients from multiple sources (like patient, patient's family, etc.), when necessary and available.	.795	-.013	-.007	.015	-.110	-.083
Collect info	Contacting the patients' previous health care providers on admission	.697	.069	.110	-.108	-.221	-.134
Use Interdisciplinary approach	Referring patients to appropriate services	.666	.050	-.102	.017	-.004	.119
Provide Multidisciplinary assistance	Responding promptly to calls from other disciplines	.631	-.012	-.090	.009	.203	.156
Perform procedures	Employing preventive measures (like disposal of used needles) to avoid risks to other health professionals	.622	-.005	.087	-.038	.008	-.081
Demonstrate Reliability	Answering pages promptly	.606	-.170	-.083	-.074	.292	.154
Demonstrate Organization	Conducting detailed and prioritized sign-outs	.493	-.034	.009	.038	.046	.047
Adhere to Protocols	Following the approved protocols for conducting procedures (e.g. phlebotomy, intravenous puncture, splinting, central venous line placement, etc.	.453	.044	.145	.062	.047	-.130
Understand insurance structures	Discussing health insurance with Patients and families	-.023	.784	.052	-.124	.025	.062
Understand insurance systems	Discussing health insurance with residents	.041	.637	-.056	-.052	-.005	.164
Empower patients	Discussing limitations of different insurance plans with patients and their families	-.091	.605	.045	.053	.073	-.137
Understand financial systems	Considering costs while selecting procedures like CAT scans	.048	.587	-.131	-.020	.073	.052
Guide patients to resources	Referring patients and their families to financial advisors when needed	.036	.562	-.054	.293	.074	-.277
Select appropriate system	Discussing alternative and complementary treatments (like acupuncture, chiropractic, aromatherapy, etc.) with patients and families	-.100	.533	-.025	.083	-.016	-.007
Communicate	Interacting with Pharmacists	-.040	-.076	.758	.041	-.006	.127
Communicate	Interacting with Therapists (physical, occupational, respiratory)	-.065	.070	.758	.015	.068	-.017
Communicate	Interacting with Social workers	.257	-.059	.612	.037	-.034	.071
Communicate	Interacting with Nurses	.090	-.224	.436	-.030	.146	.136
Give priority to patients' needs	Making adjustments (demonstrate flexibility) to work around Non-availability of relevant staff	-.081	-.054	-.020	.844	.031	.280
Show sensitivity	Making adjustments (demonstrate flexibility) to work around Delay in getting the lab reports	.057	-.085	.097	.836	-.053	.031
Give priority to patients' needs	Making adjustments (demonstrate flexibility) to work around Unavailability of the Internet	-.024	.072	.023	.748	.011	.049
Use resources	Managing documentation of medical records with minimal errors	.022	.025	.161	-.027	.747	-.099
Monitor resources	Using electronic ordering system with minimal errors	.043	.081	-.013	-.006	.715	.009
Use resources	Accessing translation services when needed	.242	.124	.020	.060	.354	-.134
Suggest improvements	Providing constructive feedback to Fellow residents	.062	-.017	.100	.189	-.044	.674
Suggest improvement	Providing constructive feedback to Social workers	-.143	.206	.443	-.073	-.016	.473
Suggest improvement	Providing constructive feedback to Nurses	-.210	.205	.428	-.079	.022	.468
Suggest improvement	Providing constructive feedback to Medical students	.281	-.022	.206	.197	-.114	.326
Reliability		0.83	0.79	0.79	0.87	0.70	0.77

Limitations

A limitation for the development of the SBP Taxonomy and, eventually, the items for the SBP Competency Assessment Instrument is that it was performed in only two large urban academic institutions. This could contribute to the exclusion of some SBP-related Roles and Behaviors prevalent in smaller hospitals, clinical practices and non-urban venues.¹⁶ We recommend that other educators and researchers independently develop and validate the SBP construct by using procedures similar to the process model.

“One very practical outcome of a well thought through taxonomy is the ease in which instrument items can be generated, and how well these items group together to represent a ‘composite’ behavior (e.g., “advocate for quality patient care”) that would otherwise be difficult to attain without much trial and error.”

An additional limitation is that the Roles, Behaviors, Contextual Definitions (or, alternatively, Definitions in Context), and initial SBP Instrument Items that emerged in the SBP Taxonomy indicated an unexpected subtle complexity. There appears to be an emerging interaction of *higher-order thinking* and *complex social behaviors* oftentimes together required to demonstrate competence in SBP (such as ‘*discussing limitations of different insurance plans with patients and their families*’). In this example, knowing the limitations of insurance plans is a higher-order thinking skill, and being able to present that information effectively to a patient or family member is a complex social behavior. Both are required for a behavior observation to occur, and one is needed to set the stage for the other. Future research endeavors should address this thinking-behavior interaction present in SBP in a more systematic way.

Conclusion

To assess any competency objectively, a theoretical model of educational tool development suggests that educators must first identify the salient features that comprise the competency area.¹³ In the ACGME’s SBP definition the concepts are stated in broad, largely immeasurable terms like “advocate for quality patient care.” While the intent of why concepts such as this are part of the ACGME’s competency emphasis is clear, evaluating a resident with this language is limiting due to how diversely a rater may interpret the word ‘advocate.’

The resulting SBP taxonomy developed herein shows that the core elements of the ACGME’s definition of SBP can be linked to actual resident behavior and performance. From this perspective, item writing for formative or summative rating of residents’ SBP behaviors should then be a much easier and more productive process. One very practical outcome of a well thought through taxonomy is the ease in which instrument items can be generated, and how well these items group together to represent a ‘composite’ behavior (e.g., “advocate for quality patient care”) that would otherwise be difficult to attain without much trial and error. ■

Mark J. Graham, PhD is Assistant Professor of Clinical Psychology in Psychiatry and Director of Education Research in the Center for Education Research and Evaluation at Columbia University Medical Center; Zoon Naqvi, MBBS, EdM, works in the Center for Education Research and Evaluation at Columbia University Medical Center; Kelli J. Harding, MD, is Assistant Professor of Clinical Psychiatry and Assistant Director of Psychiatry Education at Columbia University’s College of Physicians and Surgeons; Madhabi Chatterji, PhD, is the Associate Professor of Measurement- Evaluation and Education and Co-Director, Assessment and Evaluation Research Initiative in the Campaign for Educational Equity at the Teachers College, Columbia University; and John A. Encandela, PhD, is Director of the ACGME Outcomes Project at New York Presbyterian Hospital at Columbia and Cornell.

The Stemmler Fund for Medical Education Research from the National Board of Medical Examiners supported this research. All findings and statements exclusively represent the opinion of the authors. An earlier draft of this paper was presented in March 2008 at the Annual Conference of the American Education Research Association, Division I, in New York, NY. The authors would like to thank Nicole Borges, PhD, Director of Medical Education Research, Wright State University, for her scholarly critique of an earlier version of this manuscript.

¹American College of Physicians (ACP) (2008). Achieving a high-performance health care system with universal access: What the United States can learn from other countries. *Ann Int Med.* 148(1), 55–75.

²Institute of Medicine, Committee on Quality of Health Care in America (2001). *Crossing the quality chasm: A new health system for the 21st century.* Washington, D.C.: National Academy Press.

³Lancet (2001). Educating doctors for world health. *Lancet: London.* 358(9292).

⁴Owen JW, Roberts O. (2005) Globalization, health, and foreign policy: Emerging linkages and interests. *Global Health.* 1(12), 1744–8603.

⁵Palmer KT, Harling CC, Harrison J, Macdonald EB, Snashall DC. (2002). Good medical practice: Guidance for occupational physicians. *Occup Med.* 52(6), 341–352.

⁶Romanow R. (2002). *Building on values: The future of health care in Canada.* Commission on the Future of Health Care in Canada.

⁷ACGME outcomes project webpage (2007). <http://www.acgme.org/outcome/compFull.asp#6>, accessed August 23, 2008.

