

APA TASK FORCE ON THE ASSESSMENT OF COMPETENCE IN
PROFESSIONAL PSYCHOLOGY:
FINAL REPORT

October 2006

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TASK FORCE ON THE ASSESSMENT OF COMPETENCE IN PROFESSIONAL PSYCHOLOGY: EXECUTIVE SUMMARY

Competence has become as common a term in psychology today as it is in other health professions (Joint Commission on Accreditation of Healthcare Organizations, 2000). Competence is developmental, generic, and wholistic (Alverno College Faculty, 1994). Educational programs are expected to produce competence, professional credentialing bodies are expected to certify individuals as competent, policy makers laud competence, and consumers increasingly demand it (Hoge et al., 2005). In addition, as professions are regulated to ensure public protection, we have a responsibility to ensure via education, training, and ongoing life-long assessment that practicing psychologists and future generations of psychologists provide quality and safe psychological services. Competency assessment strategies facilitate the determination of what one knows, if one knows how, if one shows how, and how one does (Miller, 1990). Therefore, the assessment of competence throughout the training and career of a professional psychologist is valuable in many respects.

To this end, it is timely for professional psychology to embrace not only a culture of competence, but also a culture of the assessment of competence (Roberts, Borden, & Christiansen, 2005) that builds upon a long history of the assessment of competence both within and outside of psychology (Bourg et al., 1987; Bourg, Bent, McHolland, & Stricker, 1989; Bowden & Masters, 1993; Burke, 1990; Callan, Peterson, & Stricker, 1986; Kaslow, 2004; Kaslow et al., 2004; Lucia & Lepsinger, 1999; Mentkowski & Associates, 2000; Peterson, 2004; Peterson et al., 1992; Peterson, Peterson, Abrams, & Stricker, 1997; Roberts, Borden, & Christiansen, 2005; Rychen & Salganik, 2001;

Sumerall, Lopez, & Oehlert, 2000). In other words, there must be a shift of focus within professional psychology toward an emphasis on the acquisition and maintenance of competence as a primary goal. In addition, it is essential that there be a shift to a culture that promotes and ensures both an institutionalized and internalized assessment of that competence at all phases of the professional life-span, from beginning graduate student to retirement. The assessment of competence fosters learning, evaluates progress, assists in determining the effectiveness of the curriculum and training program, advances the field, and protects the public (Kaslow, 2004). Compelling methodologies for assessing competence must be developed to advance our education and training programs before standards can be imposed for certification within the profession (Peterson, 2003). In light of the considerable differences in perspective within the profession as to what constitutes competence in professional psychology and what core competencies that might reasonably be expected of its students and practitioners at different levels of training and in different types of training and experience—differences born out of inherent differences in theoretical approach, professional application, and epistemological orientations, the profession will likely experience internal disagreements about the knowledge base and skill sets that define and underlie the competent practice of professional psychology. Thus, we focus on the assessment of competencies as a vehicle for bridging what differences may exist within our profession. The intent of this report is not that the whole profession needs to be re-tooled, but rather that the profession gains greater clarity regarding the competence of its members.

This report begins with a brief overview of key terminology relevant to the competency-based movement. We then examine the societal forces outside of psychology

that provide a context for the assessment of competence with particular attention being paid to higher education and the health professions in general. Next, we provide background on the need for competence assessment within professional psychology. Our focus then shifts to competency assessment models. Specifically, we offer an examination of types and principles of assessment models, illustrative examples of assessment models from other health professions, and an overview of where psychology as a profession is today in the area of assessment models. The key challenges associated with the assessment of competence and competencies are then highlighted and ways to overcome these challenges are suggested.

In an effort to move psychology forward with regard to the assessment of competence, the Task Force on Assessment of Competence in Professional Psychology offers the following guiding principles.

Principle 1: The career-long assessment of competence requires a major culture shift

Principle 2: It is essential that competencies be conceptualized as generic, wholistic, and developmental abilities

Principle 3: A developmental perspective must undergird the assessment of competence

Principle 4: Assessment approaches must integrate formative (i.e., ongoing corrective feedback for further development) and summative (i.e., conclusive evaluations for progression and gatekeeping purposes) evaluations

Principle 5: There needs to be collaboration across constituency groups in creating coherence and continuity in strategies for evaluating competencies

Principle 6: The assessment of competence must reflect fidelity to practice and must incorporate reliable, valid, and practical methodologies

Principle 7: Generic and specialty foundational and functional competencies must be evaluated in a comprehensive competency assessment

