

ALBERT EINSTEIN COLLEGE OF MEDICINE
RESIDENCY PROGRAM DIRECTOR WORKBOOK

IMPLEMENTING THE ACGME
GENERAL COMPETENCIES
REQUIREMENTS

ALBERT EINSTEIN COLLEGE OF MEDICINE
COMMITTEE ON GRADUATE MEDICAL EDUCATION

“In a well-arranged community a citizen should feel that he can at any time command the services of a man who has received a fair training in the science and art of medicine, into whose hands he can commit with safety the lives of those near and dear to him.”

Sir William Osler.

The Growth of a Profession. Can Med Surg J. 1885-6; 14:129-55¹

¹ Silverman, ME., Murray, JT., Bryan, CS. The Quotable Osler American College of Physicians, Philadelphia, 2003.
Pg. 69.

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HOW TO USE THIS WORKBOOK

This workbook is intended to:

- Provide basic information pertaining to “competence.”
- Define the six “core competencies.”
- Present sample goals and objectives related to the competencies.
- Offer approaches to evaluation.
- Serve as a file for pertinent reference materials; and
- Provide a place to store program-specific documentation of implementation of competency evaluation.

The materials in this workbook are intended to assist program directors and faculty in the development of competency objectives and evaluation methods. The workbook is divided into sections corresponding to each ACGME competency and the ACGME language pertaining to each competency is provided as a “tab” behind which program directors can organize materials pertinent to their approach to that competency.

AS YOU DEVELOP COMPETENCY-RELATED MATERIALS, YOU SHOULD INCLUDE COPIES IN THIS WORKBOOK.

THE ACGME'S COMPETENCY INITIATIVE

Stimulated by increased concern and attention to how adequately physicians are prepared to practice medicine in the changing health care delivery system, in July 2000 the ACGME implemented a new approach to program accreditation.² Rather than evaluating only educational process and content, the ACGME will now assess whether a program actually and effectively evaluates the abilities of its trainees and can assure that they are competent.

In simple terms, the ACGME now says:

**“DON'T TELL US WHAT YOU TAUGHT,
SHOW THAT YOU KNOW WHAT THEY CAN DO.”**

To accomplish this change, the ACGME has established the following expectations:³

- Each program must develop a curriculum that incorporates six “General Competencies” as specified in the ACGME Program Requirements. (See below pg. 6)
- Each program's curriculum should include goals and objectives based on the “General Competencies.” (see below pg. 6 ff)
- Each program must develop and use an assortment of evaluation tools and must assess a resident's competence in all of the specified “General Competencies.” (see below pp.)

By 2005-6 programs are expected to have made full transition to competency-based education. the ACGME expects, therefore, that programs should now be well along in the process of:

- Defining specific objectives for learning in all of the competencies.
- Integrating the teaching and learning of competencies into residents' didactic and clinical educational experiences
- Evaluating individual resident performance in all six competency areas based on the objectives.
- Using aggregated data on the achievement of competence by all residents to feedback on the effectiveness of the program.
- Reviewing approaches to evaluation and developing improved assessment tools.

In program reviews, the ACGME is now looking for:

- Evidence of a program's development and use of dependable measures to assess resident competency. (Programs must use evaluation tools over a period of time to determine whether or not they are dependable.)
- Evidence of a program's effectiveness in linking educational outcomes with program improvement. (Programs must analyze educational outcomes to determine what needs improvement.)

To evaluate these requirements, the ACGME will be using the checklist presented on pg.2, below:

² <www.ACGME.org> (Outcome project>Introduction>slide 10)

³ *Ibid* (Institutional Review> Competencies)

**Template for General Competency and Outcome Assessment:
Implementation Guidelines**

Does the residency program:	Check if YES
1. Provide learning opportunities in all competency areas.	
2. Engage in efforts to improve learning opportunities and/or assessment of the competencies.	
3. Assess all competency areas Systems-Based Practice – use any one method For all other competencies, use one appropriate assessment method (instead of, or in addition to, global ratings of residents’ rotation performance) ... Patient Care ... Medical Knowledge ... Practice-Based Learning and Improvement ... Interpersonal and Communication Skills ... Professionalism	
4. Assess resident performance every rotation	
5. Include at least one other type of evaluator, in addition to physician faculty or resident supervisors, to assess: ... Interpersonal and Communication Skills ... Professionalism	
6. Have scoring/rating criteria for global ratings of residents’ rotation performance (if this method is used)	
7. Train faculty to use criteria for global ratings of residents’ rotation performance (if this method is used)	
8. Use assessment data to provide oral or written feedback to residents for all competencies	

In view of this increasing emphasis and scrutiny by the ACGME, this workbook has been developed to assist program directors as they implement competency requirements.

BASIC CONCEPTS

Graduate Medical Education

“The purpose of Graduate Medical Education is to provide an organized educational program with guidance and supervision of the resident, facilitating the resident’s professional and personal development while ensuring safe and appropriate care for patients.”⁴

- ✓ The primary purpose of GME is to provide the supervised educational experiences that will prepare resident physicians for independent practice.
- ✓ Each medical specialty has a specific body of knowledge and skills that must be mastered if an individual is to become certified in that particular discipline.
- ✓ Residency training should foster:
 - ◆ Acquisition of the required fund of knowledge;
 - ◆ Development of the necessary set of clinical skills;
 - ◆ Ability to accept increasing independence and responsibility.

Competence

The word “competent” means: ⁵

- **Adequate for the purpose**
- **Properly qualified**
- **Capable**

“Competence” implies **ADEQUACY OF PERFORMANCE**; it does not require substantial mastery or advanced ability. To be judged “competent,” a trainee must meet some reasonable standard or criterion.

The Competence Continuum

Competence represents one stage in the developmental process of skill acquisition.⁶

Generic Development	Clinical Development
<ul style="list-style-type: none">• Novice• Advanced Beginner• Competent• Advanced competency• Proficient• Expert	<ul style="list-style-type: none">• 3rd year clerk• 1st year resident• Completing resident• Completing “fellow”• Practicing physician• Professor/Chief

“Competence comes only after considerable experience actually coping with real situations in which the student notes or an instructor points out recurrent meaningful component patterns.”⁷

⁴ ACGME Institutional Requirements for Residency Training, Graduate Medical Education Directory, 2003-2004, AMA pg. 13.