-
- ⁸Graham MJ, Naqvi Z, Encandela JA, Bylund CL, Dean R, Breckheimer AC, Schmidt HJ (2008). What indicates competency in Systems-Based Practice? An analysis of perspective consistency among healthcare team members. *Advances in Health Sciences Education*. <http://dx.doi.org/10.1007/s10459-008-9106-6>
- ⁹DeVellis RF (1991). *Scale development*. Newbury Park, NJ: Sage Publications.
- ¹⁰Chatterji M, Sentovich C, Ferron J, Rendina-Gobioff G (2002). Using an iterative model to conceptualize, pilot test, and validate scores from an instrument measuring teacher readiness for educational reforms. *Educ Psychol Meas*. 62(3): p. 444–465.
- ¹¹Dobratz MC (2006). Enriching the portrait: methodological triangulation of life-closing theory. *Adv Nurs Sci*. 29(3): p. 260–70.
- ¹²Chatterji M (2003). *Designing and Using Tools for Educational Assessment*. Boston, MA: Allyn & Bacon.
- ¹³Smith EV, and Smith RM (2004). *Introduction to Rasch Measurement: Theory, Models and Applications*. Maple Grove, MN: JAM Press.
- ¹⁴Tomolo A, Caron A, Perz ML, Fultz T, Aron DC (2005). The outcomes card. Development of a Systems-Based Practice educational tool. *J Gen Intern Med*. 20(8), 769–771.
- ¹⁵Englander R, Agostinucci W, Zalneraiti E, Carraccio C. (2006). Teaching residents Systems-Based Practice through a hospital cost-reduction program: a “win-win” situation. *Teach Learn Med*. 18(2): p. 150–2.
- ¹⁶Ranz JM, Vergare MJ, Wilk JE, Ackerman SH, Lippincott RC, Menninger WW, Sharfstein SS, Sullivan A. (2006). The tipping point from private practice to publicly funded settings for early- and mid-career psychiatrists. *Psychiatr Serv*. 57(11): p. 1640–3.

The Cleveland Clinic Lerner College of Medicine’s Experience with Competency- Based Assessment: A Natural Transition to Residency

Andrew J. Fishleder, MD

The Accreditation Council for Graduate Medical Education (ACGME) has refocused graduate medical education (GME) assessment from a traditional approach based on standardized testing, documentation of clinical experience, and global evaluation of clinical skills, to a competency assessment model addressing defined standards of performance. This revolution in the national approach to assessment of residents and fellows has enhanced the quality of performance feedback to residents and, importantly, has broadened the focus of faculty attention to include such critical elements of practice as professionalism, communication skills and an understanding of health care systems. Although challenging to implement, this new approach has significantly enhanced the quality of the US GME system.

“Residencies may benefit by wider implementation of new assessment methods in medical school that address a range of medical student attributes as part of the continuum of medical education and physician professional development.”

In contrast to these major advances in GME, the majority of medical schools in the United States continue to primarily focus assessment on medical knowledge and clinical skills, evaluating student performance based on comprehensive, school-specific tests, standardized national examinations and observation of clinical performance in various disciplines. This system tends to be lacking, however, in assessing critical, cross-disciplinary competencies such as communication skill and professionalism. Self-directed learning and reflective practice are likewise not formally assessed in most US medical schools, and not necessarily a focus of professional skill development during undergraduate medical education. Residencies may benefit by wider implementation of new assessment methods in medical school that address a range of medical student attributes as part of the continuum of medical education and physician professional development.

US medical schools are beginning to explore the use of educational portfolios and/or competency-based assessment in their curriculum.^{1,2,3} This article describes the Cleveland Clinic Lerner College of Medicine's (CCLCM) experience with a non-traditional, fully integrated competency-based assessment process. The CCLCM was established in 2004, with a mission to train physician investigators, and a curriculum and assessment process designed to achieve specific attributes in program graduates (*Table 1*).^{4,5} The faculty felt that new approaches to assessment were needed to achieve this objective, since standard models of assessment that tended to direct students to study curricular content to pass examinations were not able to foster attributes such as “self-directed learning” and “critical thinking skills.” The latter requires providing feedback to students to offer information on performance and facilitate improvement. As such, our competency assessment system was designed with a primary goal to enhance student learning and foster the attributes that faculty considered essential to future professional success. Nine core competencies were identified (*Table 2*), and expected standards of performance defined for specific intervals in the curriculum. The majority of these core competencies map directly to the ACGME competencies and thereby serve as a natural transition to performance expectations during residency.

In the context of this new model, the faculty decided to eliminate comprehensive examinations and grades that encourage “studying to the test” and create a competitive rather than cooperative learning environment. In their stead, competency-based feedback regarding an individual student's strengths and weaknesses is provided from multiple sources to expand student cognizance of their own performance and facilitate student ability to improve in areas of deficiency. In support of this approach, a portfolio system was designed as

Table 1
Graduate Attributes

- Independent Thinkers**
- Self-Directed Learners**
- Team Players**
- Strong Clinical Skills**
- Broad-Based Research Knowledge**
- Scientifically Inquisitive**

Table 2
Core Competencies

- 1. Research**
- 2. Medical Knowledge***
- 3. Communication***
- 4. Professionalism***
- 5. Personal Development***
- 6. Clinical Skills***
- 7. Clinical Reasoning***
- 8. Health Care Systems***
- 9. Reflective Practice***

*Map to ACGME Competencies

a framework that requires students to provide self-assessment and evidence (e.g., feedback forms) documenting their progress in each core competency as well as proposed plans for performance improvement. Clinical grades such as “honors” on specific clinical rotations were replaced by a system in which individual achievement is assessed in comparison to defined standards of performance, a process that facilitates progressive building of skills across disciplines and eliminates subjective comparisons between students. Although this creates challenges in terms of communicating student achievement on a typical transcript, it provides opportunities to convey a richer data set regarding student competency.

CCLCM's experience with a portfolio-based competency assessment system suggests that this process adds significant value as a component of medical student evaluation from several perspectives. First, competency assessment broadens the focus of faculty feedback to encompass attributes that are critical to professional success such as professionalism and communication skills. As many program directors will attest, the problematic resident not uncommonly demonstrates deficiencies related to professionalism or communication skills despite appearing exemplary on a transcript that provides grades focused primarily on medical knowledge and clinical skill. Similarly, the literature suggests that professionalism issues in medical school are predictors of future disciplinary action by state medical boards.⁶ Secondly, feedback in a competency assessment system facilitates the ability of students

to better understand their strengths and weaknesses and places responsibility on students for their own learning. This is the essence of self-directed learning, self-assessment, and reflective practice, characteristics that makes for strong residents and that are critical to long-term success as a physician and/or as an investigator. The portfolio process further fosters this “reflective practice” ability as it requires students to formally self-assess their performance.

Finally, competency assessment in medical school becomes a natural continuum in a young physician’s progress to resident education, and creates a cultural shift where responsibility for self-directed learning occurs at the transition from undergraduate education to medical school, rather than medical school to residency. Medical students who train in a competency-based curriculum should naturally adapt to competency-based assessment during residency, without the learning curve required by those who are assessed by traditional methods in medical school.

“Our early experience further indicates that interventions during medical school based on performance feedback can favorably impact on a student’s professionalism, communication skill, and reflective practice ability prior to residency matriculation.”

The ACGME has provided valuable leadership to the field of medical education with implementation of competency-based assessment as the foundation for GME. The ACGME is now exploring the use of portfolios to document resident competency and several organizations including the ACGME, the National Board of Medical Examiners, and the Federation of State Medical Boards, along with representatives from the Association of American Medical Colleges are further examining the use of portfolio systems to document competency throughout a physician’s career. The approach taken at CCLCM suggests that a competency-based assessment model in medical school broadens the focus of student assessment and strengthens student responsibility for performance improvement. Our early experience further indicates that interventions during medical school based on performance feedback can favorably impact on a student’s professionalism, communication skill, and reflective practice ability prior to residency matriculation.