Principle 8: Assessment of competence should be a multi-trait, multi-method, and multi-informant process

Principle 9: Self-reflection and self-assessment are key components of the assessment of competence and need to be taught and encouraged

Principle 10: The comprehensive assessment of competence must include a focus on interpersonal functioning and professional development

Principle 11: The assessment of competence must be sensitive to and highlight the importance of individual and cultural diversity

Principle 12: Multimodal methods of assessment are needed to ensure the development and maintenance of ethical practice skills, which underlie all professional activities and performance

Principle 13: It is important to assess capability in addition to competency

Principle 14: When competence problems are identified through assessment, it is important to have strategies in place for their remediation and management

Principle 15: Evaluators must be trained in effective methodologies for the ongoing assessment of competence

Finally, building on these 15 principles, the Task Force on Assessment of Competence in Professional Psychology offers the following recommendations.

Recommendation 1: It is recommended that there be a culture shift within the profession toward a high value on the assessment of competence across the professional life-span

Recommendation 2: It is recommended that workgroups be formed to further define competencies within professional psychology and to enhance the assessment of competence within professional psychology based upon the Guiding Principles

Recommendation 3: It is recommended that research be conducted to facilitate the development of psychometrically sound and comprehensive assessment strategies that have appropriate levels of fidelity

Recommendation 4: It is recommended that this report be reviewed by relevant groups and recommendations instituted by these groups

Recommendation 5: It is recommended that collaborative models for competence assessment be developed and best practices shared with the public

Recommendation 6: It is recommended that a conference on the assessment of competence be held

Recommendation 7: It is recommended that a web-based presentation of best practices be developed

Recommendation 8: It is recommended that an assessment toolbox for professional psychology be created

Recommendation 9: It is that recommended that consideration be given to the value, design, and implementation of planned/structured assessment of competence post-licensure

PREFACE

Participants at the Competencies Conference: Future Directions in Education and Credentialing in Professional Psychology noted that although psychology has developed quite adequate methodologies for the assessment of knowledge, our methods for the assessment of clinical skills and other attributes of professional competence require more attention (Kaslow, 2004; Kaslow et al., 2004; Roberts, Borden, & Christiansen, 2005). As follow-up to that conference, a workshop on the assessment of health provider skills in professional education and training was held during the 2003 Education Leadership Conference (ELC) (http://www.apa.org/ed/elc03_homepage.html). Specific methodologies were discussed, including their advantages and disadvantages. ELC participants agreed that more work is required to address psychology's needs for reliable and valid assessment for both formative and summative purposes in education and training.

As a result of these developments, as well as myriad societal forces both outside and inside of professional psychology, the American Psychological Association's (APA) Board of Educational Affairs (BEA) requested and received funding support from the APA Council of Representatives (CoR) in 2004 to establish a task force on the assessment of competencies in professional education, training, and credentialing. To have a breadth of perspectives, the task force was to be constituted by five psychologists and two external consultants, all with expertise in models of measurement and assessment of competence used in psychology and other professions within the context of professional education, training, and credentialing. The psychologists were to be appointed by each of the following five APA governance groups: BEA, Board of

Scientific Affairs (BSA), Board of Professional Affairs (BPA), Board for Advancement of Psychology in the Public Interest (BAPPI), and Committee for the Advancement of Professional Practice (CAPP). The BEA also was to appoint the two external consultants, and its psychologist appointee was designated as chair of the task force. (See Appendix A for list of Task Force Members, their professional affiliations, and the sources of their appointment). All of the members of the Task Force on the Assessment of Competence in Professional Psychology met together twice for three-day meetings in Washington D.C. In addition, a subset of the committee met on three additional occasions in Atlanta, Georgia.

The goals of the Task Force on Assessment of Competence in Professional Psychology were to synthesize the scholarly literature of current practices in the measurement and assessment of competence in professional education, training, and credentialing in psychology and selected other professions and to make recommendations regarding models and methods for the assessment of competencies in professional education and training in psychology. This work was to include analyses of issues related to public policy, ethics and diversity, and sensitivity to developmental stages of professional education and training in psychology. It was anticipated that the work of the task force would encompass the breadth of perspective needed to define and implement competence assessments across the broad spectrum of applications in professional psychology, and identify initial steps toward sound methodological models and the armamentarium of tools necessary to carry out the evaluation of competencies.

TERMINOLOGY

This section of this report provides a conceptual framework within which to work. This framework builds upon prior definitional work, both outside and inside of psychology, within the competencies movement. Such understanding is essential before we can determine how best to assess student development of competence or advanced practitioner capability.

