

# Toward an Understanding of Competency Identification and Assessment in Health Care Management

*Judith G. Calhoun, Pamela L. Davidson, Marie E. Sinioris, Eric T. Vincent, and John R. Griffith*

*Given the revolutionary changes occurring in the health care industry, there is increasing agreement that academicians and practitioners must collaborate to identify and prioritize major educational outcomes for health care management. Several competency initiatives have been undertaken or completed in health care and health care management in the last 5 to 7 years. Health care leaders who have undertaken such endeavors reveal that the task is most formidable. This article provides: (1) a summary of progress in competency identification for health management, (2) an historical overview on competency-based education and assessment, (3) a glossary of terms used in discussions on competency-based education and training, and (4) an outline of the challenges and benefits associated with competency modeling.*

Key words: *competency, competency-based learning, evidence-based learning*

*Quality Management in Health Care*, 2002, 11(1), 14–38  
© 2002 Lippincott Williams & Wilkins, Inc.

The process of educational design at the professional school level must be some combination of the core knowledge and skills needed in our field, influenced by a timely response to the challenges our graduates will face. This involves knowledge of both the demands of employers and feedback from alumni and students. It is also our responsibility as educators and practitioners to look ahead for developing trends and paradigms for action in the health sector that will allow our students, and our own intellectual inquiry, to push the envelope further, and to proactively shape the field of management in health, not just to respond to it. In a sense, we face a double challenge in teaching health sector management—not just teaching “how to,” but also “what for.”

—Jo Ivey Boufford, MD

As in many professions during the past decade, there has been a resounding call for both curricular content and process review for potential reform in health administration education and training programs.<sup>1–4</sup> Both Boufford<sup>5</sup> and Griffith<sup>6</sup> in their Andrew Patullo lectures delivered at the annual meetings of the Association of University Programs in Health Administration (AUPHA) called for the rethinking of current educational practices. Boufford stressed the need for a paradigm change from the

---

**Judith G. Calhoun, PhD**, is Associate Professor, Health Management and Policy, School of Public Health, University of Michigan, Ann Arbor.

**Pamela L. Davidson, PhD**, is Associate Adjunct Professor, Center for Health Policy Research, University of California, Los Angeles.

**Marie E. Sinioris, MPH**, is Vice President and Chief Administrative Officer, National Center for Healthcare Leadership, Chicago.

**Eric T. Vincent, MS**, is an Industrial/Organizational Psychologist, ACT, Inc., Iowa City, Iowa.

**John R. Griffith, MBA**, is Professor, Health Management and Policy, School of Public Health, University of Michigan, Ann Arbor.

current curricular emphasis on managing provider organizations to a focus on the broader health sector, the larger society, and the health of the populations served. Griffith challenged colleagues to consider initiatives such as evidence-based health administration education and other more standardized, quantifiable approaches to assessing program quality. In an article also on future educational approaches in the profession, Griffith<sup>6a</sup> pointed out the need for agreement on the concept of an evidenced-based, customer-oriented approach to education by: (1) identifying the key knowledge, skills, and abilities that contribute to the success of health care organizations and managers; (2) measuring student mastery of such; and (3) moving toward a higher level of mastery throughout the field.

During the past decade, there has been a growing interest in learning and competency-based systems in various areas of education, training, and professional development, especially in higher education.<sup>7,8</sup> Several competency initiatives have been undertaken or completed in health care and health care management during the last 5 to 7 years, including: the Accreditation Council for Graduate Medical Education (ACGME), the Health Financial Management Association (HFMA), the Council on Linkages between Academia and Public Health Practice, the Association to Advance Collegiate Schools of Business, the Association of Schools of Public Health, the American College of Medical Practice Executives (ACMPE), the Healthcare Information and Management Systems Society (HIMSS), the American College of Healthcare Executives, the American Nurses Association, the American Hospital Association, and the National Association of Boards of Pharmacy. The specific domains and competencies that have been disseminated to date by these organizations and other authors addressing management competencies have been summarized in Table 1.

Both formal interviews and informal discussions with the health care leaders who have undertaken initiatives reveal that the task is most formidable and at times rife with controversy. This article has been developed to facilitate discussions associated with competency modeling in health care management

education by providing: (1) a summary of recent progress in competency identification for health management, (2) an historical overview on competency-based education and assessment, (3) a glossary of terms frequently used in discussions surrounding competency-based education and training, and (4) an outline of the key challenges and benefits associated with competency modeling.

### **Background: Calls for Action in Health Care Management Education**

In the Winter and Spring 2000 issues of the *Journal of Health Administration Education*, several authors summarized their research and related recommendations for improving the educational programs in health administration and adapting them to current changes in the industry's environment (Tables 1–4).<sup>9–12</sup> Given the impact variables identified by these and other authors,<sup>13,14</sup> as well as the revolutionary changes occurring in the health care industry,<sup>15</sup> there is increasing agreement that both academicians and practitioners in the industry will need to collaborate to identify and prioritize the major educational outcomes for the field to pursue in the next decade.

In February 2001, 200 national leaders in health care attended a National Summit on the Future of Education and Practice in Health Management and Policy, sponsored by the Accrediting Commission on Education for Health Services Administration, AUPHA, and the Health Research and Development Institute. Several widely recognized needs for change were reported, including:

- Deficiencies of the current health care system in cost, quality, and patient satisfaction
- Difficulties in attracting a fair share of young leaders
- Lack of documented contribution from accredited academic preparation
- Breakdown of communication between practitioners and academic institutions
- Declining support for young managers, particularly in close mentoring relationships and planned career development

*(text continues on p. 20)*

**Table 1**

## SELECTED COMPETENCY MODELS IN MANAGEMENT

Goleman Competency Model—3 domains:<sup>a</sup>

- Purely technical
- Cognitive
- Emotional intelligence

## Program Director Survey of Essential Graduate Skills and Abilities

- Personal and interpersonal skills
- Oral and written communication
- Information systems and management
- Financial analyses
- Leadership
- Conceptual/critical thinking
- Management/strategy
- Quantitative/analytical
- Health care industry knowledge change management
- Issue/Important topics knowledge
- Solving problems/making decisions
- Systems thinking/integrative
- Health status improvement

Accreditation Council For Graduate Medical Education—6 general competencies and 28 subcompetencies:<sup>54</sup>

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Interpersonal and communication skills
- Professionalism
- Systems-based practice

Competency Assessment Tool Approach—4 domains, 52 competencies:<sup>44</sup>

- Technical skills  
(operations, finance, information resources, human resources, strategic planning/external affairs)
- Industry knowledge  
(Clinical process and health care institutions)
- Analytical and conceptual reasoning
- Interpersonal and emotional intelligence

Key Health Services Management Effectiveness Skills and Abilities<sup>10</sup>

- Communications
- Analytical skills
- Leadership
- Human relations
- Computer literacy
- Other:
  - Conflict resolution
  - Decision making
  - Flexibility
  - Team-based work
  - Critical approval
  - Business issue management
  - Networking
  - Utilization management
  - Patient information management

Symposium on Building the Knowledge for Leadership Development for the Improvement of Healthcare—Host: Dartmouth Medical School:<sup>23</sup>

- Health care as a process and system
- Variation and measurement
- Customer/beneficiary knowledge
- Collaboration
- Develop locally useful knowledge
- Leading and making change
- Social context and accountability
- Professional subject matter

*continues*

**Table 1**

CONTINUED

Future Health Care Management Skills:<sup>b</sup>

- Leadership
- Analytical
- Ethical practice
- Social responsibility
- Customer orientation/market acumen
- Community and health care team involvement/collaboration
- Negotiation
- Interpersonal skills
- Cultural diversity management
- Information systems management

Skill Combinations Most Desired by Employers—4 domains:<sup>d</sup>

- Managing self
  - Analyzing and solving problems
- Communicating
  - Listening
  - Hearing
  - Persuading
- Managing people and tasks
  - Decision making
  - Resolving conflict
  - Leading change
- Mobilizing innovation and change
  - Thinking creatively
  - Taking risks
  - Envisioning a better future

## Healthcare Information and Management Systems

Society—3 general competencies, 10 subcompetencies:<sup>f</sup>

- General
  - Health care environment
  - Technology environment
- Systems
  - Analysis
  - Design
  - Selection, implementation, support, and maintenance
  - Testing and evaluation
  - Data integrity
  - Security/privacy
- Administration
  - Leadership
  - Management

Competency Clusters for Financial Health Care Roles—3 clusters and 8 subcompetencies<sup>c</sup>

- Understands the business of the environment
  - Strategic thinking
  - Systems
- Make it happen
  - Results orientation
  - Collaborative decision making
  - Action orientation
- Leads others
  - Championing business thinking
  - Coaching and mentoring
  - Impact and influence

The Body of Knowledge for Medical Practice Management—5 domains, one with 8 performance domains and 21 subcompetencies<sup>e</sup>

- Professionalism
- Leadership
- Communication skills
- Organizational and analytical skills
- Technical/professional knowledge and skills
  - Financial management
  - Human resource management
  - Planning and marketing
  - Information management
  - Risk management
  - Governance and organizational dynamics
  - Business and clinical operations
  - Professional responsibility

American College of Healthcare Executives—10 general competencies, 57 knowledges:<sup>g</sup>

- Governance and organizational structure knowledge
- Human resources knowledge
- Financial knowledge
- Health care technology and information management knowledge
- Quality and performance improvement knowledge
- Laws and regulations
- Professionalism and ethical knowledge
- Health care knowledge
- Management knowledge
- Business knowledge