Change is always difficult, as evidenced by the ACGME competency assessment initiative, but the outcome clearly merited addressing the effort. Implementation of new assessment methods in medical school will likewise undoubtedly be

challenging, but such change may serve to benefit students, residency directors and the patients we serve. The evolution of competency-based assessment in medical school may in part be dependent upon residency program director expectations regarding documentation of medical school graduate competency. ■

Andrew J. Fishleder, MD is the Executive Dean, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University.

¹Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting Paradigms: From Flexner to Competencies. *Acad Med.* 2002;77:361–367.

²Dunnington GL, Wright K, Hoffman K. A Pilot Experience with Competency-Based Clinical Skills Assessment in a Surgical Clerkship. *Am J Surg.* 1994;167:604–607.

³Pololi LH, Coletta EM, Kern DG, et al. Developing a Competency-Based Preventive Medicine Curriculum for Medical Schools. *Am J Prev Med.* 1994;10(4):240–244.

⁴Fishleder AJ, Henson LC, Hull AL. Cleveland Clinic Lerner College of Medicine: An Innovative Approach to Medical Education and the Training of Physician Investigators. *Acad Med.* 2007;82(4):390–396.

⁵Dannefer EF, Henson LC. The Portfolio Approach to Competency-Based Assessment at the Cleveland Clinic Lerner College of Medicine. *Acad Med.* 2007;82:493–502.

⁶Teherani A, Hodgson CS, Banach M, Papadakis MA. Domains of Unprofessional Behavior During Medical School Associated with Future Disciplinary Action by a State Medical Board. *Acad Med.* 2005; 80(10 suppl):S17–S20.

Resident Mental Health Services at the Medical College of Wisconsin

Leandrea S. Lamberton, MD, Sara A. Dittl, MA, and Mahendr S. Kochar, MD, MS, MBA

The Medical College of Wisconsin Affiliated Hospitals (MCWAH) Mental Health Program was developed in 1987, as a direct result of a resident's suicide, to help the residents maintain optimum mental health throughout their education. Since its inception, it has been run through the Department of Psychiatry at the Medical College of Wisconsin. Currently, the Director of the Resident Mental Health Program is a psychiatrist and the Referral Coordinator, a master's level clinician who assists residents in finding an appropriate clinician and treatment. The services of the Mental Health Program are available to all of the 760 MCWAH residents and their families.

The goal of this article is to describe the program's evolution and components. In the past two years, the Mental Health Program has evolved with an increased emphasis placed on encouraging residents to take a proactive approach to their own mental health needs.

"We have established a series of mental health related interactive lectures which are given in the individual residency programs during their didactic time or on a quarterly basis to all residents throughout the year, covering substance abuse, fatigue, burnout, giving and receiving feedback, depression, anxiety and insomnia, stress management and conflict resolution."

Mental Health Education

Mental health and overall well-being of the Medical College of Wisconsin's residents is important for their professional success and we believe it is necessary to take a proactive approach to mental health of the residents. We have established a series of mental health related interactive lectures which are given in the individual residency programs during their didactic time or on a quarterly basis to all residents throughout the year.

There are seven main topics which are covered throughout the year; they are: substance abuse, fatigue, burnout, giving and receiving feedback, depression, anxiety and insomnia, stress management and conflict resolution. In addition, at each lecture, we inform the residents about the mental health services available for them through MCWAH, and how to access help. We also discuss the reasons that a resident would benefit from mental health treatment. *Table 1* summarizes the seven topics.

The Mental Health Program

We have worked hard to make the foray into mental health treatment as easy as possible for residents. Our residents are able to access the Mental Health Program as soon as they are aware of any psychological difficulties. The residents are apprised of the mental health services and insurance benefits at the time of initial orientation. Brochures are handed out and the Director and Referral Coordinator speak to the residents about the services and the importance of seeking help when it is needed.

Residents can call the referral line directly and speak with the Referral Coordinator. The residency program directors can also initiate the referral. We make sure to have an appointment available within three days for a resident or a resident's family member when they call for services, and we often make same day or next day appointments.

Confidentiality is upheld at every level. For the last ten years, the residents and their families have been provided with a blinded alphanumeric code that is utilized for scheduling, billing, and labeling of the chart. By doing this, it ensures protection of their identity within our shared scheduling system. Due to resident concerns regarding anonymity, this has made it easier for them to access services.

The main treatment providers on our panel are psychiatrists and psychologists, as well as master's level clinicians licensed in the state of Wisconsin. The Referral Coordinator tries to obtain enough information to make the best referral for the patient, but we also let them know that the treatment relationship is essential for good psychological care and encourage them to let us know if the initial referral was not a good fit.

Each of the residents, their spouses and their children are entitled to three unbilled visits per academic year (July 1–June 30). These enhanced visits are not charged to the patient or their insurance health plan. The cost for these visits is covered by MCWAH. This gives them incentive to get help without worrying about cost or co-pays. After three visits, they have \$4,000 per individual in benefits per academic year for outpatient care. Often providers on the panel discount the fee

for therapy so that residents can be seen weekly. In addition, the residents have access to 100% coverage for 30 days of inpatient care.

The Mental Health Program Director also attends the monthly meeting of MCWAH's Graduate Medical Education Council (GMEC), reports on the services being provided and addresses any concerns that the Council members may have. She has established a rapport with the residency program directors and addresses issues related to residents' mental health before they become problems. The Mental Health Program Director is also a member of MCWAH's Housestaff Health and Welfare Committee (HHWC) which is made up of resident representatives from each program and is dedicated to making changes that are needed to improve resident well-being. The Coordinator of Mental Health Services attends the meetings if the Director is absent.

The Mental Health Program Director also carries a cell phone which residents can call at any time if they are experiencing a psychological emergency. Residents are assured that they will always be able to speak directly with a psychiatrist who can manage any acute crisis.

Fitness for Duty

In the past, the Mental Health Program used to perform fitness for duty evaluations which were non-confidential psychiatric assessments of residents at the request of the residency program directors when a resident seemed to have mental health related work issues. This was recently changed as the legality of this practice came into question. Until the 2006–2007 academic year, fitness for duty evaluations could be mandatory per the resident's Program Director prior to returning to work. These evaluations were rare, averaging two to four per academic year. Clinically, the required nature

Table 1
Lecture Topics Presented by the Department of Psychiatry for Medical College of Wisconsin Residents

Topics	Description
Substance Abuse	Highlight risk factors for physicians. Overview of how to obtain help should substance abuse be suspected in a resident/colleague.
Fatigue	Overviews of normal sleep cycle and sleep hygiene. Symptoms of fatigue and its negative impact on functioning. Strategies provided for getting adequate amount of sleep during on-call or floating rotations.
Burnout	Causes for burnout specified and paired with simple and reasonable coping strategies.
Giving and Receiving Constructive Criticism	Purpose of feedback and the psychological implications of receiving negative feedback. Mechanisms and pitfalls of giving and receiving positive and negative feedback.
Depression, Anxiety, Insomnia	Discuss primary symptoms and clinical presentation seen in residents suffering from each disorder. Overview of treatment with case examples.
Stress Management	Highlight most common stressors in residency with simple techniques to manage stress.
Conflict Resolution	Identify causes of interpersonal conflict within a group/ organization. Group work involving role play to illustrate difficult situations and how they can be managed.

of the evaluations was determined to be more of a detriment to treatment and, therefore, potentially more stigmatizing. Currently, the residency Program Directors can inform the resident of their concerns and the mental health services that are available without making treatment mandatory. Generally, encouragement to seek services has been more effective for the residents as they are not being forced into a mental health evaluation that will be shared with their Program Director.

Results

In 2005 we began collecting data on the numbers of residents seen per year and the number of “free” sessions given. In 2005–2006 the Mental Health Program provided 174 and in 2006–2007, 224 “free” sessions; 70% of the visits were by residents and 30% by spouses.