Competence

The Webster Dictionary defines competence as being “sufficiently able, or qualified; adequate.” A number of terms have been used almost interchangeably or synonymously with the term competence (e.g., “mastery,” “ability,” “skill,” “effectiveness,” “proficiency”) (Weinert, 2001). Although each may have its unique definition, for this paper we use the word “competence” to encompass this variety of meanings.

Epstein and Hundert (Epstein & Hundert, 2002) provide a refreshingly humanistic definition of professional competence for the medical profession (Leach, 2002) that has relevance for professional psychology (Kaslow, 2004). Basing their definition on previous efforts to operationalize the construct, they propose that competence is “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served” (p. 227). They go on to suggest that competence depends on “habits of mind, including attentiveness, critical curiosity, self-awareness, and presence” (p. 227). It connotes the capability of critical thinking and analysis, the successful exercise of professional judgment in assessing a situation and making

decisions about what to do or not do based on that assessment, and the ability to evaluate and modify one's decisions, as appropriate, through reflective practice. These actions, which require public verification, must be executed in accord with ethical principles, standards, guidelines, and values of the profession (Rodolfa et al., 2005). In this regard, competence refers to the professional's overall suitability for the profession, which is a reflection of the individual's knowledge, skills, and attitudes and their integration.

Competence is both developmental and incremental in that what is expected of the professional differs depending on the individual's stage of professional development and subsequent functioning. Additionally, competence is context-dependent, specifically meaning that different competencies, aspects of each competency, and execution of each competency varies depending on the setting. An exemplar statement of competence for professional psychologists is that of the APA's policy that defines Evidence Based Practice in Psychology (American Psychological Association, 2005b). This policy is based on the complex integration of empirical evidence, (practitioner) expertise, and patient/client values and interests, a set of constructs advanced in the health professions by the IOM (Institute of Medicine, 2001).

Competencies

Competencies may be conceptualized as complex and dynamically interactive clusters of integrated knowledge of concepts and procedures, skills and abilities, behaviors and strategies, attitudes, beliefs, and values, dispositions and personal characteristics, self-perceptions, and motivations (Mentkowski & Associates, 2000) that enable an individual to fully perform a task with a wide range of possible outcomes (Marrelli, 1998). As will be detailed later in this paper, it has been proposed that

professional psychology's competencies can be represented in terms of a cube consisting of the three orthogonal dimensions of foundational competencies, functional competencies, and stages of professional development (Rodolfa et al., 2005). There are minimal competencies required for one to be considered competent to function as a professional. In contrast to these, aspirational competencies are those for which we strive to achieve and those who achieve them often are considered experts or masters.

Competencies are elements of competence (Kaslow et al., 2004) that involve the whole person, are teachable, observable, measurable, containable, practical, derived by experts, flexible and transferable across settings, and continually re-evaluated and redefined (Alverno College Faculty, 1994; Stratford, 1994). Both competence and competencies are defined by the following qualities: distinctiveness, generality, transmittability, verifiability, external validity, and parsimony. Competencies are required for effective performance (Marrelli, Tondora, & Hoge, 2005). It is expected that these competencies will correlate with performance, can be evaluated against well-accepted standards, and can be enhanced through training and development (Parry, 1996).

Capability

Capability incorporates and extends the notion of competence. Capability is generally understood to refer to the extent to which competent individuals can adapt their skills, generate (rather than simply acquire) new knowledge, and continue to improve their performance (Fraser & Greenhalgh, 2001). Stephenson and Yorke (Stephenson & Yorke, 1998) refer to capability in terms of the confluence of competence and lifelong learning, an ongoing professional developmental conceptualization. In this regard, capability is more than competence. It is the enhancement of competence—generally

achieved through feedback on one's performance and coping with unfamiliar contexts and challenges to one's competencies.

One group of professionals that demonstrate capability are those who may be classified as experts (Bransford, Brown, & Cocking, 2000). Experts notice features and meaningful patterns of information, have considerable content knowledge that is organized in a fashion indicative of a deep understanding of the material, possess knowledge reflective of contexts of applicability rather than isolated facts, flexibly retrieve salient knowledge with minimal attention effort, know their discipline thoroughly, and demonstrate varying levels of flexibility in dealing with novel situations. There is a great deal that we can learn from individuals who are masters and possess expertise in particular competency domains (Skovholt, 2004).