*continues*

**Table 1**

CONTINUED

American Hospital Association  
Certified Health Care Facility Manager<sup>b</sup>

- Compliance
- Planning, design, and construction
- Maintenance and operations
- Finance
- Administration

Certified Professional in Health Care Risk Management<sup>c</sup>

- Loss prevention/reduction
- Claims management
- Risk financing
- Regulatory/accreditation compliance
- Operations
- Bioethics

Certified Health Care Environmental Services  
Professional<sup>d</sup>

- Regulatory compliance
- Design and construction
- Operations related to environmental sanitation
- Operations related to waste management
- Operations related to textile management
- Finance
- Administration

Certified Materials and Resource Professional<sup>k</sup>

- Purchasing/product value analysis
- Inventory distribution management
- Support services
- Information systems
- Finance
- Strategic planning/leadership

American Nurses Association<sup>l</sup>

- Organization and structure
- Economics
- Human resources
- Ethics
- Legal and regulatory

National Association of Boards of Pharmacy<sup>m</sup>—3 competency domains, 9 competency statements, and 37 subcompetencies:

Area 1 Manage drug therapy to optimize patient outcomes

- Evaluate the patient and/or patient information to determine the presence of a disease or medical condition; determine the need for treatment and/or referral; and identify patient-specific factors that affect health, pharmacotherapy, and/or disease management
- Assure the appropriateness of the patient’s specific pharmacotherapeutic agents, dosing regimens, dosage forms, routes of administration, and delivery systems
- Monitor the patient and/or patient information and manage the drug regimen to promote health and assure safe and effective pharmacotherapy

Area 2 Assure the safe and accurate dispensing of medications

- Perform calculations required to compound, dispense, and administer medication
- Select and dispense medications
- Prepare and compound extemporaneous preparations and sterile products

Area 3 Provide drug information and promote public health

- Access, evaluate, and apply information to promote optimal health care
- Educate patients and health care professionals on prescription medications, nonprescription medications, and medical devices
- Educate patients and public on wellness, disease states, and medical conditions

a. D. Goleman. “What Makes a Leader?” *Harvard Business Review*, 76, no. 6 (1996): 93–102.

b. T.T.H. Wan. “Evolving Health Services Administration Education: Keeping Pace with Change.” *Journal of Health Administration Education* 18, no. 1 (Winter 2000): 11–29.

c. See reference 32.

d. F.T. Evers et al. *The Bases of Competence*. San Francisco: Jossey-Bass Publishers, 1998.

*continues*

**Table 1**  
continued

e. American College of Medical Practice Executives. *Defining the Profession: A Guide to the Body of Knowledge for Medical Practice Management*. Chicago, IL: 2001.

f. Healthcare Information and Management Systems Society. (2001, December). *Candidate Handbook and Application*. Retrieved May 22, 2002, from [http://www.himss.org/content/files/CPHIMS\\_handbook.pdf](http://www.himss.org/content/files/CPHIMS_handbook.pdf)

g. American College of Healthcare Executives. (2002). *American College of Healthcare Executives Board of Governors Examination Outline 2002*. Retrieved May 15, 2002, from <http://www.ache.org>

h. American Hospital Association Certification Center. (2002). *Certified Healthcare Facility Manager: Candidate Handbook and Application*. Retrieved May 22, 2002, from <http://www.aha.org/certification>

i. American Hospital Association Certification Center. (2002). *Certified Professional in Healthcare Risk Management: Candidate Handbook and Application*. Retrieved May 22, 2002, from <http://www.aha.org/certification>

j. American Hospital Association Certification Center. (2002). *Certified Healthcare Environmental Services Professional: Candidate Handbook*. Retrieved May 22, 2002, from <http://www.aha.org/certification>

k. American Hospital Association Certification Center. (2002). *Certified Materials & Resource Professional: Candidate Handbook*. Retrieved May 22, 2002, from <http://www.aha.org/certification>

l. American Nurses Credentialing Center. (2001). *Generalist Catalog for ANCC Certification*. Retrieved May 2002, from <http://nursingworld.org/ancc/certify/cert/catalogs/index.htm#admin>

m. National Association of Boards of Pharmacy. *Pharmacy Curriculum Requirements*. Retrieved June 4, 2002, from <http://www.nabp.net/>

**Table 2**

COMPARISON OF THE STUDIES IDENTIFYING THE MOST IMPORTANT SKAs (IN DESCENDING ORDER—HIGHEST RATED IS LISTED AT THE TOP)

Hudak et al. 1993 (ACHE)	Hudak et al. 1994 (Federal CEO/COOs)	Duperroir 1995 (Federal Nurses)
<ul style="list-style-type: none"> <li>– patience, listening skills, and communications</li> <li>– leadership, management, human relations</li> <li>– strategic thinking and sense of vision</li> <li>– understand physician motives, needs, and politics</li> <li>– conflict management, team building, and motivational leadership</li> </ul>	<ul style="list-style-type: none"> <li>– patience, listening skills, and communications</li> <li>– leadership, management, human relations</li> <li>– understanding managed care initiatives contracts</li> <li>– conflict management, team building, motivational leadership</li> <li>– strategic thinking and sense of vision</li> </ul>	<ul style="list-style-type: none"> <li>– diplomacy, tact, patience, open-mindedness, ability to visualize</li> <li>– work with multidisciplinary leadership</li> <li>– knowledge in case management/ utilization review</li> <li>– communicate effectively: read, write, and listen</li> </ul>
Hudak et al. 1997 (ACMPE)	Sentell and Finstuen 1998 (Federal CEO/COOs)	Brooke et al. 1998 (Physicians in Ambulatory Settings)
<ul style="list-style-type: none"> <li>– listen, hear, respond</li> <li>– build trust, respect, integrity</li> <li>– ability and adaptability to change</li> <li>– speak effectively, write with purpose, and listen attentively</li> <li>– work with many types of individuals</li> </ul>	<ul style="list-style-type: none"> <li>– people skills</li> <li>– team-building</li> <li>– personal responsibility</li> <li>– innovation</li> <li>– communication skills</li> </ul>	<ul style="list-style-type: none"> <li>– build and maintain credibility and trust</li> <li>– be honest when facing hard decisions</li> <li>– articulate a course for the organization</li> <li>– persuade others to work as a team to achieve group’s goal</li> <li>– look for win/win solutions</li> </ul>

Source: Reprinted with permission from R.P. Hudak et al. “Identifying Management Competencies for Healthcare Executives: Review of a Series of Delphi Studies.” *The Journal of Health Administration Education* 18, no. 2, pp. 213–243, © 2000, AUPHA.



**Table 3**

CATEGORIES OF PROGRAM DIRECTORS' RECOMMENDATIONS FOR TRANSFORMING HEALTH SERVICES MANAGEMENT EDUCATION PROGRAMS

Rank	Category
1	Professional practice
2	Information systems/new technology
3	Leadership/ethics
4	Changes in health management programs
5	Population/outcomes-based management
6	Workforce development
7	Expanding student base
8	Navigating industry change
9	Integrative perspectives
10	General management
11	Specific health industry topics
12	Communication
12	Quantitative skills
12	Finance

Source: Reprinted with permission from R.M. Andersen et al. "Program Directors' Recommendations for Transforming Health Services Management Education." *The Journal of Health Administration Education* 18, no. 2, pp. 153-173, © 2000, AUPHA.

(text continues on p. 15)

- Shortfalls in mid-career education in health care compared to the leading corporations in other industries
- Failures in the advancement of women and underrepresented minorities, and
- An acute shortage of individuals prepared for the senior ranks of the emerging multibillion dollar health care systems and health insurance companies.<sup>17</sup>

Based on these problem areas—and the “new rules” of the Institute of Medicine’s report<sup>16</sup> on quality—it was argued that a new level of leadership in American health care was demanded. A four-part program of continuous improvement was subsequently recommended by the Summit attendees, including the documentation of learning outcomes for the enhanced development of entry-level health care management careerists and continual improvement in educational programs.

**Table 4**

RECOMMENDED EDUCATIONAL OUTCOMES

- Change management
  - Environmental scanning, forecasting, and competency analyses
  - Consolidation management
  - Managed care contracting
  - Organizational design/redesign
  - Negotiation
  - Interorganizational relations
  - Strategic human versus management
- Finance and reimbursement
  - Resource allocation
  - Risk contracting
- Populations-based organizational management
  - Systems integration
  - Evaluation research
  - Data analysis and interpretation
  - Continual process improvement
  - Building and managing effective teams
- Information systems and technology
  - Cost-effective systems development
  - Internet use
  - Standardization and compliance
  - Ethical/legal issue management
  - Security and confidentiality assessment
- Quality improvement (Baldrige criteria)
- Standardization
- Consumer Satisfaction
  - Environmental analysis
  - Continuous quality improvement
  - Team development
  - Employee training and development
- Market and regulatory
  - Strategic management of health services
  - Lifelong learning

Source: Reprinted with permission from P.L. Davidson et al. “A Framework for Evaluating the Impact of Health Services Management Education.” *The Journal of Health Administration* 18, no. 1, pp. 1-48, © 2000, AUPHA.