⁵ American Heritage Dictionary, Houghton Mifflin Co., Boston, 2nd. Ed. 1985

⁶ Dreyfus, S.E., and Dreyfus, H.L. A five-stage model of the mental activity involved in direct skill acquisition. Operations Research Center, University of California, Berkeley, CA. 1980

⁷ *Op. Cit.* Dreyfus and Dreyfus

Transitions in Competence

1. The beginner follows prescribed rules for action in response to the features of a task, which can be recognized without experience. The competent individual can initiate unique actions through recognition of aspects of a situation acquired through experience.
2. The beginner perceives all elements of a situation as equally relevant. The competent individual can discern among the elements to identify the most significant aspects of a situation.
3. The beginner functions as an external observer. The competent individual functions as an involved participant.

A developmental rating scale

Competence is not developed as an all-or-none phenomenon; it is progressive. Trainees will advance through several stages of ability as they achieve competence:

Stage	Characteristics
Beginner*	Trainee has no experience and usually has difficulty with this skill or behavior, requires basic information and direction, and close supervision.
Developing*	Trainee has limited experience and may continue to have some difficulty with skill or behavior, requires coaching/ reinforcement and close supervision.
Advancing*	Trainee has additional experience and often performs skills or behaviors effectively in common situations, requires continued coaching/ reinforcement and supervision.
Competent**	Trainee virtually always performs skills or behaviors effectively, may require assistance in unusual circumstances

N.B. These developmental stages can be compared with the New York State “405” requirements for supervision⁸:

* “Direct Visual Supervision”... Supervising physician must be physically present.

** “General Control and Supervision”...Supervising physician must be available if needed.

Milestones of Performance

- Trainees develop competence in different skills at different rates.
- Trainees must become competent in certain skills by specific milestone points.
- Programs should identify milestones for timely acquisition of competence.
- Programs should define specific competencies to be acquired during specific rotations.
- Pre- and post-training evaluations of competence can be used to demonstrate progress.

⁸ N.Y. State Hospital Code, Section 405.4, f, (2), (v), (a and b)

The Graduating Resident

The graduating resident should know the aspects **what, when, how** and **why**⁹ of his/her discipline. S/he should be able to set priorities and define specific plans for patients, have a model for planning actions that can be used in most settings, and be able to recognize when progress is or is not occurring in accordance with the plan.

**Competence involves conscious recognition and reaction;
it includes an understanding of one's limitations.**

The “Core Curriculum”

Prior to the implementation of the “General Competencies,” the ACGME had charged institutions sponsoring residency training and the programs themselves with two requirements:

1. To develop and implement a discipline specific curriculum, and
2. To develop and implement a curriculum required for all residents.

The curricular elements required for all residents (“The Core Curriculum”) include:

- Ethical issues
- Socio-economic issues
- Medical-legal issues
- Cost containment issues
- Communications skills
- Research design
- Biostatistics
- Skills of critical review of the literature

Although the “Core Curriculum” is no longer specifically identified in ACGME requirements, sample goals and objectives developed for these requirements can be applied to several of the “General Competencies”

(see **Sample Goals and Objectives** below pgs. 8-12).

⁹ *Op. Cit.*, Dreyfus and Dreyfus

THE “GENERAL COMPETENCIES”

The ACGME has incorporated the following language into the common program requirements pertaining to all residency programs:¹⁰

“A residency program must require that its residents obtain competence in the six areas listed below to the level expected of a new practitioner. Programs must **define** the specific **knowledge, skills, behaviors, and attitudes** required and **provide educational experiences** as needed in order for their residents to **demonstrate** the following:”

- 1. *Patient care*** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
- 2. *Medical knowledge*** about established and evolving biomedical, clinical, and cognate (*e.g.* epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
- 3. *Practice-based learning and improvement*** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
- 4. *Interpersonal and communication skills*** that result in effective information exchange and collaboration with patients, their families, and other health professionals.
- 5. *Professionalism***, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- 6. *Systems-based practice***, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

¹⁰ ACGME Common Program Requirements, 2003

COMPETENCY RELATED GOALS AND OBJECTIVES

1. PATIENT CARE

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- gather essential and accurate information about their patients
- make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- develop and carry out patient management plans
- counsel and educate patients and their families
- use information technology to support patient care decisions and patient education
- perform competently all medical and invasive procedures considered essential for the area of practice
- provide health care services aimed at preventing health problems or maintaining health
- work with health care professionals, including those from other disciplines, to provide patient-focused care

Sample Goals and Objectives:

The goals and objectives for this competency are defined by the learning and experience requirements of specific residency programs.

2. MEDICAL KNOWLEDGE

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- demonstrate an investigatory and analytic thinking approach to clinical situations
- know and apply the basic and clinically supportive sciences which are appropriate to their discipline

Sample Goals and Objectives:

The goals and objectives for this competency are defined by the learning and experience requirements of specific residency programs.

3. PRACTICE-BASED LEARNING AND IMPROVEMENT

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- analyze practice experience and perform practice-based improvement activities using a systematic methodology
- locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- obtain and use information about their own population of patients and the larger population from which their patients are drawn
- apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- use information technology to manage information, access on-line medical information; and support their own education
- facilitate the learning of students and other health care professionals

Sample goals and objectives:

Goal 1 Residents should learn through self-directed, independent study.

Objective 1 Residents, with the assistance of mentors and colleagues, should establish and monitor personal programs for the improvement of their knowledge and skills.

Goal 2 Residents should assess the medical literature critically.

Objective 2 Residents should demonstrate the ability to apply the methods of Evidence-Based Medicine to the analysis of medical literature.

Objective 3 Residents should demonstrate the ability to conduct a literature search using traditional and electronic means

Goal 3 Residents should apply the scientific method in the conduct of their practice of medicine.

Objective 4 Residents should demonstrate knowledge of the basic principles of clinical Epidemiology and Biostatistics.

Objective 5 Residents should demonstrate the ability to apply scientific principles in clinical decision-making.

Goal 4 Residents should be computer literate.

Goal 5 Residents should participate in scholarly activities.

Objective 6 Residents should demonstrate knowledge of basic principles of research design.

Objective 7 Residents should participate in active review and dissemination of current developments in medical knowledge

4. INTERPERSONAL AND COMMUNICATIONS SKILLS

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- create and sustain a therapeutic and ethically sound relationship with patients
- use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- work effectively with others as a member or leader of a health care team or other professional group

Sample Goals and Objectives:

Goal 1 Residents should communicate effectively.

Objective 1 Residents should demonstrate the skills of active listening.

Objective 2 Residents should demonstrate the ability to perform effective patient and family interviews.