BACKGROUND ON THE NEED FOR COMPETENCE ASSESSMENT:

SOCIETAL FORCES OUTSIDE OF PSYCHOLOGY

The origins of the competency based movement date back to the 1920s (Tuxworth, 1989). This movement gained momentum in the late 1960s, when the United States (U.S.) Office of Education fostered the development of competency-based training and education of elementary school teachers via ten grants to colleges and universities (Tuxworth, 1989). This approach was propelled forward even more by McClelland (McClelland, 1973), who proposed competency-based assessment as an alternative to the trait and intelligence approaches to measuring and predicting human performance. Originally applied to educational achievement testing, the competency movement was soon adopted for many other educational, business, and healthcare professional applications (Athey & Orth, 1999; Burke, 1990; Spencer & Spencer, 1993). This section

delineates the roots of the competency movement from the fields of general higher education and the health professions.

General Higher Education

During the 25 years, in the context of dramatic technological advancements, increasing dependence of society on information systems, and the global economy, it became imperative that our nation's education systems prepare students to be engaged and competent citizens in a new age in the 21st century. From public officials to educators, for purposes ranging from public accountability to quality assurance, educational systems have been transformed from a traditional curriculum focus to one of educational outcomes assessment, consistent with an increased emphasis on competency-based education and training (Burke, 1990). This was as true for higher education institutions (Bowden & Masters, 1993) as it was for pre-school, elementary, and secondary schools. This has entailed a greater appreciation of how people learn, taking into account key findings from neuroscience, cognitive and social psychology, human development, processes of effective learning, environments in which learning best takes place, and emerging technologies (Bransford, Brown, & Cocking, 2000). This movement also has required a re-thinking of educational objectives at each level of learning, not only in terms of subject matter but also in meta-cognitive terms such as creative and critical thinking; analytical and problem-solving capabilities; integrity, moral development, and ethical responsibility; and self-reflection on learning. These objectives became especially salient in the curriculum reform of our undergraduate colleges and remain so today, for they are the competencies that employers want (Carnevale, Gainer,

& Meltzer, 1990) and that will be needed by the leaders of our nation and communities in an ever more complex world (Halpern & Associates, 1994).

The centerpiece of this movement in higher education is educational outcomes assessment (Adelman, 1986; Ewell, 1985; Mentkowski, 1991). In response to public demands for accountability for quality, accreditors of colleges and universities and those for the professions, have played a major role in reinforcing this emphasis on outcomes assessment. Creating and cultivating an academic culture of assessment has been exemplified by many of our undergraduate colleges. Among the leaders has been Alverno College where faculty, students, and academic administration have collaborated in setting educational goals and assessing student development as an outcome of the undergraduate educational experience (Alverno College Faculty, 1994). The Alverno model makes the case for learning that has a longitudinal impact on performance and underscores the value of self-assessment at the undergraduate level in a liberal arts curriculum and the longitudinal assessment of how undergraduate learning is related to performance in life (Loacker, 2000; Mentkowski & Associates, 2000).

Outcomes assessment in higher education has not been limited to the undergraduate experience. It has been adopted increasingly over the past decade or more by the professions in their educational programs. This is true for the health professions, including psychology. Parallel to developments in undergraduate education, there has been a paradigmatic shift in the professions from emphasizing foundational education programs on course content and curriculum constructs to developing and assessing competencies for practice.

Health Professions

The outcome assessment movement in the health professions, in particular medicine, nursing, and dentistry in particular, has been spearheaded by accreditation bodies in an attempt to ensure that professional schools focus on the identification, training, and evaluation of important competencies. The accreditation standards specify broad outcomes or competencies to guide the teaching of the academic and training institutions. This is a shift in the accreditation model from one based for many years on documenting what is taught to one based on demonstrating that students have learned what is being taught (educational outcomes and outcomes of work performance) (Harrison & Mitchell, 2006). Schools and programs are now to be held accountable for the outcomes of their educational programs and student performance. The precise methods of assessing student learning in the competency area are left up to the educational institution. Concurrent with the focus on competencies is the focus on evidence-based practice in educational programs across the health professions.

As accreditation, licensure, and certification agencies are charged with assuring the public safety and quality of healthcare, the outcome assessment movement is also a logical outgrowth of the need for professions to self-regulate in order to protect the public. In training programs, there are multiple assessments along the path to graduation/licensure. Criticism and concern exists regarding whether assessments reflect the broad range of skills, knowledge, attitudes and values. The professions are increasingly concerned with assessing what their practitioners are able to do and what they actually do in practice. However, there are concerns that credentialing assessments do not actually evaluate what is expected in professional practice. Also, there are

questions about the validity of post-credentialing assessments as meaningful strategies for examining life-long learning.