Also reported at this Summit were the preliminary reports of six task forces—faculty forums—organized by AUPHA to identify specific teachable skills and knowledge in health care management in the following areas:

- Diversity leadership
- Ethics
- Health care finance

**Based on problem areas and the new rules of the Institute of Medicine's report on quality, a new level of leadership in American health care was demanded.**

- Human resource management
- Organizational behavior and theory
- Quality improvement

Drawing on the texts and syllabi traditionally used in health administration curricula and prior research and recommendations for transformation in the health services management education, these groups identified skills they felt could be taught, mastered, and measured.<sup>17</sup> All groups retrospectively reported on the difficulty of reaching consensus without an overarching framework to guide their work and decision making. Many of the representatives from the faculty forums also agreed with the Diversity Leadership and Quality Improvement forums—that their initial identification activities served as the first step in a long-term initiative to encourage: (1) academics to increase health services management research and (2) health care managers to rely on this research to ensure their practices were evidence-based. Brief overviews of each of these faculty forum initiatives are provided in Table 5.

In the process of identifying and prioritizing competencies, the faculty forums' work resulted in a number of reconceptualizations and conclusions.

- The Diversity Leadership Forum used a three-step process to ensure broad-based involvement from both academics and professionals from the industry. Bloom's *Taxonomy*<sup>18</sup> was used to define the progression in competence as the health services manager advances through undergraduate study, graduate studies, and continuing professional education. Three competency domains—individual, group, and organizational—and eight subcompetencies were identified and further refined into specific behavioral objec-

tives ( $n = 90$ ) and organized into three sections: theory, research, and practice.<sup>19</sup>

- The Health Care Finance Forum focused on the methodological issues that emerged from their identification and specification process, involving: (1) structural problems related to how the competencies should be defined, (2) applicability across courses, and (3) problems related to the scope and purpose of the competencies—generalist versus specialists measurement.<sup>20</sup>
- A key observation from the Human Resources Management Forum was that the specific competencies may have to be changed, over time, in response to changes in the health care environment.<sup>21</sup>
- The Organizational Behavior and Theory Forum learned that specific competencies might differ

**Table 5**

HEALTH CARE INDUSTRY ENVIRONMENT: 1998  
HEALTH ADMINISTRATION EDUCATION  
PROGRAM DIRECTORS' VIEWS

Major change affecting the industry	% of total responses
Structural changes	30
Reimbursement and cost control	13
Focus on populations and medical outcomes	11
Advances in information systems and technology	9
Market and regulatory environment	9
Provider roles and relationships	7
Law, ethics, and accountability	6
Changing population demographics	4
Quality	4
Uncertainty	2
Access	2
Globalization	2
Other	1
Total response	100

Source: Reprinted with permission from P.L. Davidson et al. "A Framework for Evaluating the Impact of Health Services Management Education." *The Journal of Health Administration* 18, no. 1, pp. 1–48, © 2000, AUPHA.

Data reported from the 1998 National Survey of Program Directors.



significantly based on organizational context (i.e., health system versus skilled nursing facilities), span of control, variety of management experiences, professional career development, and mentoring history.<sup>22</sup>

- The Quality Improvement Forum raised several key issues in developing a framework for competency identification, including:
  - Reconciliation and linkage with other industry segment
  - Extent of transferability across career stages
  - Applicability to the review and refinement of educational programs
  - Articulation with other disciplines

The report from this forum also stressed that the development of core competencies in health administration needed to be conducted in recognition of the interdependent roles in health care and the evolving structure of health care practice, while taking into account the broader context of health care delivery.<sup>23</sup>

As can be noted, these expert panels encountered a number of significant difficulties and methodological issues in determining the specific competencies and related measurable outcomes for their discipline. Their experiences parallel the literature regarding competency identification and assessment, which reveals that most endeavors such as those undertaken by these faculty forums are rarely successful and are quickly abandoned because of:

1. Lack of a common understanding of the specific goals for the endeavor
2. Inconsistencies and variability in the applied language for carrying on an investigative dialogue
3. Variability in organizational structures and membership for the initiative (volunteers/appointees, experts/lay, practitioners/academics)
4. Differences in stakeholder motivations and “buy-in”

To add perspective to these current initiatives in competency identification in health care management education, an overview of competency modeling in general from both the education and psychology literature is provided. The remainder of this article focuses on the key issues, benefits, implementation processes, and prescripts for success in profes-

sional education competency identification and assessment. The implications for application of the competency-based movements within health care management and policy education are discussed in the concluding remarks.

### Historical Perspective: Competency-Based Education and Assessment

Competency modeling gained the greatest recognition in the 1970s with the work of David McClelland,<sup>7</sup> a Harvard psychologist with a research emphasis in human motivation and achievement. McClelland developed a set of personality tests to identify which patterns of behaviors, attitudes, and habits were shared and demonstrated by high achievers. His methodology primarily included research on two groups: (1) outstanding performers in a job class and (2) those whose jobs in the same class were secure but who were not exceptional in performance. Nevertheless, the true roots of competency-based education and training (CBET) extend as far back as the 1920s, with the work of Fred E. Taylor, the “Father of Scientific Management,” who specialized in work flow and task analyses. CBET also gained from the work of J. Flanagan during World War II, when he developed the critical incident interview to identify crucial traits and skills for successful performance by gathering data on the behavior and observations of people in relevant situations, job events, crises, and performance problems. His focus, however, did not deal with patterns of thinking and feeling as reflected in McClelland’s work.<sup>7</sup>

The seminal work in educational competency identification and measurement was that of Bloom<sup>18</sup> and Krathwohl.<sup>24</sup> In the early 1950s, Benjamin S. Bloom, an educational psychologist at the University of Chicago, led a series of conferences with more than 30 “expert” educational leaders to address the lack of consensus and communication difficulties among educators in relation to identifying, prioritizing, and assessing educational outcomes. The results of these conferences led to a theoretical framework to be used to facilitate communication about curriculum development and assessment among educators.

In 1956, Bloom and colleagues published the first *Taxonomy of Educational Outcomes* in the cognitive domain (thinking, remembering, and problem solving) for enhancing educational development. The *Taxonomy* was expected to be of assistance to all teachers, administrators, professional specialists, and researchers dealing with curricular and evaluation problems by facilitating communication across the various educational arenas. By using the *Taxonomy* as a set of standard classifications, it was expected that educators should be able to better define the many nebulous terms often encountered in curriculum development and evaluation initiatives.

Bloom and colleagues' theoretical framework addressed educational outcomes in three major areas:

- Cognitive domain: Those outcomes/objectives that deal with recall or recognition of knowledge and the development of intellectual *abilities* and *skills*. (This domain remains the one most central to traditional curriculum development programs and to standardized test development and instrumentation.)
- Affective domain: Objectives that describe changes in *interest*, *attitudes*, and *values*, and the development of appreciation and adequate adjustment. (This domain is often the most difficult to describe because of the lack of clarity and agreement among educators in their specification of appropriate behaviors for assessment. As well, using procedures in this domain remains somewhat primitive by today's evaluation standards.)
- Psychomotor domain: Those objectives addressing manipulative or motor skill areas (i.e., ice skating, surgical procedures). (This was the last of the three educational domains to be classified in the 1970s).

A condensed version of the Cognitive and Affective Domains is provided in Table 6. Of the three domains, these two are more relevant to the development of knowledge, skills, attitudes, and values (KSAVs) in health care management education and professional development. This table provides an overview of the classification system, a brief definition of the categories, and illustrative objectives for each category in these two domains.

Competency-based education had its next boost with the “outcome-based educational” movement initiated in the 1980s by many state legislatures. In spite of extensive results showing these approaches raised achievement—especially when assessments were competency-based and used for external exit standard adherence<sup>25</sup>—the fierce battles served to diminish the worth of the approach by many educators and researchers in both education and social science. Nevertheless, with the changing sociopolitical environments and increasing competitive marketplaces surrounding the delivery of health care, many agencies and professions started to consider competency-based educational approaches for both workforce planning and competitive positioning purposes. As previously mentioned, interest in competency models and their potential to facilitate education and development efforts has increased dramatically during the past 5 years in many of the professions associated with business, management, and leadership. Competency-based outcomes from a number of health care management initiatives are illustrated in Table 7.

### Issues in Competency-Based Education and Assessment

The pros and cons for the deployment of competency-based systems are many and equally balanced on both sides of the equation. One of the key barriers to educational program enhancement and adoption is fear of the change itself and the losses that may occur for the guardians of status quo. Many of the critics of CBET take the stand that all is still well in higher education and professional training. We have long had perfectly adequate curricular and educational assessment methods that have stood the test of time and been validated by the rigorous standards of both public and private business scrutiny.<sup>26</sup> So, many ask, why expend all the energy, effort, and cost that will be incurred to change now?