“The most common diagnosis is Adjustment Disorder, usually with anxiety or depression or a combination of both.”

The most common diagnosis is Adjustment Disorder, usually with anxiety or depression or a combination of both. The next most common diagnosis is depression spectrum, anxiety spectrum, attention deficit hyperactivity disorder (ADHD) and insomnia. Most commonly, residents are treated with either medications alone or medications and therapy.

The Mental Health Program Director receives an average of 15 after-hours calls per year and they have all been appropriate.

Conclusion

Due to the confidential nature of the referral line and the nearly immediate response to resident concerns, mental health services are now more readily accessible to the residents and fellows and their dependants. Over the last three years, the stressful nature of residency has been repeatedly confirmed through phone calls from residents and their families. While the Residency Mental Health Program has met its goal, we intend to expand it to assist the residents in learning healthy coping mechanisms for handling stress throughout life. ■

Leandrea S. Lamberton, MD is an Assistant Professor of Psychiatry and the Director of the Resident Mental Health Service; Sara A. Dittl, MA is the Coordinator of Resident Mental Health Service and Mahendr S. Kochar, MD, MS, MBA is DIO and Executive Director of the Medical College of Wisconsin Affiliated Hospitals, Inc. and a Professor of Medicine and of Pharmacology and Toxicology, and the Senior Associate Dean for Graduate Medical Education at the Medical College of Wisconsin.

For additional information about the program, contact Leandrea Lamberton, MD, Department of Psychiatry, Medical College of Wisconsin, Tosa Center, 8701 Watertown Plank Road, Milwaukee, WI 53226, Phone: (414) 456-8910, E-mail: lprosen@mcw.edu

Resident Teaching Skills Courses: What is the Evidence for Effective Instruction?

Jack R. Scott, EdD and Franklin J. Medio, PhD

Residents are expected to teach in didactic, out-patient/ambulatory clinic, and bedside settings. They are important teachers of medical students and more junior residents and often serve as medical students' primary supervisors, especially in these settings. It is in their clinical teaching role that residents often have greater student contact than the attending physicians. Yet programs often find it difficult to instruct residents in "how to teach" in a time-efficient and cost-effective manner.

The early medical education literature indicates that residents spend 20% to 25% of their time supervising, teaching, and evaluating others.^{1,2} In addition, students claim that residents are responsible for a significant portion of their knowledge derived during clerkship and other learning experiences.³ However, only half of residency programs offer any guidance in how to teach or have formal teaching instruction.⁴ Furthermore, accreditation and policy groups (i.e., Association of American Medical Colleges; the Liaison Committee on Medical Education; and the Accreditation Council for Graduate Medical Education) advocate for improved teaching competencies and teaching skills assessments for residents.

Likewise, the Alliance for Academic Internal Medicine Education Redesign Task Force believes that the educational needs are based on several recommendations. One relevant recommendation is using a 'core faculty' model in fostering education and professional development of residents.⁵ However, implementation of duty-hour restrictions may impede the residents' role in teaching, especially in the most common settings for medical student education (e.g., clinic, operating room, and ward rounds).^{6,7}

While residents desire to improve their teaching role, there are few reliable instructional methods and learning outcomes that demonstrate compelling evidence to resident effectiveness when facilitating knowledge, skills and attitude improvements. Residents play an important role as teachers but are afforded little formal instruction. Thus, it is imperative that we discover the most effective methods to prepare them for their teaching role. A systematic review of the literature offers guidance in describing effective models for resident teaching. We augment these models with our experience to provide some practical methods for designing resident teaching skills curricula.

Systematic Reviews

A review of the pertinent literature sheds light on resident teaching methods for improvement and effectiveness. Wamsley and colleagues⁴ offer the most comprehensive and intensive review of residents-as-teacher curricula. They included PubMed medical subject headings (MeSH) for "internship and residency" and "teaching." Inclusion criteria (e.g., learner evaluation of residents, objective structured teaching examination and/or rated videotape reviews, intervention and controls, post-post cohort studies, nonrandomized controlled trials, etc.) were considered to narrow results of the search to 14 articles.

The comprehensive review by Gill and Frank⁸ examined the literature for improved neurology resident teaching ability. They used similar medical subject headings in PubMed and the Educational Resources Information Center (ERIC) database (e.g., "internship and residency" and "medical education").

"Residents play an important role as teachers but are afforded little formal instruction. Thus, it is imperative that we discover the most effective methods to prepare them for their teaching role."

Their search identified eight randomized prospective studies where students rated the residents. We offer a more recent review, based upon a March 2005 PubMed, search using the same MeSH headings. While numerous published guidelines exist for teaching methods, few illustrate evidence of resident teaching effectiveness. Moreover, there are limited quantitative studies and only a single qualitative study that best measure resident teaching effectiveness. A critical appraisal of published findings may offer guidelines helpful to graduate medical education leaders seeking quality improvements in resident teaching skills.

Our review of the pertinent medical education literature is based upon the two systematic literature reviews discussed above as well as one published in 2004 by Morrison and colleagues on the subject of on resident teaching effectiveness.⁹ Systematic reviews offer a thorough examination of a body of evidence-based knowledge where findings are predicated on established criteria, compiled and interpreted.¹⁰ In this way, a broadened understanding of a phenomenon, such as resident instructional methods and teaching effectiveness, is better understood through the lens of the medical education literature.

Instructional Delivery Models

The pertinent literature illustrates the challenges and constraints brought about when implementing teaching skill programs for residents. Competing schedules, time constraints, limited interest, and limited models of effectiveness contribute to many

of these challenges in resident and fellow education. With residents becoming increasingly vital to the teaching mission of academic health centers, there is a growing need to implement effective strategies and formats for their role in this important mission. Just as improved instructional effectiveness may arise when faculty are reacquainted with their dedication to enhanced teaching and role-modeling, residents learn best when they also teach while similarly gaining an appreciation and motivation for teaching and role-modeling. Teaching adds to one's self-concept as a physician. Interestingly, Busari and Scherpbier¹¹ found no evidence to suggest that residents who possessed good teaching skills became more competent physicians. This illustrates the importance of measuring the impact of resident education to enhance teaching skills on practice outcomes.

Improving teaching to enhance residents' skills for instruction and assessment needs to be ingrained into the residency curriculum along with faculty development that reinforces resident competencies for effective teaching and supervision, along with those for patient care.

Suggested Designs for a Teaching Skills Program

Organization

Instructional structure – Implementation of instructional strategies needs to consider the learning environment and the unique needs of residents. Approaches may include adapting teaching to different levels of learners (e.g., interns and upper level residents). Instruction needs to reflect actual practice experiences

Table 1
Designing Resident Teaching Workshops

Resident Level	Topic/Content	Format	Outcome Evaluation
First-Year Residents	<ul style="list-style-type: none"> • Orientation to Teaching • Feedback Strategies • Role-modeling and Professionalism 	1–2 hours at 4 times per year	<ul style="list-style-type: none"> • Self-assessment* • Students • Faculty
Junior Residents	<ul style="list-style-type: none"> • Small Group Teaching • Clinical Teaching • Leading the Team • Dealing with Stress and Conflict • Oral and Written Feedback • Assessing Performance 	1–2 hours bi-monthly Periodic 1 hour refresher sessions	<ul style="list-style-type: none"> • Self-assessment* • Students • Faculty • Peers
Senior Residents	<ul style="list-style-type: none"> • Large Group and Lecture Teaching • Leadership and Team Management • Negotiation Skills • Professionalism • Writing Abstracts and Case Reports • Conducting Educational Research 	1–2 hours bi-monthly Periodic 1 hour refresher sessions	<ul style="list-style-type: none"> • Self-assessment* • Students • Faculty • Peers

*Pre- and post-participation assessment of workshop satisfaction and learning outcomes

(e.g., clinical settings; student assessment opportunities; etc.) that are problem-based rather than content-oriented so that knowledge, skills and appropriate attitudes become long-lasting. These positive learning environments stimulate learner participation in understanding patient cases¹² especially when integrated into teaching patient care.^{13, 14}

When designing instruction (*Table 1*) for each teaching session, module or unit, learning objectives must be stated in measurable terms that articulate the intended instructional goals. Stated learning objectives communicate to the learner what is important. Likewise, learning objectives can assist in organizing instructional materials while providing a means of evaluation.¹⁵

Instructional formats – A systematic review of the literature provides evidence for a wide array of length and frequency for instruction during the academic year. Instruction may range from 36 hour multi-disciplinary primary care resident participation in a longitudinal teaching skills fellowship¹⁶; to a 2.5 day session with six-month follow-up¹⁷; to a 13 hour session¹⁸; to 8 hour sessions^{19, 20}; to 4–4.5 hour sessions with a three or six month follow-up.^{21, 22, 23} It is recommended that the teaching skills series needs to be of sufficient frequency and length (i.e., 2 hours each session, on a monthly basis) to meet important needs of the residency program and its learners during the academic year.