Objective 3 Residents should demonstrate the ability to convey clearly information to patients with respect to treatment programs and options, health maintenance and illness prevention.

Objective 4 Residents should demonstrate the ability to convey bad news while supporting the emotional needs of the recipients of the information.

Objective 5 Residents should demonstrate the ability to communicate with peers, other members of the health care team and the community at large.

Objective 6 Residents should demonstrate well organized, effective, written communication skills in medical records and scholarly writing.

Goal 2 Resident should work effectively with others.

Objective 7 Residents should demonstrate the ability to work in team settings by identifying roles and assignments, planning and prioritizing, accepting responsibilities and assisting others.

Objective 8 Residents should demonstrate skills of conflict resolution including: Listening/explaining; Feedback; Respect/trust/consensus development.

Goal 3 Residents should become competent as clinical teachers.

Objective 9 Residents should demonstrate the ability to teach clinical skills by providing learner-appropriate content, supervision, and coaching/feedback.

Objective 10 Residents should demonstrate the ability to teach in the context of clinical responsibilities, using a variety of techniques.

Objective 11 Residents should demonstrate the ability to design and deliver structured educational presentations.

Objective 12 Residents should demonstrate the ability to apply concepts of adult learning.

Objective 13 Residents should demonstrate the ability to evaluate student performance in a constructive manner.

5. PROFESSIONALISM

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development
- demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

Sample Goals and Objectives:

Goal 1 Residents should adhere to principles of medical ethics.

Goal 2 Residents should respect and protect patients' rights.

Objective 1 Residents should demonstrate understanding that all information transmitted to them during a medical encounter is confidential.

Objective 2 Residents should demonstrate understanding that a patient's permission must be obtained prior to release of information about that patient to anyone, including family members.

Objective 3 Residents should demonstrate knowledge of those situations in which the breach of confidentiality is mandated by law, and what information may be divulged under those circumstances.

Objective 4 Residents should demonstrate knowledge of the legal and ethical requirements for informed consent and informed refusal.

Objective 5 Residents should demonstrate the ability to obtain informed consent and/or refusal.

Objective 6 Residents should demonstrate knowledge of elements of informed decision-making capacity and factors that may limit a patient's autonomy.

Objective 7 Residents should demonstrate the ability to evaluate a patient's decision-making capacity.

Objective 8 Residents should demonstrate knowledge of the definitions, legal status and differences among active euthanasia; physician-assisted suicide; withdrawal or termination of care; non-initiation of care; futile care.

Objective 9 Residents should demonstrate knowledge of palliative care, including the principles of pain management.

Goal 3 Residents should fulfill their ethical responsibilities to society.

Objective 10 Residents should demonstrate knowledge of the potential conflicts between the needs of individual patients and those of society as a whole.

Objective 11 Residents should demonstrate knowledge of the ethical issues pertaining to resource allocation and rationing.

Objective 12 Residents should demonstrate knowledge of differing ethno-cultural viewpoints and religious beliefs pertaining to organ donation.

Objective 13 Residents should demonstrate knowledge of the laws and regulations pertaining to organ donation.

Professionalism, cont'd.

Goal 4 Residents should conduct research in an ethical manner.

Objective 14 Residents should demonstrate knowledge of issues and requirements pertaining to the use of human subject in research.

Objective 15 Residents should demonstrate knowledge of what constitutes research fraud

Goal 5 Residents should be altruistic and place the appropriate interests of patients and society above their own.

Objective 16 Residents should demonstrate the ability to serve as the patient's advocate.

Objective 17 Residents should demonstrate willingness to provide needed care, with the same standards of quality for all patients, regardless of type of reimbursement or ability to pay.

Goal 6 Residents should deal with patients, families, colleagues and others with honesty, integrity, and respect.

Objective 18 Residents should demonstrate knowledge of the difference between appropriate and inappropriate touching.

Objective 19 Residents should know the proscription against sexual relationships with patients and the potential legal consequences of such relationships.

Objective 20 Residents should demonstrate understanding of the differences between appropriate and inappropriate gifts from patients.

Goal 7 Residents should balance the demands of career with a fulfilling personal and family life.

Objective 21 Residents should demonstrate knowledge of issues of impairment, including alcohol and substance abuse, and obligations for impaired physician reporting.

Objective 22 Residents should demonstrate knowledge of how to proceed in the event that they identify impairment in self or colleague. They should know resources and options.

Goal 8 Residents should maintain a healthy lifestyle including nutritious diet, regular exercise, financial planning, time management and participation in spiritual and creative outlets.

6. SYSTEMS-BASED PRACTICE

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
- practice cost-effective health care and resource allocation that does not compromise quality of care
- advocate for quality patient care and assist patients in dealing with system complexities
- know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

Sample Goals and Objectives:

Goal 1 Residents should be aware of basic medico-legal issues.

Objective 1 Residents should demonstrate knowledge of when a surrogate decision-maker should be consulted and the requirements for determining an appropriate surrogate decision-maker.

Objective 2 Residents should demonstrate knowledge of the requirements for provision and documentation of care at life's end.

Objective 3 Residents should demonstrate knowledge of potential conflicts-of-interest inherent in relationships, including financial and equity participation with for-profit health care companies such as pharmaceutical companies, laboratories, imaging centers or rehabilitation centers, etc.

Objective 4 Residents should demonstrate knowledge of the obligations and responsibilities pertaining to the provision of care or the transfer of the unstable patient

Goal 2 Residents should learn business principles required to establish and manage a practice.

Objective 5 Residents should demonstrate knowledge of basic principles of health care economics, including reimbursement systems/requirements.

Objective 6 Residents should demonstrate the ability to conduct quality-of-care assessment and apply the principles of continuous quality improvement.

Objective 7 Residents should demonstrate knowledge of basic principles of recruitment, hiring, supervision and management of health-care personnel.

Goal 3 Residents should understand basic principles of managed care.

Objective 8 Residents should demonstrate knowledge of the organization and operation of different types of managed care organizations.

Objective 9 Residents should demonstrate knowledge of the implications of managed care practices related to reimbursements and provision of services.

Objective 10 Residents should demonstrate knowledge of the principles of population-based medicine.

Systems-based Practice, cont'd

Objective 11 Residents should demonstrate the ability to organize and implement population-based care in the context of their own practice activities.

Objective 12 Residents should demonstrate the ability to apply cost-benefit analysis methodologies in the design of diagnostic and therapeutic plans.