The six areas of focus that seem to characterize the key issues and barriers to competency modeling are discussed below:

- confusing terminology
- costs and time requirements

Table 6

## TAXONOMY OF EDUCATIONAL OBJECTIVES: THE CLASSIFICATION OF EDUCATION GOALS

THE COGNITIVE DOMAIN	THE AFFECTIVE DOMAIN
1.0 Knowledge (of):	1.0 Receiving/attending
1.1 Specifics ( <i>to know, to recall...</i> )	1.1 Awareness ( <i>to observe with increasing differentiation, develop some consciousness of, recognize the importance of, realize the importance of, sensitive to...</i> )
1.11 Terminology ( <i>to define, be familiar with, acquire an understanding</i> )	1.2 Willingness to receive ( <i>to have a disposition toward, be interested in, willingness to take, amenable toward, develop a tolerance for, accept differences, have an appreciation for...</i> )
1.12 Specific facts—dates, events, persons, places, sources of info ( <i>to identify, state, specify, recall, recognize...</i> )	1.3 Controlled or selected attention ( <i>listen to with discrimination, listen for, be sensitive to, have an alertness toward, appreciate, have a preference for...</i> )
1.2 Ways and means of dealing with specifics ( <i>to be aware of, develop an awareness of...</i> )	2.0 Responding
1.21 Conventions ( <i>to be conscious of, develop an awareness...</i> )	2.1 Acquiescence ( <i>be willing to comply, obey, have an increased preference for, visit, read...</i> )
1.22 Trends and sequences ( <i>to understand, know how...</i> )	2.2 Willingness to respond ( <i>to be of service to, assume responsibility for, engage in a variety of, voluntarily look for, practice the rules of, respond with, perform, contribute to...</i> )
1.23 Classifications and categories ( <i>to recognize, distinguish...</i> )	2.3 Satisfaction in response ( <i>to find pleasure in, enjoy, derive satisfaction from, respond emotionally, develop an interest in...</i> )
1.24 Criteria	3.0 Valuing
1.25 Methodology	3.1 Acceptance of a value ( <i>to desire to, grow in sense of, have a sense of responsibility for...</i> )
1.3 Universals and abstractions in a field	3.2 Preference for a value ( <i>to assume responsibility for, initiate, deliberately examine, influence, actively participate...</i> )
1.31 Principles and generalizations	3.3 Commitment ( <i>to be loyal to, accept, have faith in the power of, be devoted to...</i> )
1.32 Theories and structures	4.0 Organization
2.0 Comprehension	4.1 Conceptualization of a value ( <i>to attempt to identify, find out and crystallize, relate own, form judgments...</i> )
2.1 Translation ( <i>to comprehend, interpret, extrapolate, report, prepare...</i> )	4.2 Organization of a value system ( <i>to weigh alternatives, attempt to determine, develop techniques for, begin to form...</i> )
2.2 Interpretation ( <i>to grasp, distinguish, to interpret</i> )	5.0 Characterization by value or value complex
2.3 Extrapolation ( <i>to deal with, draw conclusions, predict, be sensitive to, determine consequences, differentiate...</i> )	5.1 Generalized Set ( <i>to change mind when, have a readiness to, be willing to face facts, view problems objectively, rely increasingly on, judge problems in terms of...</i> )
3.0 Application ( <i>to apply principles, theorems, abstractions; to predict effects, classify...</i> )	5.2 Characterization ( <i>to develop a consistent philosophy of, view problems</i> ) objectively, develop a conscience, adopt codes of behavioral principles...
4.0 Analysis (of):	
4.1 Analysis of elements ( <i>to recognize, distinguish between, identify...</i> )	
4.2 Relationships ( <i>to comprehend interrelationships, check consistencies, detect...</i> )	
4.3 Organizational principles ( <i>to infer, see as, analyze...</i> )	
5.0 Syntheses	
5.1 Production of a unique communication ( <i>to write, tell, make...</i> )	
5.2 Production of a plan ( <i>to illustrate, propose, integrate, plan, design...</i> )	
5.3 Derivation of a set of abstract relations ( <i>to formulate, perceive, discover, generalize...</i> )	
6.0 Evaluation	
6.1 Judgments in terms of internal evidence ( <i>to assess, apply, indicate...</i> )	
6.2 Judgments of external criteria ( <i>to compare, weigh, appraise, distinguish between, evaluate, apply standards...</i> )	

Source: Reprinted with permission from Benjamin S. Bloom, ed. *Taxonomy of Educational Objectives*, Books 1 and 2. Published by Allyn and Bacon, Boston, MA. Copyright © 1984 by Pearson Education. Reprinted by permission of the publisher.

**Table 7**

**FACULTY FORUM OUTCOME COMPETENCIES**

<p>Diversity Leadership<sup>19</sup>                      3 domains—8 competencies and 9 subcompetencies</p> <ul style="list-style-type: none"> <li>• Individual domain competencies</li> <li>• Group domain competencies</li> <li>• Organizational domain competencies</li> </ul>	<p>Human Resource Management<sup>21</sup>                      3 systems domains—14 competency areas and 18 competencies</p> <ul style="list-style-type: none"> <li>• Process systems</li> <li>• Structural systems</li> <li>• Behavioral systems</li> </ul>
<p>Ethics<sup>56</sup>                      5 domains—37 competencies</p> <ul style="list-style-type: none"> <li>• Process of decision making in ethics</li> <li>• Professional ethics</li> <li>• Clinical ethics</li> <li>• Organizational ethics</li> <li>• Social ethics</li> </ul>	<p>Organizational Theory<sup>22</sup>                      4 domains—17 outcome competencies</p> <ul style="list-style-type: none"> <li>• Motivating and leading</li> <li>• Operating the technical system</li> <li>• Renewing the organization</li> <li>• Charting the future</li> </ul>
<p>Finance<sup>20</sup>                      4 subject domains—9 behavioral competencies and 32 measurable skills</p> <ul style="list-style-type: none"> <li>• Financial management and health care organization</li> <li>• Financing and investment decisions</li> <li>• Financial analysis, planning, and control</li> <li>• Health services payment systems</li> </ul>	<p>Quality Improvement<sup>23</sup>                      8 domains—32 outcome competencies</p> <ul style="list-style-type: none"> <li>• Health care as process and systems</li> <li>• Variation and measurement</li> <li>• Customer beneficiary knowledge</li> <li>• Collaboration</li> <li>• Developing locally useful knowledge</li> <li>• Leadership and making change</li> <li>• Social context and accountability</li> <li>• Professional subject matter</li> </ul>

- methodological deployment
- consensus/acceptance
- questionable assessment mechanisms and defensibility
- new development vs. adoption

**Terminology**

One of the most difficult tasks associated with competency identification is establishing agreement on the terminology to facilitate communication among those involved with the initiative. Many struggle with their own definition and frameworks regarding competency modeling. Even educators had significant difficulties with such initiatives until Bloom and Krathwohl developed the taxonomies for educational objectives in the 1950s and 1960s.

A great deal of variability still exists today in relation to the terms associated with competency-

based modeling and measurement. The terms are often used in many different ways or interchangeably. CBET in itself has a number of other frequently used synonyms, such as “outcome-based education,” “criterion-based outcomes,” “criterion-referenced education,” “standards-based instruction,” or “evidence-based education.”

As a result, confusion often arises among educational development groups, even in identifying “what it is” that they are striving to achieve through “its” deployment. As Marcolin and colleagues report,<sup>27</sup> the proliferation of approaches on the concept of competency has hindered the creation of a cumulative body of knowledge for educational enhancement. In fact, in relation to the concept of competence specifically, performance is frequently used to describe the construct. However, many educational specialists follow Chomsky’s<sup>28</sup> approach in relation to differentiating

between competence and performance. Indeed, mastery of relevant knowledge and skills alone is no guarantee of successful performance in complex environments.<sup>8</sup> One can be competent but not necessarily perform well. Such is often the case in many competitive situations (i.e., Olympic competition, where all participants are exceptionally competent, but all do not perform equally). Westera<sup>8</sup> further points out that there are two distinct denotations of competencies in education. From a *theoretical* perspective, competence is perceived as a cognitive structure that facilitates specific behaviors. From an *operational* approach, competencies are seen to cover a broad range of higher order skills (including knowledge, skills, attitudes, metacognition, and behaviors that represent the ability to cope with complex and unpredictable situations and strategic thinking) and behaviors that presuppose conscious and intentional decision making.

Many associate competence<sup>29,30</sup> with expert behavior. For instance, the HFMA competency definition focuses on “outstanding performance” and “top performers.”<sup>31</sup> However, just as the Oxford English and Webster’s International dictionaries associate competence with a set of minimum requirements,<sup>32</sup> some treat competence as a stage preceding advanced stages of proficiency and expertise. Hence, the range of proficiency varies across different groups, as well as across the different career stages. Similarly, in the general human resource literature, the construct is operationalized as the minimal level of performance to successfully complete a task.

As noted in Table 2, a number of competency models have been developed for various health care providers. Although these models frequently differ, Goldstein<sup>29</sup> points out that they tend to have some common elements, such as:

1. Analytical thinking that incorporates creativity and innovation
2. Flexibility and comfort with change and ambiguity
3. Operating styles that build and leverage teamwork and cooperation
4. Approaches to work that embody initiative and proactivity

5. Commitment to patient (financial) services
6. Other:
  - Shared accountability for results
  - Change initiation
  - Excitement for new levels of involvement
  - New roles flexibility<sup>7</sup>

Finally, Lucia and Lepsinger derived a definition of competence from the suggestions of several hundred experts in human resources at a conference on the subject of competencies:

Competency embodies a cluster of related knowledge, skills, and attitudes that:

- 1) affect a major part of one’s job (a role or responsibility)
- 2) correlate with performance on the job
- 3) can be measured against well-accepted standards, and
- 4) can be improved by training and development.<sup>7(p.82)</sup>

It is also important to note that the concept of competency has not been reserved exclusively for education, but has been recently used in the domains of professional practice, management, and business administration. Pralahad and Hamel<sup>33</sup> introduced the term “core competency” in their landmark article in the *Harvard Business Review*, which subsequently generated one of the highest number of requests for reprints. Core competencies include particular sets of skills and resources a firm possesses, as well as the way those are used to produce outcomes. The authors used the term to identify the qualities associated with the competition of companies. They equate core competency with individual or organizational characteristics that are related to effective behavior or performance.<sup>8</sup> Pralahad and Hamel<sup>33</sup> built their core competency work from that of Porter in 1985.<sup>34</sup> Porter offered the assumption that a firm could achieve and sustain a competitive advantage by establishing a unique position relative to its competitors, thereby allowing the firm to consistently outperform them. Many argue today that given the instability of today’s business environment, it is not possible to sustain a long-term competitive advantage; that only temporary advantages can be realized. Nevertheless, the concept of core competency for creating competitive advantages is widely embraced.