Learning groups – Several teaching strategies may be utilized that enhance learning across different developmental levels. It is suggested that teaching skills sessions meet different developmental levels for interns and residents.²⁴ The early residency needs of interns often differ from upper level residents. Motivation for active participation may be predicated on whether these sessions are offered on a voluntary or mandatory attendance basis. However, attendance in didactic teaching conferences may be directly affected by cost and scheduling challenges, especially for lunchtime sessions.²⁵

Delivery

Content and recommended topics – Appropriate topics may be additive in nature to include those for interns (orientation to teaching, role-modeling, teaching procedures, and feedback), as well as, junior residents (small group teaching, bedside/clinical teaching, and feedback), and upper level residents (case-based teaching, large group/lecture teaching, and feedback).^{23, 26}

Workshops to improve teaching skills held during the academic year need to include active participation with case-based content. It is further suggested that instruction is both cost- and resource-efficient when facilitated by a professional medical educator in an interactive, hands-on learning environment. In addition, sessions should be at least two hours in length with at least six to eight residents in attendance. Instructional topics may include: teaching preparation; large group/lecture presentation skills; small group teaching; questioning strategies; feedback and evaluation; leadership;

professionalism and writing abstracts. Short “refresher” sessions to provide periodic reinforcement of these topics, along with six-month or annually videotaped assessment of teaching performance evaluated by a trained rater, may add effectiveness and improvement to resident teaching competencies.

Instruction facilitators – Consider potential teaching facilitators from among experienced faculty and non-physician medical educators. The reviewed literature suggests that didactic and self-directed learning opportunities (e.g., web-based, self-paced teaching modules, etc.) offer additional potential as an alternative instructional method for resident teaching skills. Differing perspectives enrich the content and delivery. Prepare senior residents for this role by having them co-facilitate teaching sessions to allow them to develop the confidence to lead future sessions.

“When designing instruction for each teaching session, module or unit, learning objectives must be stated in measurable terms that articulate the intended instructional goals.”

Evaluation

Several strategies may establish effective outcomes when determining appropriate instructional methods. While no single model for teaching effectiveness is offered, there are salient aspects from the reviewed articles to suggest a potential strategy. Evaluation begins with the end in mind (e.g., what changes you seek to achieve). Moreover, periodic self-assessment and reflection may provide added motivation when implementing instructional practices among peers, students and patients or assessing resident competencies. Evaluation of resident teaching skills improvement needs to assess the knowledge and skills acquired and residents’ perceptions of the program. Some of the reported studies point to specific results when assessing resident teaching effectiveness using an OSTE (objective structured teaching examination) to assess teaching skills. Valid instructional content (e.g., One-minute Preceptor micro-skills) may accurately measure teaching effectiveness. Reliability is further enhanced when trained raters analyzed videotaped teaching encounters. Self-assessments at the beginning and end of instruction show improved teaching skills, particularly when they are integrated with assessments from the learner’s point-of-view (e.g., teaching self-efficacy, satisfaction, interest in teaching, etc.). Such methods may strengthen the knowledge, skills and attitudinal outcomes,²⁷ and help determine the magnitude of learning change²⁸ and the overall teaching performance.²⁹ Physicians who possess essential teaching skills may be perceived by their patients as being truly competent physicians.

Experience is a great source of knowledge, especially when we reflect on our teaching activities. Eliciting feedback on what we thought was particularly effective and what could be improved upon is another strategy for improvement. This practice supports a deeper understanding of instructional content and processes. In this way, we can help assure that subsequent teaching activities are designed to meet the needs of our learners and co-facilitators.

Finally, the current literature is bereft of qualitative studies on resident teaching effectiveness, with the exception of published work on residents' self-perceptions as clinical teachers. The use of focus groups or participant-observers may yield a broader understanding of how residents teach, especially in clinical contexts and in the patient care setting.³⁰ Thus, a richer description of teaching qualities and impacts may be attained.

Following the references we offer several web-based teaching skills resources that support resident teaching methods. They provide instructional resources that assist in organizing, delivering and assessing teaching skill improvements.

“The use of focus groups or participant-observers may yield a broader understanding of how residents teach, especially in clinical contexts and in the patient care setting.”

Summary

No single set of instruction or assessment methods meet the needs of each residency program. A core set of instructional modules may increase resident confidence in teaching and leadership among varied learners with outcomes that demonstrate effectiveness and improvement. Resident teaching activities, quality of instruction and outcomes remain areas for further study. If residents' teaching role is to be regarded as a vital aspect of graduate medical education, then adequate preparation in teaching effectiveness is warranted. It is imperative that residents acquire the knowledge, skills and attitudes necessary to be competent physicians as well as role-model teachers. This is best accomplished when education is supported, curriculum is improved and the educational culture in residency programs is appropriately changed. Assessment of teaching skills should be a required component of the residency curriculum in order to determine the value of this educational intervention to the residents who teach and to their students. Established educational criteria will further strengthen resident quality improvement, collaborative leadership and teaching

outcomes, especially in the clinical performance of residents and medical students. Dedicated leadership by program directors that creates and sustains a teaching skills course adds value in resident education for the benefit of our patients, faculty, residents and fellows and institutions. ■

Jack R. Scott, EdD, MPH is Assistant Professor, Department of Medicine at the Louisiana State University Health Sciences Center in New Orleans, LA. Franklin J. Medio, PhD is a Professional Educator, formerly Associate Dean and DIO for Graduate Medical Education, at the Medical University of South Carolina.

Correspondence and questions about the article should be addressed to Jack R. Scott, EdD at jscot1@lsuhsc.edu.

¹Brown RS House staff attitudes towards teaching. *J Med Educ.* 1970; 45 (2): 156

²Greenberg LW, Goldberg RM, Jewett LS. Teaching in the clinical setting: factors influencing residents' perceptions, confidence and behavior. *Med Educ.* 1984 Sept; 18 (5): 360-5.

³Edwards JC, Friedland JA, Bing-You R. *Residents' Teaching Skills* 2002; Springer Publishing: New York

⁴Wamsley MA, Julian KA, Wipf JE. A literature review of residents-as-teacher curricula: do teaching courses make a difference? *J Gen Intern Med.* 2004 May; 19 (5):574-81.

⁵Meyer FJ, Weinberger SE, Fitzgibbons JP, Glassroth J, Duffy FD, Clayton CP. Redesigning residency training in internal medicine: the consensus report to the alliance for academic internal medicine education redesign task force. *Acad Med.* 2007 Dec; 82 (12): 1211-9.

⁶Zahn CM, Dunlow SG, Alvero R, Parker JD, Nace MC, Armstrong AY. *Military Med.* 2007 Oct; 172 (10): 1053-7.

⁷Brasher AE, Chowdhry S, Hauge LS, Prinz RA. Medical students' perceptions of resident teaching: have duty hours regulations had an impact? *Ann of Surg.* 2005 Oct; 242: 548-55.