Objective 13 Residents should demonstrate the ability to design best-practices care plans for pertinent medical problems.

Goal 4 Residents should learn to request and provide medical consultation.

Objective 14 Residents should demonstrate the ability to submit a clearly stated request for consultation.

Objective 15 Residents should demonstrate the ability to provide timely and cogent responses to requests for consultation

Objective 16 Residents should demonstrate the ability to return patients to primary care providers and/or collaborate in continued care as appropriate, when serving as consultant.

Goal 5 Residents should understand the significance to their practice of the diversity of their patients.

Objective 17 Residents should demonstrate knowledge of the impact of demographic factors on access-to-care, epidemiology of disease, and response to medication or other therapy.

Objective 18 Residents should demonstrate knowledge of the influence of religious beliefs and ethno-cultural viewpoints on the provision of care and the patient-physician relationship.

Objective 19 Residents should demonstrate knowledge of how religious beliefs and ethno-cultural viewpoints influence medical care and when they may/must be breached.

Goal 6 Residents should develop the expectation that physicians are accountable to the communities they serve.

Objective 20 Residents should demonstrate knowledge of the health care needs of the community.

Objective 21 Residents should demonstrate knowledge of the health care resources available in the community.

Goal 7 Residents should understand the roles of government agencies and independent, private accrediting bodies in monitoring and evaluating health care institutions and individual practitioners.

Programs must develop, "...dependable measures to assess resident competencies." ¹¹

¹¹ http://www.acgme.org/Institutional_Requirements/competencies_memo_2/6/2002

EVALUATION

Evaluation (assessment) is the "process of collecting, synthesizing, and interpreting information to aid decision-making".¹² The results of evaluation/assessment should allow sound inferences about what learners know, believe, and can do in defined contexts.¹³

1. Assessment should provide valid data.

Valid data provide accurate information about what is being assessed. Different types of evidence may be used to infer validity. It may be inferred when assessment results help to predict performance in actual practice. Validity may be inferred also when it is possible to detect change (responsiveness). This occurs, for example, when residents perform poorly on a cardiology assessment prior to completing a cardiology rotation, but perform well on the same assessment following the rotation. In addition, validity may be inferred when there is a strong relationship between data obtained and external indicators (discriminative validity). An example of the latter occurs when medical students perform poorly and cardiologists perform well on the same cardiology quiz. As knowledge about complex assessment advances, however, it is possible that perspectives on validity also will evolve.

2. The assessment approach yields reliable data.

An assessment approach may be considered reliable when it yields consistent results regardless of when it is used, who uses it, and which item or case is assessed. The importance of a specific type of reliability depends upon what is being assessed and the method by which it is being assessed. Generally speaking, reliability or generalizability coefficients of 0.8 and higher are desired. Inter-observer or inter-rater reliability is an indicator that different assessors have provided similar ratings for the same performance. Inter-case or inter-item reliability is the degree of consistency in an individual's performance across different cases, situations, or items. Test-retest reliability is an indicator of consistency over time. Generalizability theory offers an alternative approach to assessing the individual reliabilities listed above by allowing examination of specific sources of unreliability and providing an overall reliability index termed a G coefficient.

3. The assessment approach is feasible.

Feasibility depends on several issues that include the following: time and training required to implement the assessment, equipment or technology required, number of assessments required per examinee, financial cost, and the extent to which an assessment has been used.

4. The assessment approach is likely to apply to my assessment circumstances (external validity).

When choosing an assessment approach, the conditions in which an assessment has been previously conducted should be considered. These conditions include the purpose for which the assessment was used, the characteristics of those assessed and the assessors, and the setting in which the assessment was conducted. Assessments that have been used in testing centers, for instance, may require modification for use in clinics or wards where the pace may vary and interruptions may occur.

5. The assessment provides valuable information.

In terms of value, assessment should provide new and useful information that facilitates teaching and learning. For instance, the assessment should allow the collection of enough detailed information that it is possible to know what performance improvements or curricular modifications are needed.

¹² Airasian PW. Classroom assessment (3rd ed.). New York: McGraw-Hill, 1997.

¹³ McMillan JH. Essential assessment concepts for teachers and administrators. Thousand Oaks, CA: Corwin Press, Inc., 2001.

6. **Assessment is consistent with curriculum/program objectives.**
Consistency between objectives and assessment occurs when there are clear parallels between what is taught and what is assessed. If , for example, a course is designed to improve knowledge and procedural skills required to conduct upper endoscopies, then both knowledge and skills in this area should be assessed. Consistency between objectives and assessment also increases the likelihood that learners will attend to a broader scope of course objectives and not just content that will be assessed.
7. **The educational objectives are representative of the educational domains of interest.**
It is not feasible to assess attainment of all educational objectives in all contexts, therefore, it is necessary to select a sample of what will be assessed. Representative behaviors for each competency in defined contexts should be identified. For the medical knowledge competency, identification may be guided by considering, for instance, common acute and chronic problems that occur in ambulatory settings of specific specialties. For the professionalism competency, development of educational objectives might be guided by considering common ethical dilemmas, relevant cultural contexts of patient care, and key professional courtesies intrinsic to patient care and teamwork for specific specialties in defined settings.
8. **Multiple assessment approaches/instruments are employed.**
Because competence is multi-dimensional and individual assessment approaches have limitations, it is unlikely that a single approach to assessment will be adequate. This problem is addressed by using a few different assessment approaches.
9. **Multiple observations are conducted.**
Multiple observations improve the reliability or precision of assessment and allow identification of patterns of behavior over time.
10. **Multiple observers/raters provide assessments.**
Using multiple observers improves the reliability or precision of assessment and enhances the scope of assessment.
11. **Performance is assessed according to pre-specified standards or criteria.**
Pre-specified standards indicate objective criteria for "good enough" or "borderline" performance and help to reduce subjective assessment.
12. **Assessment is fair.**
Fairness pertains to giving all learners the same or equal opportunity to perform. While fairness may be enhanced by valid and reliable assessment, an assessment may still be unfair if the results are influenced by something other than ability. For example, it would be unfair to compare the assessment results of a learner who was on call the night before an assessment with the results of peers who were not on call. With the exception of baseline or needs assessments, fairness pertains also to providing learners opportunities to learn the material on which they will be assessed. Learners should be informed about what will and will not be assessed. In addition, there should be clarity about the assessment format and how performance will be rated.