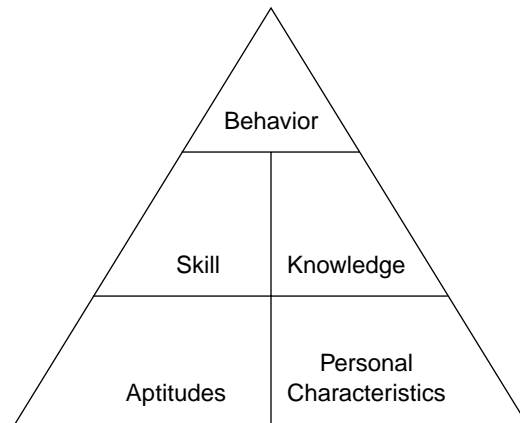
The construct of subcompetencies also presents articulation and transfer difficulties. Learning is both



hierarchical and cumulative—building from simple facts and concepts to principles and the eventual synthesis of all. Competencies also can be decomposed into contributing subcompetencies, often at times called skills as well, with the results being a “hierarchical structure of conditional subcompetencies that become more specific and limited as one travels down the hierarchy eventually to a stage in which sub-competencies are identical to supportive skills.”<sup>8</sup> Figures 1 and 2, which are adaptations of Westera’s conceptualization,<sup>8</sup> reflect this gradual transition of competency (the effective application of KSVs—knowledge, skills, and values—in a specific context) into skills such that the distinctions between the two are negligible.

Lucia and Lepsinger<sup>7</sup> also present similar relationships in their competency pyramid, as noted in Figure 2. At the top of the pyramid is a specific set or cluster of behaviors that comprise inherent talents, innate and acquired abilities, skills, and knowledge that can be acquired through learning, effort, and experience.

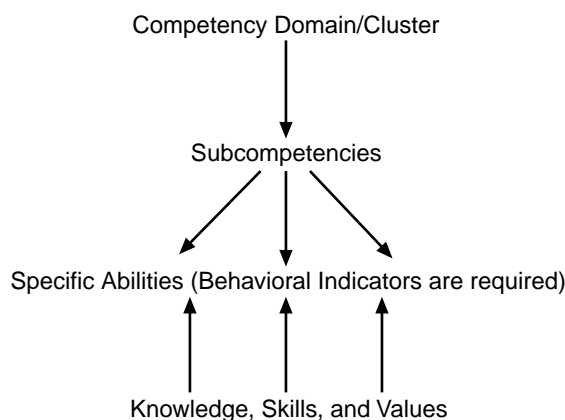
Equally confusing is the frequent referencing of KSAV and SKAs with the “A” representing different concepts (attitudes versus abilities), depending on the user. Westera<sup>8</sup> combines abilities with skills and uses attitudes in the KSA acronym. Hudak<sup>9</sup> and



**Figure 2.** Competency Pyramid. *Source:* Adapted from A.D. Lucia and R. Lepsinger. *The Art and Science of Competency Models: Pinpointing Critical Success Factors in Organizations.* San Francisco: Jossey-Bass/Pfeiffer, 1999.

Griffith<sup>6</sup> refer to SKAs as specific sets of skills, knowledge, and abilities that can be learned by students and tested in graduates. Tanner<sup>35</sup> refers to KSAs as knowledge, skills, and attitudes and, as with a number of researchers,<sup>36–38</sup> expands the acronym to include values leading to KSAVs. Further, in contrast, Harvey<sup>39</sup> developed a KSAO model in which K refers to knowledge, S represents skills, and A stands for abilities, with O representing other personal characteristics, such as motivation, independence, and commitment. This model is very similar to Lucia and Lepsinger’s<sup>7</sup> competency pyramid as depicted in Figure 2.

Rather than review all the different definitions available in the literature since Bloom’s and Krathwohl’s<sup>24</sup> breakthrough taxonomic classifications for educational objectives, a listing of definitions that seemed to be best fitted to the field of health administration was derived for the purposes of this article, and perhaps to facilitate dialogues among those working on competency modeling and assessment in health care management and policy education in the future. These terms are summarized in Table 8. Again, by creating a common language and understanding of these widely variable terms, communication should be enhanced for the more difficult tasks of identifying, specifying, and assessing competency.



**Figure 1.** Gradual Transition of Competency. *Source:* Adapted from W. Westera. “Competencies in Education: A Confusion of Tongues.” *Journal of Curriculum Studies* 33 no. 1 (2001): 75–88.



**Table 8**

## GLOSSARY

Term	Synonyms	Consensus definition	Source
Ability	Capabilities Competence Performance Skills Traits	Physical, mental, or legal power	Hudak 2000 <sup>9</sup>
Affective domain	Appreciations Attitudes Interests Emotions Values	Encompasses an individual's feelings, attitudes, beliefs, self-concept, aspirations, and interpersonal relationships	Evers 1998 <sup>a</sup>
Attitude	Ethics Motivations Predispositions Values	State of mind, feelings, or beliefs regarding a particular matter	Bassellier and Horner 2000 <sup>b</sup> Pascarella and Terenzini 1991 <sup>c</sup>
Cognitive/cognition (intellectual skills and abilities)	Mental knowledge	Knowledge and the use of higher order mental processes such as thinking, remembering, reasoning, analyzing, problem solving, and evaluating	Astin 1991 <sup>d</sup> Bloom 1956 <sup>18</sup>
Competency analysis	Task analysis	Identification of performers and examination of what their differentiating characteristics are	McNerney & Briggins 1995 <sup>e</sup>
Competence/competency	Ability Accomplishment Capability Expertise Performance Proficiency Skill	Effective application of available knowledge, skills, attitudes, and values in complex situations	Tanner 2001 <sup>35</sup>
Core competency	Competitive advantage	Unique bundle of technical know-how that is: (1) central to the organization's purpose, (2) translatable to perceived customer value, and (3) can provide a competitive advantage	Pralahad & Hamel 1990 <sup>33</sup>
Competency-based education (CBE)/ Competency-based education and training (CBET)	Competency modeling (CM) Evidence-based education (EBE) Outcomes-based education (OBE) Results-oriented accountability (ROA) Standards-based instruction (SBI)	A teaching-learning process that: 1. is individualized 2. emphasizes actionable & measurable outcomes in terms of what the learner must know and be able to do 3. allows for flexible pathways for achieving outcomes	Tanner 2001 <sup>35</sup>

*continues*

Table 8

CONTINUED

Term	Synonyms	Consensus definition	Source
Knowledge	Awareness Mental capability Understanding: - Information - Insight - Facts - Concepts - Principles	Complex process of remembering, relating or judging an idea or abstract phenomenon in a form very close to that in which it was originally encountered	Bloom 1956 <sup>18</sup>
Outcomes (educational)	Results indicators	Observable results and indicators indicating that goals and objectives have been accomplished	ACGME 2002 <sup>54</sup>
Performance	Accomplishment Competing Doing	Act or process of executing an action that is facilitated by repetition	Webster's Unabridged Dictionary 2000 <sup>f</sup>
Psychomotor	Doing Motor skills	Physical manipulative or motor skills	Bloom 1956 <sup>18</sup>
Skill	Abilities Competency Technical expertise	Automated routines that allow for the execution of well-specified tasks	Kirby 1988 <sup>g</sup>
Task Analysis	Competency analyses	Examination of "what is done"	McNerney & Briggins 1995 <sup>e</sup>
Understanding	Awareness knowledge	Intellectual capability to use information in sensible and meaningful way	Kirschner 1997 <sup>h</sup>
Values	Appreciation Attitudes Beliefs Emotions Ethics Motivations	An abstract generalized principle of behavior to which members of a group feel a strong emotionally-toned commitment and that provides a standard for judging specific acts and goals	Evers 1998 <sup>i</sup>

a. F.T. Evers et al. *The Bases of Competence*. San Francisco: Jossey-Bass Publishers, 1998.

b. G. Bassellier and B. Horner. "Information Technology Competition of Business Managers: A Definition and Research Model." *Journal of Management Information Systems* (Spring 2000), 1–19.

c. E.T. Pascarella and T.P. Terenzini. *How College Affects Students: Findings and Insights from Twenty Years of Research*. San Francisco: Jossey-Bass, 1991.

d. A.W. Astin. *Assessment for Excellence: The Philosophy & Practice of Assessment and Evaluation in Higher Education*. New York: American Council on Education, MacMillan, 1991.

e. D.J. McNerney and A. Briggins. "Competency Assessment Gains Favor Among Trainers," *Human Resource Focus* 72, no. 6 (1995): 18–22.

f. Webster's New International Dictionary, Unabridged. Springfield, MA: Merriam-Webster, Inc., 2000.

g. J.R. Kirby. "Style, Strategy and Skill in Reading," In R.R. Schmeck, ed. *Learning Strategies and Learning Styles: Perspectives on Individual Differences*. New York: Plenum Press, 1988: 229–274.

h. P. Kirshner et al. "The Design of a Study Environment for Acquiring Academic and Professional Competence." *Studies in Higher Education* 22, no. 2 (1997): 151–171.

i. F.T. Evers et al. *The Bases of Competence*. San Francisco: Jossey-Bass Publishers, 1998.