⁸Gill DJ, Frank SA. The neurology resident as teacher: evaluating and improving our role. *Neuro.* 2004 Oct; 63:1334-8.

⁹Morrison EH, Rucker L, Boker JR, Gabbert CC, Hubbell A, Hitchcock MA, Prislis MD. The effect of a 13-hour curriculum to improve residents' teaching skills. *Ann Intern Med.* 2004 Aug; 141 (4):257-63.

¹⁰Lang TA. The value of systematic reviews as research activities in medical education. *Acad Med.* 2004 Nov; 79 (11): 1067-71.

¹¹Busari JO, Scherpier AJ. (2004) Why residents should teach: a literature review. *J Postgrad Med.* 2004; 50 (3): 205-10.

¹²Spickard A, Corbett Jr. EC, Schorling JB. Improving residents' teaching skills and attitudes toward teaching. *J Gen Intern Med.* 1996 Aug; 11: 475-80.

¹³Medio F, Wilkerson L, Lesky L, Borkan S. Integrating, Teaching and Patient Care. In JC Edwards, RL Marier (Eds.), *Clinical teaching for medical residents: roles, teaching, and programs* (pp. 214-27). New York: Springer, 1998.

¹⁴Wilkerson L, Lesky L, Medio FJ. The residents as teacher during work rounds. *J Med Educ.* 1986 Oct;61 (10): 823-9.

¹⁵Smith P, Ragan J. *Instructional Design.* Columbus Ohio: Prentice Hall, 1993.

¹⁶Julian KA, O'Sullivan PS, Vener MH, Wamsley MA. Teaching residents to teach: the impact of a multi-disciplinary longitudinal curriculum to improve teaching skills. *Med Ed Online* 2007; 12:12 Available from <http://www.med-ed-online.org>

¹⁷Dunnington GL, DaRosa D. A prospective randomized trial of a residents-as-teachers training program. *Acad Med.* 1998 Jun; 73 (6): 696-00.

2009 ACGME Educational Conference March 4–8, 2009

The ACGME is pleased to announce its 2009 Annual Educational Conference, “Shaping the Future,” which will again be held at the Gaylord Texan in Grapevine, Texas.

The conference will feature more than 80 sessions devoted to three topics: Accreditation, Education and Assessment, and the Learning Environment. The Marvin Dunn Keynote Address will be delivered by Dr. K. Anders Ericsson, who is noted for his research pertaining to the acquisition of mastery through deliberate practice. Offered as part of the conference is a one-day Introductory Course for New Program Directors and Coordinators.

“Attendees will be able to hear from experts representing multiple important perspectives and deliberate on a comprehensive approach to resident duty hours that meets patient safety and learning goals.”

The ACGME also will hold a national symposium on resident duty hours in conjunction with its Annual Educational Conference in Grapevine, Texas in March 2009. The symposium will be held on March 4 and 5, 2009. The aim of the meeting is to convene experts on sleep, patient safety, medical education and human factors, along with ACGME review committee members, program directors, designated institutional officials, faculty, residents and other stakeholders.

The agenda will combine presentations, discussion panels and small group activities, as well as ending with a “town hall” meeting. Attendees will be able to hear from experts representing multiple important perspectives and deliberate on a comprehensive approach to resident duty hours that meets patient safety and learning goals.

Information about both conferences should be available on the web site in mid-October. Registration will begin December 1, 2008. ■

- ¹⁸Morrison EH, Rucker L, Boker JR, Hollingshead J, Hitchcock MA, Prislín MD, Hubbel FA. A pilot randomized, controlled trial of a longitudinal residents-as-teachers curriculum. *Acad Med.* 2003 Jul; 78 (7): 722–9.
- ¹⁹Jewett LS, Greenberg LW, Goldberg RM. Teaching residents how to teach: a one-year study. *J Med Educ.* 1982 May; 57:361–6.
- ²⁰Bing-You RG. Differences in teaching skills and attitudes among residents after their formal instruction in teaching skills. *Acad Med.* 1990 Jul; 65 (7): 483–4.
- ²¹Frattarelli LC, Kasuya R. Implementation and evaluation of a training program to improve resident teaching skills. *American J Ob-Gyn.* 2003 Sept; 189 (3): 670–3.
- ²²Edwards JC, Kissling GE, Plauche WC, Marier RL. Long-term evaluation of training residents in clinical teaching skills. *J Med Educ.* 1988; 61: 967–70.
- ²³White CB, Bassali RW, Heery LB. Teaching residents to teach: an instructional program for training pediatric residents to precept third-year medical students in the ambulatory clinic. *Archives Pediatric Adolescent Med.* 1997 Jul; 151: 730–35.
- ²⁴Johnson CE, Bachur R, Priebe C, Barnes-Ruth A, Lovejoy Jr., FH, Hafler JP. Developing residents as teachers: process and content. *Pediatrics.* 1996 Jun; 97 (6):907–16.
- ²⁵FitzGerald JD, Wegner NS. Didactic teaching conferences for IM residents: who attends, and is attendance related to medical certifying examination scores? *Acad Med.* 2003 Jan; 78: 84–9.
- ²⁶Pristach CA, Donaghue GD, Sarkin R, Wargula C, Doerr R, Opila D, Stern M, Single G. A multidisciplinary program to improve the teaching skills of incoming housestaff. *Acad Med.* 1991 Mar; 66 (3): 172–4.
- ²⁷Irby DM. Evaluating teaching skills. *Diabetes Education.* 1985 Dec; 11 Suppl: 37–46.
- ²⁸Bharell M, Jain S. A longitudinal curriculum to improve resident teaching skills. *Med Teach.* 2005 Sept; 27 (6): 564–66.
- ²⁹Spickard Jr. A, Wenger M, Corbett Jr. EC. Three essential features of a workshop to improve resident teaching skills. *Teach Learn Med.* 1996; 8 (3): 170–3.
- ³⁰Morrison EH, Shapiro JF, Harthill M. Resident doctors’ understanding of their roles as clinical teachers. *Med Educ.* 2005 Feb; 39 (2): 137–44.

Added Resources (Web-based and related Resident Teaching Skills resources)

The Residents’ Teaching Skills Web site: An incredible source of information and links to other Resident as Teacher programs around the country. Also includes an extensive bibliography under the resources section and a teaching style assessment for yourself and/or your residents, www.residentteachers.com

LIFE Curriculum, a residency teaching tool by Duke University and University of North Carolina collaborative, <http://www.life curriculum.info/>

Association of American Medical Colleges, Group on Educational Affairs, Resident Teaching Skills Project Group: This group is responsible for the Residents’ Teaching Skills Web site as well, www.aamc.org/members/gea/gmesection/gmeprojects.htm

The Association for Surgical Education: The clearinghouse is based at Southern Illinois University School of Medicine and provides free and low cost teaching resources for surgical education and resident teaching, <http://www.surgicaleducation.com/mc/page.do?sitePageId=28592&orgId=ase#table4>

Medical College of Wisconsin, Residents-as-Teachers program, <http://www.mcw.edu/display/docid2446.htm>

Mt. Sinai School of Medicine, The Resident Teaching Development Program, http://mssm.edu/medschool/institute/resident_as_teacher.shtml

University of Minnesota, Resident Educator Development, <http://www.med.umn.edu/gme/reseddev.html>

Two Recent Books of Interest to Program Directors and Medical Educators

Surgery: A Competency-Based Companion

Review by Elizabeth Eccleston, Department of Field Activities, ACGME

With an introduction that describes the book as being able to accelerate readers' development from surgical novice to expert clinician, the design of *Surgery: A Competency-Based Companion* (Barry D. Mann, MD, (ed.), Saunders Elsevier, May 2008) is distinctive. The book is a compact, portable paperback with easy-to-read sections organized by case studies and case types. *Surgery* is intended for medical students and junior residents and aims to let the reader see the "big picture." It includes sections labeled "Speaking Intelligently," written by physicians using case studies to teach how to approach a patient with a specific ailment, and "Clinical Thinking," which describes the deductive process that allows a clinician to make sense of data to arrive at the correct diagnosis for a given patient.