Assessment or **Evaluation** requires systematic acquisition of information to provide useful feedback about some “object.”¹⁴ When evaluating ACGME mandated competencies, the object of evaluation is the resident (actually, the resident’s performance of a specific skill).

Allopathic Medicine emphasizes the use of evaluation methods based on scientific or experimental models. The methods are intended to be objective and accurate; the most respected being controlled comparisons. In evaluating competence, however, only the ‘paper-and-pencil’ tests of knowledge (discipline-specific or “core curriculum” (see pg. 5)) actually allow for such an objective approach. The other elements of performance that must be evaluated as part of the required competencies do not easily fit standard ‘scientific/experimental’ approaches. Rather, they are more appropriately evaluated using **qualitative/anthropological** models. These emphasize observation, behavior or performance as the evaluation context, and the value of subjective human interpretation in the evaluation process.”¹¹

Principles of qualitative/behavioral evaluation include:¹⁵

- Evaluation should be based on clear, unambiguous and well-understood objectives.
- Measurement criteria should be easily recognized.
- Standards of reference should be clear.
- Evaluation should be done on a regularly scheduled basis.

Linking Objectives to Evaluation

The key to linking objectives to evaluation is to describe the objectives using “Action Verbs.” “Action Verbs” describe measurable behaviors. The following are a variety of “Action Verbs:”

“The Resident will... ”

- | | |
|----------------------|--------------------|
| ■ Know | ■ Describe |
| ■ Demonstrate | ■ Apply |
| ■ Perform | ■ Interpret |
| ■ Evaluate | ■ Exhibit |
| ■ Develop | ■ Personify |
| ■ Analyze | ■ Behave |

¹⁴ Trochim, W.M. The Research Methods Knowledge Base, 2nd Ed. www.trochim.human.cornell.edu/kb/index (version current as of 2000)

¹⁵ Douglas, KC., Hosokawa, MC., Lawler, FH., A Practical Guide to Clinical teaching in Medicine. Springer Series on medical Education, Springer Publishing Co. New York, 1988. Chapter 15: Evaluation of Non-cognitive Attitudes and Skills.

VALIDITY

Validity can be defined as the correctness of inferences made from test results.
“Is the competence I am evaluating appropriately assessed by the test I am using?”

Face Validity

This simply means that the evaluation is based on common sense. For competency evaluation, this level of validity is achieved when program faculty develop an outline of skills to be tested and consensus on the way the evaluation will be done. Asking colleagues at another institution for feedback on the appropriateness of objectives and methods can serve to check **Face Validity**.

Content Validity

Elements chosen for evaluation must be appropriately representative of the larger group of skills involved in the competence. In constructing a written test, for example, it is necessary that the questions actually pertain to a representative sample of the overall knowledge being evaluated. For the complex behaviors that must be assessed in competency evaluation, however, ‘content’ may be an insufficient descriptor and this aspect may overlap with what is known as,

Criterion Validity

To establish Criterion Validity, it is important to assure that the characteristics (criteria) defining a situation are appropriate to the skill or behavior being evaluated. For example, the ability to obtain the history of the present illness may not be a sufficient test of a resident’s ability to manage more complex or sensitive aspects of data gathering. The ‘content’ aspects of this basic element of Dr.-Pt. communications are insufficient to determine whether that same resident can obtain a valid sexual history. This is true not only because of the differences in ‘content’ of the different portions of the history, but also because some of the ‘criteria’ pertaining to the effective performance of the more complex aspect of information gathering may be different (eg. adequacy of rapport, establishment of a trust relationship).

It is also important that both the ‘content’ and ‘criteria’ for evaluation of skills be appropriate to the expected level of performance of the trainees and the activities in which they are involved. Interns might be evaluated on their ability to write appropriate continuation notes for hospitalized patients, while more senior trainees might be evaluated for the quality of their responses to requests for consultation. By stratifying expectations, there is an opportunity to do multiple observations of related competency elements of increasing complexity. This allows for the definition of incremental competency by year of training.

Construct Validity

An evaluation should actually test the aspect of behavior that is of concern (the **Construct**). The method must be appropriate to assess the desired competence. In considering the competence “Professionalism,” for example, knowledge of ethical principles is an important component. To do this, the use of a ‘paper and pencil’ test would have face validity, and an appropriate set of questions could be constructed to allow for content validity. Yet, paper and pencil testing of ethical knowledge has insufficient construct validity as a method to fully evaluate the competence, Professional Behavior. Assessment of complex behaviors requires observation in a

variety of settings and under a variety of conditions... in this case, knowledge is a necessary but insufficient 'construct' of evaluation.

RELIABILITY

“The degree to which evaluation yields consistent results on repeated application.”

Correlation

Correlation (Equivalency reliability) is the extent to which two approaches used to measure the same aspects of performance at an identical level of difficulty will yield similar results. The degree of relationship or association can be tested by determining the correlation coefficient.

Internal Consistency

Internal consistency is the extent to which different approaches to evaluation assess the same characteristic, skill or quality. It is a measure of the precision of the method. This type of reliability helps determine the limits of the relationship among variables.

Using Professionalism as the subject under study, we might look at the **correlation** and **internal consistency** between the evaluation of a trainee's performance on a written test of ethics, and the subjective responses of peers and coworkers on a 360° evaluation survey. Knowledge of ethical principles may be a necessary element of Professionalism, but it is not sufficient. As the result, there might be poor correlation between these two approaches to evaluation. Conversely, one might anticipate higher correlation and consistency between the subjective impressions of peers and co-workers. This can also be defined as Inter-rater Reliability.

Inter-rater Reliability

Inter-rater reliability is the extent to which two the assessment of or more individuals (coders or raters) agree. Inter-rater reliability addresses the consistency of the implementation of a rating system. It is dependent upon the ability of two or more individuals to be consistent in their application of evaluation guidelines. Achieving inter-rater reliability is extremely important, especially when dealing with the more subjective aspects of competency evaluation. There are several methods that can be used to improve this aspect of Reliability:

- Establishing clear definitions of the elements of performance to be observed.
- Writing precise “anchor statements” for both the end and mid-points of the evaluation scale.
- Training all potential observes (attending physicians, peer trainees, medical co-workers, etc.) to use the evaluation instruments. The more developmental training there is, the higher the likelihood of inter-rater agreement on the meaning of the evaluation criteria.