### Costs

Beyond the difficulties of managing the wide array of terms for collaborative planning and dialogue, the next major barrier that is often referenced is the cost of competency modeling. Not only is a high level of faculty involvement and time required, but a substantial amount of investment is required across the organization or profession considering the deployment of the approach. Given the wide variability in contextual situations across all programs and segments, it is extremely costly and laborious to set up a comprehensive modeling system professionwide. As well, the profession faces continual adaptation to this instability as a result of shifting social attitudes and profound societal, internal, and ecological change.<sup>8</sup> Consumers and marketplaces are, indeed, constantly changing, with expectations also in perpetual evolution, if not revolution. There are no guarantees that either will have the same educational needs tomorrow as today. Again, so why reassess current educational, training, and development practices to change—to change to what? Nevertheless, there remains a growing interest in competency-based education. Survey findings show most Americans support such an approach and that many educators are out of touch with their consumers and the markets they are supplying, since both public and employer concerns are often ignored.<sup>40</sup>

Goldstein<sup>29</sup> counters that given the environment of continual restructuring and realignment, new education, development, and training approaches are essential. Managers have no choice but to run their organizations as highly competitive businesses. Hence investments in human resources to obtain defined competencies in line with the organization's strategic direction are no longer optional; the price has to be paid for survival.

### Methodological deployment

Critics of the competency movement see it as excessively redundant, rigid, and prescriptive,<sup>35</sup> yielding no more than long lists of so-called outcomes with

hundreds of objectives.<sup>40</sup> Other criticisms include charges of ambiguity, vagueness, and the difficulties encountered in specifications for assessment. As Hyland<sup>26</sup> addresses, the use of competency-based modeling “de-skills” and “de-professionalizes” learning and other public service occupations because of its reductionistic and technicist approach to human values. As well, the focus is perceived as being only on performance outcomes and not with the process of growth and development.

Indeed, many faculty members see the process of identifying and specifying competencies as extremely complicated and time-consuming, often requiring new ways of thinking about their courses and instructional methods. Others view the development of competency models as arcane and difficult to understand. As Lucia and Lepsinger note,<sup>7</sup> competency-based modeling has its historical roots solely in the domain of social scientists; hence there is huge use of technical jargon and statistics versus practical “how to” for “discipline-specific faculty outside the field of education.” Nevertheless, referencing a common enigma in strategic planning—“if you do not know where you are going, any road will get you there!” Most would agree that a roadmap based on continual review of pedagogical practice and research in the field, as well as other related disciplines, is far better than intuition, habit, or tradition. Whatever the deficiencies, competency agreement is essential to create a better alignment between educational goals and content with evolving societal needs, and an ever-changing professional environment.<sup>41</sup>

### Consensus-building and acceptance

Stakeholder buy-in also ranks highly as a major challenge to the effective deployment and realization of the benefits that can be obtained with enhanced definition and specification of educational standards and assessment. Specifically in relation to health administration, the differences in competencies for different levels of management and career stages, in addition to the many variances in management competencies across providers, have been addressed by Loeb and Dalston.<sup>42</sup> Other frequently identified bar-

riers to consensus-building regarding necessary change are listed below:

- Rapidity of change
- Diversity of entering learners
- Program differences
  - directions
  - evaluation processes
  - approach to quality improvement
  - educational processes
- Differences in industry segment needs
- Enormity of the complexity innate to the health care system at large

Most often, the major deterrent to developing a CBET system or model, however, is determining an effective and manageable process for identifying and measuring competencies. The general consensus among all those who advocate for the identification of competencies for professional education is that they should be developed using a broad-based, consensus-building process across all stakeholders.<sup>40</sup>

Literature review, expert panel interviews, stakeholder analysis, benchmarking, and the Delphi technique, as developed by Rand Corp., are usually the most common techniques used to initiate the identification process. As noted below, the process generally proceeds sequentially as follows:

1. Purpose/goal identification and clarification
  - identification of current expectations, needs, changes, strategic challenges, mandates, current strengths and weaknesses, and gaps in the field
  - goal specification
2. Potential identification of a pool of competencies
  - literature review
  - benchmarking with similar professions or organizations
3. Expert/stakeholder analysis and input
  - including both practitioners, academicians, and exemplary leaders in the field
  - initiation of professional buy-in
4. Formulation and communication of a draft set of general/key competencies (focus groups/expert panels)

- differentiation of beginning to advanced competencies
- 5. Wider target audience review and comment (survey/interviews)
  - querying regarding importance and relevance to the profession
  - prioritization with needs in the field
- 6. Final model development
  - Verification of the model with the profession
- 7. Dissemination of the general competencies to constituent groups, disciplines, work groups, specialty groups
  - specialized adaptation and development
- 8. Development of final “specialized” competencies and identification of measurement outcomes
- 9. Test/assessment “blueprint development”
  - specification of behavioral indicators
  - weighting of critical elements
- 10. Testing methodology selection
  - identification of assessment methodologies for the entire continuum of competencies from novice to expert and across all career stages
- 11. Assessment
  - identification of key data points for future decision making regarding transformation efforts<sup>43</sup>

However accomplished, the mere engagement in competency identification and specifications provides an important vehicle for productive and necessary dialogue regarding key areas for continual educational improvement and ongoing leadership development. As well, it provides a more vigorous mechanism for facilitating professionwide collaboration among practitioners and academicians.<sup>44</sup>

### Assessment difficulties and defensibility

Another barrier to competency system acceptance is the ambiguity and lack of understanding of testing and assessment by nonmeasurement specialists—lay faculty. Few faculty members are trained in either the art or science of testing. Therefore, many of the testing mechanisms traditionally utilized are questionable. Nevertheless, this problem exists today even without

the use of competency-based testing in health administration education.

Indeed, there is currently a lack of valid assessments and standards appropriate to complex situations in health management education.<sup>8</sup> Concerted efforts and investment in the refinement of performance expectations and related assessment techniques, as well as the profession's investment in such, may lead to a significant elevation in higher level testing acumen for all. Investments in competency-based approaches would require greater attention in dealing with validity, reliability, reproducibility, transfer, and portability of testing mechanisms across the profession. Detailed professional standards can guide the procedures for conducting studies of the validity and reliability of any process that affects an individual's performance. When properly applied, these standards could also facilitate the development of a measurement strategy for assessing specified competencies.<sup>45</sup>

By establishing a common set of goals and performance metrics, the process of evaluation can be greatly enhanced. Gaps between an individual's competencies and the needs of specific practice settings can be more easily identified. As well, having a common understanding and communication vehicle facilitates the identification of essential content, courses, or practices that might otherwise be omitted from education and training programs.<sup>46</sup> Broad, competency-based guidelines clearly provide a communications vehicle and more vigorous methods for fine-tuning educational practices, anticipating future skill requirements, and improving performance overall in the profession. In addition, a collective understanding and agreement on future professional requirements can provide a strong foundation for making decisions regarding educational restructuring and transformation efforts, as well as ongoing career development, coaching, and mentoring initiatives across the entire profession.<sup>43</sup>

### **New development versus adoption**

As discussed previously, the pros and cons to either specifying the profession's desired competen-

cies de novo, or adapting or modifying those of other related disciplines or professions, are basically obvious. New development is plagued with issues associated with the identification and specification of the competencies, costs, and acceptance. However, once accomplished, the applicability and relevance to the developing organization or problem are far higher than solutions created by other groups. Nevertheless, to the extent that some of the efforts and critical paths—and findings of others who have gone before—can be benchmarked, there may be significant cost savings and advantages to adopting parts of any other group's work. For instance, as a peer group, ACGME's extensive research and development of its general competencies may provide one model for consideration and adaptation of components most relevant and applicable to health administration. After their general competencies were identified and operationalized within the context of the entire outcomes project and subsequently sanctioned by ACGME's board, they were then turned over to the different ACGME constituency groups as general guidelines to facilitate specialty group-specific development of subcompetencies, measurement criteria, and testing methodologies. ACGME also has assisted with professionwide assessment research and development initiatives to provide resources that will facilitate the development of appropriate testing methods and standards by each group, per their own "blueprints" for assessment.

### **Benefits**

The benefits and potential applications for CBET can be grouped into four primary categories for additional discussion and analysis:<sup>7</sup>

1. Recruitment
2. Education, training, and development
3. Performance appraisal
4. Succession planning

In their recent text on the art and science of competency modeling, Lucia and Lepsinger<sup>7</sup> provide a summary of these four categories of benefits for human resource management in today's ever-changing work environment (Table 9). Green's survey research<sup>45</sup> of

**Table 9**

## HOW COMPETENCY MODELS CAN ENHANCE HUMAN RESOURCE MANAGEMENT SYSTEMS—BENEFITS OF COMPETENCY MODELS

HRM system	Benefits
Selection	<ul style="list-style-type: none"> <li>• Provides a complete picture of the job requirements</li> <li>• Increases the likelihood of hiring people who will succeed in the job</li> <li>• Minimizes the investment (both time and money) in people who may not meet the company's expectations</li> <li>• Ensures a more systematic interview process</li> <li>• Helps distinguish between competencies that are trainable and those that are more difficult to develop</li> </ul>
Training and development	<ul style="list-style-type: none"> <li>• Enables people to focus on the skills, knowledge, and characteristics that have the most impact on effectiveness</li> <li>• Ensures that training and development opportunities are aligned with organizational values and strategies</li> <li>• Makes the most effective use of training development time and dollars</li> <li>• Provides a framework for ongoing coaching and feedback</li> </ul>
Appraisal	<ul style="list-style-type: none"> <li>• Provides a shared understanding of what will be monitored and measured</li> <li>• Focuses and facilitates the performance appraisal discussion</li> <li>• Provides focus for gaining information about a person's behavior on the job</li> </ul>
Succession planning	<ul style="list-style-type: none"> <li>• Clarifies the skills, knowledge, and characteristics required for the job or role in question</li> <li>• Provides a method to assess a candidate's readiness for the role</li> <li>• Focuses training and development plans to address missing competencies</li> <li>• Allows an organization to measure its "bench strength" (number of high potential performers)</li> </ul>

Source: Reprinted with permission from A.D. Lucia and R. Lepsinger. *The Art and Science of Competency Models: Pinpointing Critical Success Factors in Organizations*. © 1999, Jossey-Bass/Pfeiffer. Reprinted by permission of John Wiley and Sons, Inc.

managers and rankings of the reasons they used CBET are also depicted in Table 10.