As suggested by the title, Barry Mann, MD, the book's editor, uses the six ACGME competencies as reference headers for the case studies. This allows the reader to fully examine and explore the case study in a comprehensive and understandable way; it also shows the application of the competencies in a realistic surgical practice context.

The book also includes an access code to allow the reader to log onto a specialized web site in which the contents of the entire book are available in a fully searchable format. This added feature is helpful for students using the book as a supplementary study guide and junior physicians seeking easily accessible reference material. The accessibility of the information and the personalized style make the book a valuable resource for students and residents, as well as a teaching resource for faculty.

Patient Listening

Review by Elizabeth Eccleston, Department of Field Activities, ACGME

Health care professionals and the general public recognize the complexities of medical care in different ways, and patients sometimes feel dissatisfied with their interaction with the health care system. *Patient Listening* (University of Iowa Press, April 2008) is a meaningful addition to the growing field of narrative medicine and lives up to the dual meaning of its title. Loreen Herwaldt, MD, an epidemiologist at the University of Iowa's Carver College of Medicine, uses the illness narratives of two dozen writer-patients to teach listening skills to medical students, residents, physicians, and other health care providers.

"By beginning every patient narrator section with a first-person introduction, Herwaldt emphasizes the humanity of the patients who comment on their health care encounters and, as mentioned in the introduction, 'often feel unheard and dehumanized by these interactions.'"

By beginning every patient narrator section with a first-person introduction, Herwaldt emphasizes the humanity of the patients who comment on their health care encounters and, as mentioned in the introduction, "often feel unheard and dehumanized by these interactions." The "found poems" about the patients' medical experiences that make up the body of the book were constructed by Herwaldt from her interviews with the patients by paring the narratives down to their most basic elements.

Herwaldt describes *Patient Listening* as primarily for health care educators and those teaching classes in a health-related field. The "How to Use This Book" section suggests that these narratives, by increasing awareness of patients' experiences, can help medical professionals improve their communication skills and sensitivity to patients' experience, and ultimately assist them in becoming better doctors. ■

Involving Residents in Quality Improvement: Contrasting “Top-Down” and “Bottom-Up” Approaches

Ingrid Philibert, PhD, MBA

A collaboration between the ACGME and the Institute for Healthcare Improvement (IHI) resulted in a recently completed “90-Day Project” that explores practical methods to involve residents in clinical quality improvement (QI) efforts. The project was initiated in response to a recommendation in the September 2007 report of the ACGME Committee on Innovation (CI). It called for the identification of opportunities to enhance quality and safety in teaching settings by studying the outcomes of resident involvement in organized clinical quality improvement initiatives, such as the IHI’s 100,000 and 5 Million Lives Campaigns. The report explores practical methods to involve residents in clinical quality improvement (QI) efforts. It contrasts institution-level quality improvement projects, such as the IHI Campaigns, and program- and resident-initiated QI projects. The focus is on how both approaches meet the dual goals of improving care and advancing residents’ professional development in Practice-Based Learning and Improvement (PBLI) and Systems-Based Practice (SBP). It also analyzes advantages and drawbacks of “top-down” (institution-initiated) and “bottom-up” (resident- and program-initiated) approaches, and provides answers to the question whether “top-down” approaches for involving residents in QI can overcome some of the reported limitations of “bottom-up” QI.

The report discusses what the two models of engagement in QI teach residents, finding they provide different and compatible learning opportunities. “Top-down” approaches benefit residents and institutions, with residents learning from their involvement, and bring real-life knowledge and a fresh perspective to institutional efforts. “Bottom-up” approaches offer residents opportunities to address problems they see in their practice and to learn how to improve care. However, a reported limitation of bottom-up QI is that residents left to their own devices often are limited to a focus on residency-specific problems instead of more significant institutional issues. A key learning opportunity in “bottom-up” approaches relates to the identification of problems and development of solutions tailored to local realities. “Top-down” approaches let residents participate in QI within a collaborative environment involving clinical and institutional leaders, and both differ from much of the traditional teaching of QI that focuses predominantly on improvement concepts. Engaging residents requires the integration of two parallel initiatives – institutional clinical improvement efforts, and teaching residents PBLI and SBP

with the goals of 1) preparing them for life-long practice and 2) allowing them to assume an expanded role in QI initiatives in their programs and sponsoring institutions. The findings also suggest that larger QI goals can benefit from broad involvement of multiple professionals across disciplines and support from institutional leaders. Many efforts to involve residents in QI blur the boundaries of the two models.

Successful institutions and programs take advantage of three drivers for resident involvement in quality improvement: 1) effective curricula, role models and mentors, 2) infrastructure that imbeds QI in residents’ day to day experiences, and 3) the appeal of QI to residents. The drivers help overcome challenges that include a dearth of curricula and teaching approaches to prepare residents for a role in quality management and improvement, and involving a sufficient number of residents to allow the intervention to gain momentum in the resident community, while being mindful of residents’ limited time and multiple commitments. At some institutions, resident involvement in institutional QI also has been able to establish a relationship between residents and institutional leaders. This empowers residents and gives leaders a better view of the clinical micro-systems in which residents work and learn. For “bottom-up” approaches, attending to the three drivers helps deal with the absence of links to organizational goals and can contribute to overcoming faculty and leadership assumptions that QI is something residents do not truly need to become competent in until they have completed their clinical education. In both approaches to QI, faculty physicians active in teaching, who improve their own work, are an invaluable teaching and learning resource, giving residents exposure to QI as part of their daily experiences. In summary, the findings highlight that residents’ participation in QI and enabling them to see data showing improved care is a more powerful form of education than merely learning QI theory and processes.

The 90-day Project approach is adapted from Proctor and Gamble’s Connect and Develop approach to innovation.¹ Elements include interviews with experts in health care and other fields to develop a theory about the problem and the key components of a response. This is followed by studying examples that support, refine, or revise the theory, and summarizing lessons learned. ■

The complete report from the 90-Day Project Involving Residents in Quality Improvement: Contrasting “Top-Down” and “Bottom-Up” Approaches is available from the ACGME’s web site.

¹Huston L, Sakkab N. Connect and Develop. Harvard Business Review. March 2006; 58–66.

RRC/IRC Update

Update on IOM Deliberations on Resident Duty Hours

At the June meeting of the ACGME Board of Directors, CEO Thomas Nasca, MD, MACP, reported that the Institute of Medicine (IOM) Consensus Committee on Resident Duty Hours has completed gathering data and soliciting perspectives from a broad range of stakeholders, and will begin drafting its report on resident duty hours, which is due to be released in very late 2008 or early 2009. The IOM recommendations will likely focus on two aspects of the current duty hour standards – the limit on weekly hours and the length of the continuous duty period. He added that in its interactions with the IOM, the ACGME has emphasized the benefits of supervision of residents and the need for expert supervisors and supervision appropriate to residents' level of education and experience.

Dr. Nasca reported that the ACGME Duty Hour Symposium will be held on March 4 and 5, 2009, in conjunction with the ACGME's annual educational conference. The goals are twofold – a comprehensive assessment of the advantages and drawbacks of the common duty hour standards on the occasion of the five-year anniversary of their implementation and an in-depth discussion of the recommendations of the IOM Consensus Committee, with broad input from the ACGME, the review committees and the stakeholder community. The symposium also will explore differences in the effect of the common duty hour standards among specialties and by educational level.

ACGME Approves Revisions in a Number of Program Requirements

The ACGME approved revisions to the program requirements for a host of subspecialties of Pediatrics, including Pediatric Endocrinology, Pediatric Nephrology, Pediatric Pulmonology, Pediatric Gastroenterology, Pediatric Infectious Diseases and Developmental Behavioral Pediatrics. The revisions for all pediatrics subspecialties will become effective July 1, 2009.