Test/re-test Reliability (Stability)

Test/ re-test reliability is the agreement of measuring instruments over time. To determine stability, a measure or test is repeated at a future date, results are compared and correlated with the initial test to give a measure of stability. In a developmental model, however, the subjects would not be expected to continue to be performing at the same level over time. The only concern about stability reliability of an evaluation method relates to its reproducibility with different classes of trainees tested at the same stage of development.

EVALUATION METHODS

Assessment Methods Published by the ACGME

The ACGME has published a compendium of assessment tools on its website:

<<http://ACGME.org/Outcome/assess/Toolbox>>

The methods described include the following:

- 360-Degree Evaluation Instrument
- Chart Stimulated Recall Oral Examination (CSR)
- Checklist Evaluation of Live or Recorded Performance
- Global Rating of Live or Recorded Performance
- Objective Structured Clinical Examination (OSCE)
- Procedure, Operative, or Case Logs
- Patient Surveys
- Portfolios
- Record Review
- Simulations and Models
- Standardized Oral Examination
- Standardized Patient Examination (SP)
- Written Examination (MCQ)

The website provides a detailed description of each of these methods. In addition, ACGME has published a table suggesting which of these methods would be most appropriate for each of the competency elements. See below.

ACGME Suggested Best Methods for Competency Evaluation¹⁶

		Evaluation Methods												
Competency	Required Skill	Record Review	Chart. Stim. Recall	Check list	Global Rating	SP	OSCE	Simulations & Models	360° Evals.	Portfolios	MCQ Exam	Oral Exam	Logs	Patient Survey
Medical Knowledge	Investigatory & Analytical thinking		1					2	3			1		
	Knowledge & application of basic science							2	3		1	1		
Practice-Based Learning and Improvement	Analyze own practice for needed improvements	2	2			2	2	3	3	1				2
	Use of evidence from scientific studies	1	1			3	2			1	1	1		
	Application of research and statistical methods		2	3	3					1	3			
	Use of information technology					2	2		1	1			2	
	Facilitate learning of others			2	3				1	3				
Interpersonal & communication skills	Establish therapeutic relationship with patients			3			1	1		2				1
	Listening skills			3		1	1		2					1

Ratings: 1= most desirable; 2= next best method; 3= potentially applicable method

¹⁶ <http://www.acgme.org/Outcome/assess/Toolbox>>

ACGME Suggested Best Methods for Competency Evaluation, cont'd

		Evaluation Methods												
Competency	Required Skill	Record Review	Chart. Stim. Recall	Check list	Global Rating	SP	OSCE	Simulations & Models	360° Evals.	Portfolios	MCQ Exam	Oral Exam	Logs	Patient Survey
Patient Care	Caring and Respectful behaviors			3		1			2					1
	Interviewing			1		2	1		3					
	Informed decision-making		1	2			2					2		
	Develop and carry out manag't. plans	2	1	2	3			2	3					
	Counsel and educate patients and families			3		1	1		2					1
	Performance of procedures a) Routine physical exam			2		1	1							
	b) Medical procedures			1	3			1	2				3	
	Preventive health services	1				2	1			3			2	
	Work in teams			3	3				1					

Ratings: 1= most desirable; 2= next best method; 3= potentially applicable method

ACGME Suggested Best Methods for Competency Evaluation, cont'd

		Evaluation Methods												
Competency	Required Skill	Record Review	Chart. Stim. Recall	Check list	Global Rating	SP	OSCE	Simulations & Models	360° Evals.	Portfolios	MCQ Exam	Oral Exam	Logs	Patient Survey
Professionalism	Respectful, altruistic			3			1		2					1
	Ethically sound practice		2					2	1	3				2
	Sensitive to culture, age, gender, disability		2	2			1		1	3		2		2
Systems-based practice	Understand relationship to larger system						2		1	3				
	Knowledge of practice delivery systems		2				3			2	1			
	Practices cost-effective care	3		1					2					
	Advocate for patients within the health care system			3			2		1	2				1

Ratings: 1= most desirable; 2= next best method; 3= potentially applicable method

Performance Evaluation Tools¹⁷

Checklists

A checklist is a list of the elements of performance that should be accomplished. It identifies the skills that comprise competent performance. An example of a checklist for basic history-taking of the present illness might be:

- Greets patient
- Introduces self
- Begins with open-ended question: “Why are you here today?”
- Remains open-ended: “Can you tell me more about that?”
- Facilitates patient response by showing attention.
- Maintains appropriate eye-contact.
- Assesses characteristic elements of key symptoms.
- Checks unclear information
- Summarizes before moving on.

Checklists are useful tools because they allow for checks on validity and reduce inter-rater reliability. They do not address the quality of performance, however. The performance element is either present or absent.

Numeric Scales

Performance of any element of skill can be graded using a numeric scale (Likert scale). In the above example, some of the elements (*e.g.* “Assesses characteristic elements of key symptoms.”) might be graded on a scale from 0: “assessed none” to 2: “assessed some, to 4: “assessed all elements.” Numeric scales provide additional information on quality of performance. To be used effectively, however, they must have well defined, criterion-based “anchor statements” for at least the extremes, and preferentially for the central point as well. Obviously, this requires a consensus on the part of the faculty as to the key elements to be assessed, and the quality of performance that rates as inadequate, satisfactory and excellent.

Rubrics

Clinical skills are complex behaviors and must be evaluated in context. Some elements of a complex skill may be satisfactorily performed, others less so. Competence is demonstrated by the ability to perform effectively across the range of elements, not just on each in isolation. This may be more appropriately encompassed in a **Rubric** model, rather than as a checklist, even with scaling.

As an example, consider the performance of an ambulatory care visit. This includes elements of history-taking, physical examination, diagnostic and therapeutic planning, patient education, interaction with other health care providers, test and appointment scheduling, etc. The beginning clinician may meet performance guidelines for obtaining the factual elements of the basic patient history, but not yet be competent as an ambulatory care physician.

¹⁷ Arter, J., McTighe, J. Scoring Rubrics in the Classroom. Corwin Press< Inc. Thousand Oaks, CA. 2001

Constructing **Rubrics** for performance of complex behaviors requires several steps on the part of the faculty:

- The general components of the skill must be defined.
- The specific elements of each general component must be defined.
- Criteria for levels of performance of each element must be defined.
- Methods of assessment must be defined.

The use of **Rubrics** for assessment of complex activities also allows for evaluation of development as trainees progress. Beginners might be expected to be able to perform specific objective components as individual elements of activities, while more advanced trainees should be able to integrate all of the elements of a complex activity.