As Sandler points out,<sup>47</sup> competency and recruitment go hand-in-hand in today's ever-changing marketplace. With increasingly tight labor markets, high rates of employee turnover, lengthy training and adjustment periods, and downsizing, employers are looking for ways to address these problems. There appears to be a strong political impetus to prepare the workforce for the competitive global economy.<sup>35</sup> In 1991, the Business Roundtable, a group of chief executive officers from 2,000 of the largest U.S. corporations, adopted nine Essential Components of a Successful Educational System. Second on this list was having a system based on performance outcomes.<sup>48</sup> Investments in education and development are viewed as essential for survival and creating

potential competitive advantages through people, excellence in customer service, enhanced product development, and leadership.<sup>7,49,50</sup>

From an educational benefit perspective, employers today are looking for graduates who are able to function in extremely complex environs, often being involved with ill-defined problems, contradictory information, informal collaboration, and abstract, dynamic, and highly integrated processes. As a result, new standards for curriculum design, training, and professional development are being embraced by both educators and personnel offices.<sup>8</sup>

Competency-based educational systems are viewed as being especially beneficial in relation to: (1) clarifying goals and targets for education and training, (2) assisting with the identification of gaps in the curricula for training and development programs, (3) mapping



**Table 10**  
SURVEY FINDINGS ON THE OBJECTIVES OF  
COMPETENCY SYSTEMS

Rank	Objectives
1.	Link interviews, appraisal, coaching, training, and compensation to vision, mission, values, and culture
2.	Plan for the skills needed to grow the organization
3.	Communicate valued behaviors
4.	Clarify the focus of our leadership
5.	Focus attention on quality/customer-oriented behaviors
6.	Close skill gaps
7.	Develop our competitive advantage
8.	Identify selection criteria for interviews
9.	Structure the topics discussed in a performance appraisal
10.	Develop a 360-degree feedback system
11.	Plan for succession
12.	Orient managers to corporate strategy and culture
13.	Encourage cross-functional cooperation
14.	Guide promotional decisions
15.	Ease the flow of people across business and global boundaries

Source: Reprinted with permission from P.C. Green. *Building Robust Competencies: Linking Human Resource Systems to Organizational Strategies*. © 1999, Jossey-Bass. Reprinted by permission of John Wiley and Sons, Inc.

program components in line with external marketplace expectations, (4) facilitating learner-mentor-preceptor dialogue regarding training experiences, and (5) serving as a vehicle for discussing and evaluating specific developmental objectives and experiences across the entire continuum of professional career development—from career entry to senior leadership roles.<sup>46</sup> As well, Bernstein further notes that competency specification can greatly enhance career planning based on goal-oriented criteria matched to current accomplishments, strengths, and areas for improvement in line with real market expectations.

In light of an increasingly litigious world, competency-based assessment and appraisal systems are also gaining in popularity and legitimacy. With well-defined, job-specific performance competencies and widely embraced assessment techniques, such as 360-degree appraisals, employers are finding human resource oversight, employee recognition, and compensation programs much more manageable. For example, Capital One, recognized in *Fortune's* “100 Best Places to Work in America” for the last 4 years, has relied upon their five-factor competency model as the unifying guide for the organization’s human resource practices such as recruitment and employment marketing, selection, training and development, compensation and benefits, and performance appraisal. By using the competency model to drive their human resource practices, the organization has been able to define successful outcomes of their programs, routinely monitor the practices through formal and informal means, and make decisions for improvement based upon results that are directly tied to the competencies.<sup>51</sup>

Another key benefit from competency-based management is enhanced succession planning. The emphasis on, commitment to, and investment in education and development, such as General Electric launched with Jack Welch’s direct involvement, greatly facilitate the replacement of outstanding managerial performers from the pool of other equally outstanding candidates.<sup>52</sup>

Several professional societies within the field of health care management have engaged in identifying competencies for the purposes of providing certification credentials to their particular membership. For example, ACMPE, HIMSS, HFMA, and the American College of Healthcare Executives have developed certification tests and then engaged in either aligning existing training and development courses or developing new courses with the competencies. Although this is important work that is beneficial for the members of the individual professional groups, the competencies are limited to the members served by the respective professional memberships. This is because the development of the competencies was based upon input from the particular membership

served by the respective groups, versus in conjunction with other health care groups representing the extremely varied field and practice of health care management at large.

In relation to potential applications for competency-based professional development, a model for analysis and evaluation by other professions embarking on similar endeavors is the ACGME.<sup>53</sup> The ACGME serves as the centralized institutional and program accrediting body for nearly 7,800 residency education programs across 110 specialty and subspecialty areas in medicine, including all programs leading to primary board certification by the 24-member boards of the American Board of Medical Specialties.<sup>54</sup> In 1998, with funding by the Robert Wood Johnson Foundation, ACGME initiated a 13-month competency system research and collaborative review process, called the Outcomes Project. In general, their process followed many of the same steps proposed in the Consensus-Building and Acceptance section of this article. With the assistance of rigorous review and input from its expert panel and constituencies, ACGME cut the original list of 86 identified competencies to 6. After completing this lengthy process of competency identification, specification, and validation in 1999, the ACGME leadership endorsed six general competencies for residents in medicine (see Table 1). A more detailed listing of the ACGME General Competencies and Sub-Competencies from their Outcomes Project is provided in David Leach's article on page 40 of this issue.

Key ACGME goals have included: (1) collaboration with other health care organizations, (2) improvement of the evaluation of residents during their residency education programs, (3) working with residency review committees to define their specific competencies, incorporate them into their existing program requirements, and adopt an evaluation approach to fit its specialty, (4) increasing emphasis on educational outcome assessment in the accreditation process, and (5) using outcome data to facilitate continuous improvement of both resident and residency program performance.

Based on these competency-focused strategic goals, a significant number of other applications and out-

comes have resulted to date from the ACGME's outcomes project, including:

- Collaboration with the American Board of Medical Specialties to improve the evaluation for residents during their residency education programs
- Development of a toolbox of 13 assessment methods with references to articles for more complete and in-depth information
- Provision of reference sources for six topics affecting graduate medical education, including
  - general assessments
  - interpersonal and communications skills
  - professionalism
  - patient care
  - practice-based learning and improvement
  - systems-based practice
- Regular review and updating of assessment methods
- Specification of Guidelines for Selecting Assessment Instruments and Implementing Assessment Systems
- Serving as a clearinghouse for information about initiatives underway at programs and institutions across the country, to integrate the teaching and assessment of competencies into Graduate Medical Education curricula

ACGME has more than proven the utility of and applicability of competency-based education and assessment for an entire educational program. One of the recently recognized residuals of their outcomes project has also been the inquiry about and adoption of the competencies for curriculum planning in a number of medical schools, which may ultimately affect the educational practices and assessment of an entire profession.

As a result of all of these projects and related activities, ACGME has significantly increased the emphasis on educational outcomes in the accreditation of residency education programs and ultimately improved the quality of graduate medical education across the country. Its real accomplishment, which few others have accomplished to date, was gaining the acceptance of its many diverse and complex constituent programs. Getting thousands of different

program directors and stakeholders to reach consensus and “buy-in” to the standardization of its educational and testing strategic directions is laudable and a model for other professional organizations.

## Conclusion

If one accepts the principles of the core competency models, as outlined by Porter<sup>34</sup> and Pralahad and Hamel<sup>33</sup> for individual and organizational or professional development and strategic positioning, it is clear how applicable and beneficial the development of competency-based education and testing models may be. As Hudak and colleagues point out,<sup>9</sup> it is the role and responsibility of health care educators to prepare future health care executives to cope with an environment that will be ever-changing. Therefore, it is imperative that the essential management competencies for the future be identified and incorporated into and across all education, training, and development curricula for the profession.

The identification of broad competencies based on the well-documented needs for future health care executives will greatly facilitate communication and collaboration across all segments and organizations involved with the training and development of future health care leaders. A collaboration among academic groups and practitioners, with leadership from the industry’s professional associations, is essential for developing the best learning systems for the professional development of future graduates and leaders in health care management and policy.<sup>41</sup>

If the charge to continually review, self-assess, diagnose, and adapt educational practices to environmental changes and the needs of the profession is not heeded, leaders in health care management and policy may one day, as well, be reviewing headlines similar to those from a recent task force in medicine appointed to conduct an external assessment. Note this recent press release by The Commonwealth Fund Task Force on Academic Health Centers:

Task Force Finds Training at the Nation’s Medical School’s Is Uneven; Calls for Improvements in Cost and Quality of

Physician Education—Quality of Education in Non-Hospital Settings Lags Behind Quality of Training in Hospitals<sup>55</sup>

Starting with a broad-based, collaborative assessment of the profession’s goals and strategic imperatives in relation to the strengths, weaknesses, and gaps of its educational methods and processes will benefit the profession as a whole and as well, perhaps improve the overall quality of the health of a nation.