The ACGME also approved revisions of the program requirements for Radiation Oncology, to become effective January 1, 2009; the program requirements for Surgery and the subspecialty of Pediatric Surgery, effective August 10, 2008; the program requirements for Neurological Surgery, to become effective July 1, 2009; and the program requirements for Plastic Surgery, also to become effective July 1, 2009. The Chair of the RRC for Plastic Surgery presented the changes for Plastic Surgery in a PowerPoint presentation, which the Committee on Program Requirements found very helpful.

Subspecialties Considered for Accreditation and Discontinuation of Cardiothoracic Radiology as an Accredited Subspecialty

The ACGME appointed an Ad Hoc Committee to review and evaluate a proposal by the Residency Review Committee for Pediatrics to establish Child Abuse, Pediatrics as a new subspecialty of Pediatrics. A recommendation is expected by the time of the September meeting of the ACGME. The ACGME appointed another Ad Hoc Committee to review and evaluate the proposal by the Residency Review Committee for Ophthalmology to establish an accredited subspecialty of Oculofacial Plastic Surgery. The recommendations are expected to be reviewed by the ACGME in February 2009.

The ACGME approved discontinuing the accreditation of Cardiothoracic Radiology as a subspecialty of Diagnostic Radiology, effective June 30, 2010. At present, two accredited programs exist in this subspecialty.

Appointments and Reappointments to Review Committees

The ACGME confirmed the appointment of several new members to a number of Residency Review Committees. They include: David P. Huston, MD, to the RRC for Allergy and Immunology; James W. Patterson, MD, to the RRC for Dermatology; Suzanne R. White, MD, to the RRC for Emergency Medicine; Susan Murin, MD, to the RRC for Internal Medicine; Ralph F. Jozefowicz, MD, to the RRC for Neurology; Anthony C. Arnold, MD, to the RRC for Ophthalmology; Riley F. Trimm, MD, to the RRC for Pediatrics; David Kilmer, MD, to the RRC for Physical Medicine and Rehabilitation; Steven Paul Cuffe, MD, to the RRC for Psychiatry; and Katherine L. Griem, MD; to the RRC for Radiation Oncology. Louis Ling, MD was appointed to the Transitional Year Review Committee, and Danny M. Takanishi, Jr., MD, was reappointed to the same committee.

New Resident RRC members include Deborah A. Rin, MD, to the RRC for Family Medicine and Jaime Lynne Bohl, MD, to the RRC for Colon and Rectal Surgery.

Council of Review Committee Chairs Holds Retreat

The Council of Review Committee Chairs (CRCC) held a retreat meeting to deliberate on the format for future CRCC meetings. Seventy-one participants met, with facilitation provided by Innovation Labs, and developed goals and a new structure, with this information to be further refined at the September meeting of the ACGME. The overall aim of this effort is improved communication between the Board and the CRCC and improved use of the ideas and expertise of the members of the Council. ■

National and International News of Interest

Effort to Improve Graduate Education for Physicians in the United Kingdom

In the United Kingdom, the Modernising Medical Careers (MMC) program was initiated to improve postgraduate medical education and, through this, the quality of patient care, starting with improvements in the “Foundation Programme” for education immediately after medical school, which went into effect in 2005. Significant changes in clinical specialty education were made in 2007. In 2008, refinements were made to the recruitment process and the educational approach, based on feedback from stakeholders and representatives from the British National Health Service.

“The curriculum includes four lecture and nine small group modules that describe the core competencies of patient safety, as well as modules that address safety issues in intensive care, chronic care, and interventional care settings; three modules devoted to project implementation; and three modules targeting management.”

One of the most significant changes is that recruitment to specialty training positions is managed by the individual Deaneries that manage post-graduate medical education at the local level. Recruitment to the foundation program, to general practice and obstetrics-gynecology, and, in the future, to pediatrics will continue to be managed at the national level. For specialist education, the local deaneries will assume responsibility for advertising vacancies, selecting candidates (using national specifications), interviewing and selecting applicants and making offers. The new system will create multiple start times for specialist education throughout the year. Due to the absence of a national application system, there will be no limits on the number of positions an individual candidate may apply to. Future enhancements planned for 2009 include the development of a national information system to manage the application process.

Progress Made on Patient Safety Project (PSEP)

The Patient Safety Education Project (PSEP) is a collaborative effort to develop comprehensive patient safety education that was launched in May 2006 with a meeting of experts at the Institute of Medicine (IOM), Washington DC. This meeting identified the goal of closing the gaps between the science of

patient safety and present-day medical practice. The model used for this is adapted from the Education on Palliative and End-of-life-care (EPEC) program developed and sponsored by the Northwestern University Feinberg School of Medicine. This model has been successful in disseminating new forms of practice in the field of palliative education.

PSEP has had broad input through a Governing Council, an Expert Advisory Group and general stakeholder input. Dissemination of the education has begun through a group of trained Master Facilitators. The project is currently in phase two of its three phases of development. Phase 1 entailed curriculum development and was completed April 2008. The curriculum includes four lecture and nine small group modules that describe the core competencies of patient safety, as well as modules that address safety issues in intensive care, chronic care, and interventional care settings; three modules devoted to project implementation; and three modules targeting management. The entire curriculum is made available for downloading from the web at <http://patientsafetyeducationproject.org>. Information available from the site also includes a resource section with an array of tools.

The major achievement of the PSPE initiative is the aggregation of comprehensive patient safety materials into a cohesive curriculum that covers the core content of patient safety. Included in the materials are 15 short trigger videos, which are three to five minutes in length, coordinated with curriculum modules, and can be used to stimulate discussion (available at <http://www.epcidl.net/psepexternalplayer.php>). By 2010, the project is expected to be in its third phase, which involves dissemination of a living (periodically updated) core curriculum in patient safety and fostering a community of change agents in patient safety in a low-overhead, self-sustaining program. Current initiatives include refining the core curriculum using input from participants and master facilitators. ■

Editor's Introduction

The Competencies: The ACGME and the Community in 2008 and Beyond

Chief Executive Officer's Column

Where Will the "Milestones" Take Us? The Next Accreditation System.

Thomas J. Nasca, MD, MACP

Systems-Based Practice Defined: Developing Taxonomy to Identify Resident Roles and Measurable Behaviors

Mark J. Graham, PhD, Zoon Naqvi, MBBS, EdM, Kelli J. Harding, MD, Madahbi Chatterji, PhD, and John A. Encandela, PhD

The Cleveland Clinic Lerner College of Medicine's Experience with Competency-Based Assessment: A Natural Transition to Residency

Andrew J. Fishleder, MD

Resident Mental Health Services at the Medical College of Wisconsin

Leandrea S. Lambertson, MD, Sara A. Dittl, MA, and Mahendr S. Kochar, MD, MS, MBA

Resident Teaching Skills Courses: What is the Evidence for Effective Instruction?

Jack R. Scott, EdD and Franklin J. Medio, PhD

Save the Date

2009 ACGME Educational Conference, March 4–8, 2009

Two Recent Books of Interest to Program Directors and Medical Educators

Reviewed by Elizabeth Eccleston, Department of Field Activities, ACGME

Involving Residents in Quality Improvement: Contrasting "Top-Down" and "Bottom-Up" Approaches

Ingrid Philibert, PhD, MBA

ACGME News

RRC/IRC Column

In Brief

National and International News of Interest



ACGME

**Accreditation Council for
Graduate Medical Education**

515 North State Street
Suite 2000
Chicago, Illinois 60654

NON-PROFIT ORG.
U.S. POSTAGE
PAID
ACGME
PERMIT NO. 9451
CHICAGO, IL

Change of Address:

Requests for a change of address should be sent to the editor at the address given above. Please include a copy of the mailing label from the most recent copy of the ACGME Bulletin along with your new address.