EVALUATING SPECIFIC COMPETENCIES

PROFESSIONALISM

.....¹⁸
• “Perhaps professionalism is like pornography: easy
• to recognize but difficult to define.”
•
.....

Professionalism in Medicine has become a hot topic and is the subject of frequent presentations at national meetings. As noted by Swick,¹⁸ the word “Professionalism” carries with it so many connotations, complexities and nuances, and is so widely used, that it has virtually lost its meaning. Yet, there is general agreement that Professionalism cannot be evaluated unless it is appropriately defined, and that the definition must specify behaviors that can be observed and evaluated. (See pp.10 and 11 for specific objectives pertaining to Professionalism)

In the recent report of a major consensus conference on the subject of professionalism in medical education, the following list of key elements was developed:¹⁹

ALTRUISM	INTEGRITY
ACCOUNTABILITY	LEADERSHIP
CARING	RESPECT
COMPASSION	RESPONSIBILITY
EXCELLENCE	SCHOLARSHIP

The ACGME includes these elements in its description of the Professionalism competency (see pg. 10):

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- **demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development**
- **demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices**
- **demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities**

¹⁸ Swick, HM, Toward a Normative Definition of Medical Professionalism. Academic Medicine 2000; 75:612-616

¹⁹ Embedding Professionalism in Medical Education: Assessment as a Tool for Implementation, Report of an Invitational Conference co-sponsored by the AAMC and the NBME, Baltimore, MD 2002.

THERE IS NO EASILY USED SCALE FOR EVALUATING PROFESSIONAL BEHAVIOR

Despite the effort to define professionalism and identify specific behaviors that can be subject to observation and evaluation, it has been more difficult to develop evaluation methods appropriate to clinical practice settings.^{20, 21}

“Traditional ways of evaluating professionalism do not make allowances for gray areas.”²²

- Professional behavior is context dependent and will be evaluated differently by different observers. As the result, a large number of observations may be required for reliable evaluation (inter-rater reliability tends to be low).
- Even if faculty can identify problematic behavior in a reliable way, they are reluctant to report it... because they are concerned about the impact of the report on the trainee’s career, because they assume that it is futile to try to change a trainee’s behavior, or because they are concerned about dealing with the possible negative consequences of filing an adverse report.

Project Professionalism of the American Board of Internal Medicine has published the following recommendations for the evaluation of professionalism.²³

- Rely on multiple observations by multiple evaluators.
- Use peer evaluation and professional associate ratings form (PARs) to assess components of professionalism (see pp. 28-29 a copy of the form).
- Develop a self-assessment questionnaire regarding components of professionalism for use by trainees and attending faculty.
- Develop a critical events file and/or use feedback cards for trainees to document both positive and constructive comments.
- Expand traditional performance evaluation forms to incorporate components of the definition of professionalism and descriptors of standards.
- Incorporate professionalism items (multiple choice and/or essay questions) into departmental in-service examinations.

²⁰ Arnold, L., Assessing Professional Behavior: Yesterday, Today, and Tomorrow. *Academic medicine* 2002;77:502-515

²¹ Assessment of Professionalism Annotated Bibliography, UGME Section. AAMC, 2004

²² Ginsberg, S, Regher, G, Hatala, R, McNaughton, N, Fronha, A, Hodges, B, Lingard, L, Stern, D. Context, Conflict, and Resolution: A New Conceptual Framework for Evaluating Professionalism. *Academic Medicine* 2000; 75 (10):S6-S11

²³ <http://www.abim.org/pubs/p2/strategy.htm>



To a great extent, the evaluation of professional behavior occurs as a reaction to situations in which clearly inappropriate, unprofessional behaviors have occurred.

Identifying Unprofessionalism in Physicians²³

The following descriptors may serve to identify behavior unacceptable for meeting the standards of professionalism inherent in being a physician.

Unmet professional responsibility

- Needs continual reminders about fulfilling responsibilities to patients and to other health care professionals.
- Cannot be relied upon to complete tasks
- Misrepresents or falsifies actions and/or information, for example, regarding patients, laboratory tests, research data

Lack of effort toward self-improvement and adaptability

- Is resistant or defensive in accepting criticism
- Remains unaware of own inadequacies
- Resists considering or making changes
- Does not accept responsibility for errors or failure
- Is overly critical/verbally abusive during times of stress
- Demonstrates arrogance

Diminished relationships with patients and families

- Lacks empathy and is often insensitive to patients' needs, feelings and wishes or to those of the family
- Lacks rapport with patients and families
- Displays inadequate commitment to honoring the wishes and wants of the patient

Diminished relationships with health care professionals

- Demonstrates inability to function within a health care team
- Lacks sensitivity to the needs, feelings and wishes of the health care team

²³ <http://www.abim.org/pubs/p2/strategy.htm>

²⁴ Flamm, E., Personal Communication, AECOM Seminar on Professionalism, 2001

EVALUATING PROFESSIONALISM ON CLINICAL ROTATIONS²⁵

Trainee: _____ Rotation: _____	5 Above	3 Meets	1 Below	N/O
		No Lapses	Lapses Observed	Not Observed
Altruism <ul style="list-style-type: none"> • Demonstrates sensitivity to patients' needs • Takes time and effort to explain information • Takes time and effort to comfort sick patient • Listens sympathetically to patients' concerns • Puts patients' interests before his/her own • Shows respect for patients' confidentiality 				
Duty: Reliability/Responsibility <ul style="list-style-type: none"> • Completes assigned tasks completely and fully • Fulfills obligations • Takes on appropriate share of team's work • Fulfills call duties • Reports accurately and fully on patient care activities • Always ensures transfer of responsibility for patient care • Informs supervisors if mistakes occur 				
Excellence: Self-Improvement and Adaptability <ul style="list-style-type: none"> • Accepts constructive feedback • Recognizes limitations and seeks appropriate help • Incorporates feedback to make changes in behavior • Adapts well to changing circumstances • Reads on patient cases • Reliably attends rounds, seminars, etc 				
Respect for others: <ul style="list-style-type: none"> • Establishes rapport with team members • Maintains appropriate boundaries • Relates well to students • Relates well to colleagues • Relates well to other health professionals • Relates well to faculty 				
Honor/Integrity <ul style="list-style-type: none"> • Accurately represents skills and qualifications • Uses professional language • Resolves conflicts appropriately • Behaves honestly • Respects diversity and culture • Dresses appropriately 				

Scale: 5- Above expectations 3- Meets expectations 1- Below expectations N/O Not in a position to observe and evaluate.