## REFERENCES

1. Pew Health Professions Commission. *Health Professions Education for the Future: Schools in Service to the Nation*. San Francisco: Pew Health Professions Commission, 1993.
2. J. Dalston and P. Bishop. “Health Care Executive Education and Training.” *The Journal of Health Administration Education* 13, no. 3 (1995): 437–452.
3. F. Wenzel et al. “The Health Services Delivery Environment.” *Journal of Health Administration Education* 13, no. 4 (1995): 611–630.
4. S. Schweikart. “Reengineering the Work of Caregivers; Role Redefinition, Team Structures, and Organizational Redesign.” *Hospital and Health Services Administration* 41 no. 1 (1996): 19–36.
5. J.I. Boufford. “Health Future: The Managerial Agenda.” *The Journal of Health Administration Education* 17 no. 4 (Fall 1999): 271–295.
6. J.R. Griffith. “Towards Evidence-Based Health Administration Education: The Tasks Ahead.” *The Journal of Health Administration Education* 18 no. 2 (Spring 2000): 1–12.
- 6a. J.R. Griffith. “Can You Teach the Management Technology of Health Administration? A View of the 21st Century.” *The Journal of Health Administration Education* 16 (Summer 1999): 323–338.
7. A.D. Lucia and R. Lepsinger. *The Art and Science of Competency Models: Pinpointing Critical Success Factors in Organizations*. San Francisco: Jossey-Bass/Pfeiffer, 1999.
8. W. Westera. “Competencies in Education: A Confusion of Tongues.” *Journal of Curriculum Studies* 33 no. 1 (2001): 75–88.
9. R.P. Hudak et al. “Identifying Management Competencies for Healthcare Executives: Review of a Series of Delphi Studies.” *The Journal of Health Administration Education* 18 no. 2 (Spring 2000): 213–243.
10. D.E. Angus and C.M. Lay. “Responses of Canada’s Health Care Management Education Programs to Health Care Reform Initiatives.” *The Journal of Health Administration Education* 18 no. 2 (Spring 2000): 181–204.
11. R.M. Andersen et al. “Program Directors’ Recommendations for Transforming Health Services Management Education.” *The Journal of Health Administration Education* 18 no. 2 (Spring 2000): 153–173.

12. P.L. Davidson et al. "A Framework for Evaluating the Impact of Health Services Management Education." *The Journal of Health Administration* 18 no. 1 (Winter 2000): 1–48.
13. G. Mecklenburg. "Career Performance: How Are We Doing?" *Journal of Healthcare Management* 46 no. 1 (2001): 8–13.
14. A.R. Kovner et al. "Evidence-Based Management." *Frontiers of Health Services Management* 16 no. 4 (2000): 324.
15. D.D. Pointer. "Value-Added Governance." Paper presented to the Healthcare Executives of Southern California, Irvine, California, October 1999.
16. Institute of Medicine. "Crossing the Quality Chasm: A New Health System for the 21st Century!" (2001).
17. National Summit on the Future of Education and Practice in Health Management and Policy. Association of University Programs in Health Administration, Health Research and Development Institute, Orlando, Florida, Feb. 8–9, 2001.
18. B.S. Bloom et al. *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain*. New York: David McKay, 1956.
19. J.L. Dreachslin and A. Agho. "Domains and Core Competencies for Effective Evidence-Based Practice in Diversity Leadership." *The Journal of Health Administration Education Supplement* (Fall 2001): 130–145.
20. R.T. Maurer and K. Grazier. "Development of Core Competencies in Health Care Finance." *The Journal of Health Administration Education Supplement* (Fall 2001): 157–174.
21. M.A. Counte and J.F. Newman. "Essential Competencies in Human Resource Management." *The Journal of Health Administration Education Supplement* (Fall 2001): 166–169.
22. L.H. Friedman and W.C. McCaughrin. "Outcome Competencies for Organizational Behavior and Theory." *The Journal of Health Administration Education Supplement* (Fall 2001): 171–174.
23. G.R. Baker and D. Wakefield. "Domains and Core Competencies for Effective Evidence-based Practice." *The Journal of Health Administration Education Supplement* (Fall 2001): 175–183.
24. D.R. Krathwohl et al. *The Taxonomy of Education Objectives: The Classification of Educational Goals, Handbook II: Affective Domain*. New York: Longman, 1964.
25. J.H. Bishop et al. "How External Exit Exams Spur Achievement." *Educational Leadership* (September 2001): 58–63.
26. T. Hyland. "Reconsidering Competence." *Journal of Philosophy of Education* 31 no. 3 (1997): 491–503.
27. B. Marcolin et al. "Assessing User Competence: Conceptualization and Measurement." *Information Systems Research* 11 no. 1 (March 2000): 37–60.
28. N. Chomsky. *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press, 1965.
29. E.R. Goldstein. "Competency Models Help Identify Promising Candidates." *Healthcare Financial Management* (May 1995): 76–78.
30. A.L. Klein. "Validity and Reliability for Competency-Based Systems: Reducing Litigation Risks." *Compensation and Benefits Review* (Jul/Aug 1996): 31–39.
31. R.L. Clarke. "Senior Financial Executives Competency Model." Presentation at the Leadership Conference of the Association for University Programs in Health Administration, Chicago, March 2001.
32. H.L. Dreyfus and S.E. Dreyfus. *Mind over Machine: The Power of Human Intuition and Experience in the Era of the Computer*. Oxford: Basil Blackwell, 1986.
33. C.K. Prahalad and G. Hamel. "The Core Competence of the Corporation." *Harvard Business Review* 68 no. 3 (May-June 1990): 79–91.
34. M.E. Porter. *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press, 1985.
35. C.A. Tanner. "Competency-based Education: The New Panacea?" *Journal of Nursing Education* 40 no. 9 (2001): 387–388.
36. J. Stephenson and S. Weil. *Quality in Learning: A Capability Approach in Higher Education*. London: Kogan Page, 1992.
37. R.M. Gagne. *The Conditions of Learning*. New York: Holt, Rinehart & Winston, 1977.
38. R. Barnett. *The Limits of Competence: Knowledge, Higher Education and Society*. Buckingham, UK: Open University Press, 1994.
39. R.O. Harvey. "Job Analysis." In M.D. Dunning and L.M. Haugh, eds. *The Handbook of Industrial and Organizational Psychology* vol. 2, 2d ed. Palo Alto, CA: Consulting Psychologists Press, 1991.
40. B.V. Manno. "Educational Outcomes Do Matter." *Public Interest* (Spring 1995): 19–24.
41. N.L. Bennett et al. "Continuing Medical Education: A New Vision of the Professional Development of Physicians." *Academic Medicine* 75, no. 12 (2000): 1167–1172.
42. S.L. Loebs and J.W. Dalston. "Issues in Management: Development for Health Services Executives." *The Journal of Health Administration Education* 11, no. 2 (1993): 235–253.
43. J. Brown and S. Barboek. "Skillful Inventory." *Bank Marketing* (August 1991): 16–24.
44. C.J. Robbins et al. "Developing Leadership in Healthcare Administration: A Competency Assessment Practitioner Applications." *Journal of Healthcare Management* (May/June 2001): 188–202.
45. P.C. Green. *Building Robust Competencies: Linking Human Resource Systems to Organizational Strategies*. San Francisco: Jossey-Bass, 1999.
46. P.J. Bernstein. "The Proposed Global Business Credential: Do Financial Planners Need It?" *The Planner* (Jul/Aug 2001): 9–12.
47. L. Sandler. "Hand in Hand: Competency and Recruitment." *Techniques* (March 2002): 18–20.
48. "Outcomes-based Outrage Runs Both Ways." *The Education Digest* (Jan 1994): 1–4 [editorial].
49. N.M. Tichy. "A Master Class in Radical Change." *Fortune* (Dec. 13, 1993): 1–6.
50. N.M. Tichy. "Revolutionize Your Company." *Fortune* (Dec. 13, 1993): 1–4.
51. A.B. Yost. "Maximizing Organizational Fit: Capital One's Approach." In J. Canger et al., eds. *Tailor-Made: Selecting Employees for Organization Fit*. Workshop conducted at the meeting of the Society of Industrial/Organizational Psychologists, Toronto, Canada, April 2002.
52. N.M. Tichy. "GE's Crotonville: A Staging Ground for Corpo-

- rate Revolution." *The Academy of Management Executive* III, No. 2 (1989): 99–106.
53. D. Leach and P. Bataldan. "Some Observations on the ACGME Process of Change." Unpublished paper, Accreditation Council for Graduate Medical Education (April 18, 2001): 1–27.
54. Accreditation Council for Graduate Medical Education (ACGME) Outcome Project General Competencies. (September 28, 1999). *ACGME General Competencies Vers. 1.3*. Retrieved May 22, 2002, online from <http://www.acgme.org/outcome/comp/compFull.asp>
55. L. Laranger et al. "Task Force Finds Training at the Nation's Medical Schools is Uneven: Calls for Improvement in Cost and Quality of Physician Education." The Commonwealth Fund, news release (May 15, 2002): 1–3. Available online at [http://www.cmwf.org/media/releases/ahc\\_training\\_release\\_05152002.html](http://www.cmwf.org/media/releases/ahc_training_release_05152002.html)
56. Accrediting Commission on Education for Health Services Administration (ACEHSA). *Criteria for Accreditation*. Washington, DC: ACEHSA, 1998.