²⁵ Adapted from Task Force on Professionalism in Undergraduate Medicine, University of Toronto, 2001

SYSTEMS-BASED PRACTICE

26

“This competency might seem the least grounded in traditional contemporary GME curricula.”

ACGME Language (see pages 12-13 for specific goals and objectives)

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
- practice cost-effective health care and resource allocation that does not compromise quality of care
- advocate for quality patient care and assist patients in dealing with system complexities
- know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance

²⁶ Dyne, PL, Strauss, RW, Rinnert, S. Systems-based Practice: The Sixth Core Competency. Acad. Emerg. Med. 2002; 9: 1270-1277

Demonstrating Competence²⁷

Interdisciplinary Collaboration

- Select a patient who has an interdisciplinary plan of care and talk with each of the team members to assess their perspective on the patient's major problems and what they see as their role in the patient's care. You can either summarize all the interviews/ interactions at once or individually with a comment on what you did (or did not) learn from this experience.

Patient Advocacy

- Near the time of discharge, sit down with one of your patients who will need treatment even after leaving the hospital and ask them to describe their hospital experience (what their understanding is of their diagnosis and the treatments received), how they will cope at home, what resources they will use, etc. Choose patients with limited resources who still require many medications and/or services rather than an educated, resource rich patient with a self-limited problem.

Help Patients Find Resources

- Advocate for an underserved patient to get necessary resources (For example you may discover a patient qualifies for a discount drug plan and you help enroll them).

Costs of Healthcare

- Review the itemized charges for your patient's stay, the DRG reimbursement, and how much your patient will have to pay. The purpose of this exercise is to acquaint you with the charges for common medical tests, medications, hospital rooms, etc., to give you insight into why lengths of stay are shortening, and to help you understand how hospitals are reimbursed for patient care.
- Analyze ordering practices of labs, x-rays, and other tests for one of your patients and calculate the approximate cost. In retrospect, reflect on whether all these tests were really necessary (e.g. did they change management) and if not, estimate the potential cost savings to your patient. (Include adverse outcome "costs" as well as monetary.)
- Pick 1-2 days of one of your patient's hospital stay and write out the anticipated charges (e.g. fee for the room, tests, medicines, doctor fees, etc.) and compare the coverage that would be provided if the patient had Medicare, Medicaid, or BC/BS and how much the hospital is reimbursed for each of these.

²⁷ University of Florida School of Medicine 2003 http://www.medicine.ufl.edu/3rd_year_clerkship

Systems Errors

Types of Errors

- **Diagnostic**
 - Error or delay in diagnosis
 - Failure to employ indicated tests
 - Use of outmoded tests or therapy
 - Failure to act on results of monitoring or testing
- **Treatment**
 - Error in the performance of an operation, procedure, or test
 - Error in administering the treatment
 - Error in the dose or method of using a drug
 - Avoidable delay in treatment or in responding to an abnormal test
 - Inappropriate (not indicated) care
- **Preventive**
 - Failure to provide prophylactic treatment
 - Inadequate monitoring or follow-up of treatment
- **Other**
 - Failure of communication
 - Equipment failure
 - Other system failure

SOURCE: Leape, Lucian; Lawthers, Ann G.; Brennan, Troyen A., et al. Preventing Medical Injury. Qual Rev Bull. 19(5):144–149, 1993.

Resident Exercise: Based on a case address the following issues in a one-page summary:

- I. Identify at least one problem with the system that had an adverse affect on the encounter or outcome.
- II. Identify at least two strategies for intervention. These should be strategies aimed at correcting or improving “the system.” Include potential ways to implement the strategies (who and what resources in the system would be necessary to implement your strategies).
- III. For each strategy, describe how the intervention would have affected the outcome of the case.

Project Evaluation

	Level of Competence	
	Below Standards	Meets Standards
Criterion		
1. Problem	<input type="checkbox"/> Identified but not a “systems” problem	<input type="checkbox"/> Identified and is a “systems” problem
2. Intervention/ outcome	<input type="checkbox"/> Major flaws in strategies not identified	<input type="checkbox"/> Major flaws in strategies identified

Assessment of Individual Residents:

1. Written examinations - Much system-based practice information is knowledge based. For instance, information regarding the allocation of resources within our system, the workings of private health insurance schema, Medicare and Medicaid, and the health needs of particular populations involve knowledge that is assessable by direct examination.
2. Skills involved in accessing services for particular patients or patient populations are directly observable. However, such observation may not always be practical. As a result, assessment should be based on case presentations in which the resident explains the problem confronting her and the patient and the approach to accessing and utilizing the resources necessary.
3. Skills such as interactions with other members of the team or members of the health-care system should be assessed through evaluation of the relevant parties along the model of a 360-degree evaluation.

Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.

- ✓ Differentiates between various medical practices, including hospital and community based models, PPO, and HMO health care delivery systems
- ✓ Describes the methods by which individuals or hospitals can be reimbursed, including fee-for service, capitation, hospital DRGs, etc.
- ✓ Become familiar with documentation criteria for different levels of care

Practice cost-effective health care and resource allocation that does not compromise quality.

- ✓ Demonstrates commitment to the practice of cost-effective medical care
- ✓ Considers cost/benefit analysis in providing clinical care
- ✓ Identifies factors that contribute to rising health care costs and strives to lessen these
- ✓ Recognizes resource limitation within the health care system

Advocate for quality patient care and assist patients in dealing with system complexities.

- ✓ Recognizes potential conflicts of interest between the individual patients and their health care organizations
- ✓ Anticipates problems patients/caregivers may face in negotiating the health care system and advocates on the patient's behalf

Partner with health care managers and health care providers to assess, coordinate, and improve health care.

- ✓ Identifies and works with other health care professionals and organizations that may assist in a patient's care.
- ✓ Functions as the coordinator of a health-care team to manage complex patient issues
- ✓ Recognizes health care team's impact on the system (e.g. keeping a sick patient out of the hospital/higher care institution).

Understand the reciprocal impact of personal professional practice, health care teams, and the health care organization on the community/society.

- ✓ Identifies ways in which a physician may interact with health-care professionals, health administrators, and community groups to positively impact the health and well being of one's community
- ✓ Gathers information about the community in which one works (e.g. demographics, and socio-cultural beliefs and practices that affect health and disease)
- ✓ Identifies the natural history and epidemiology of major health problems in the community being served (e.g., discussing the literature on incidence, prevalence and expected course of common conditions encountered in the discipline)