The health professions have responded to the need for competent practitioners through an inter-related and evolving set of systems that have included: (1) education and training experiences for initial entry into professional practice; (2) licensure and professional regulation of practice; (3) continuing professional education and competency assurance following initial licensure; and (4) specialty certification programs recognizing specialty practice competencies beyond those required for initial licensure. Various assessment methods, including performance-based assessments (Swanson, Norman, & Linn, 1995) are employed to provide objective evidence that practitioners possess the competencies considered critical in rendering safe and effective practice across the professional development continuum.

Pew Health Professions Commission and Related Groups

For more than a decade, the health professions have been facing increased scrutiny over safety and quality-of-care issues from institutions that independently monitor their activity. Specifically, since 1990, the Pew Health Professions Commission has been studying the future of health professions including accreditation, education, and regulatory practices. In their first report (issued in October 1991), the Pew Commission recommended 17 competencies for healthcare professionals to meet the changing needs of patients and the public, and developed a framework for changing the relationships between universities and their communities (Shugars, O'Neil, & Bader, 1991). The 17 competencies are summarized under the following rubrics:

- care for the community's health

- provide contemporary clinical care
- participate in the emerging system and accommodate expanded accountability
- ensure cost-effective care and use technology appropriately
- practice prevention and promote healthy lifestyles
- involve patients and families in the decision-making process
- manage information and continue to learn

The Commission suggested that academic programs monitor and improve program quality through the assessment of curriculum quality and that accreditation policies promote outcome-based standards of performance. These recommendations were reiterated in a subsequent report of the Pew Commission (O'Neill, 1993).

To further advance development of the quality in education for the health professions, the University of California at San Francisco Center for the Health Professions, with the support of the Pew Charitable Trust, established in 1996 a Task Force on Accreditation of Health Professions Education. In its 1999 publication (Gelman, O'Neil, Kimmey, & Task Force on Accreditation of Health Professions Education, 1999), the Task Force recommended ways to make accreditation a more productive and positive force in the health professions. The following strategies capture the essence of implementing the Task Force's recommendations in the areas of competency definition and assessment:

- establish broad competencies needed for practice through a collaborative approach among educators, professional organizations, and employers, and an ongoing assessment and integration of changing practice needs

- reduce overlap and duplication of effort where possible in professional regulation, individual licensure and certification, organizational accreditation, and peer review
- require programs to define and measure achievement of competencies for professional practice (for accreditors)
- evaluate students' achievement of threshold performance levels, and make program improvements to assure students meet or exceed these levels (for educators)
- foster a culture centered on educational assessment and improvement
- collaborate to build a *culture of evidence* where improvement is planned and directed
- ensure that accreditors and educators together investigate alternative mechanisms for self-assessment and performance improvement
- have institutional leaders commission studies to identify best practices for enhancing efficiency and minimizing waste and duplication in accreditation.

During the same period of time, to advance the quality of credentialing in the health professions, the Pew Health Professions Commission also prepared a report on reforming health care workforce regulation through new approaches to healthcare to better serve the public's interest (Pew Health Professions Commission, 1995). The report offered 10 recommendations for consideration by the regulatory community, three of which pertain to assessment and to continuing competency assurance considerations:

- states should standardize entry-to-practice requirements and limit them to competence assessments for the health professions to facilitate the physical and professional mobility of the health professions
- states should base practice acts on demonstrating initial and continuing competence

- states should require each board to develop, implement, and evaluate continuing competency requirements to assure the continuing competence of regulated health care professionals.

In a related study (Gagnola & Stone, 1997), the Commission and Task Force on Health Care Regulation summarized the reactions of the regulatory community to the ten recommendations. It is useful to note that the recommendation on assuring continuing practitioner competence received the highest score for level of support and level of concern. Several representatives of the regulatory community challenged the notion that practitioners needed to periodically demonstrate competence and suggested that it was either not necessary or too costly to require of all practitioners. Other barriers to reform included vast differences in various practices making the assessment of competence difficult, as the areas of evolving expertise may not be amenable to standardized testing.

A number of representatives of the regulatory community suggested that continuing education and peer review were working, but could be improved by including some form of exit testing. Others suggested that continuing competency assessment could be triggered by a variety of markers such as the number of disciplinary actions, lack of specialty or private certification, or other state-determined indicators. As an outcome of the project, an Inter-professional Workgroup on Health Professions Regulation (IWHPR) comprising eighteen health care professions was formed to explore various competency assurance models (Interprofessional Workgroup on Health Professions Regulation, 1997).

Institute of Medicine (IOM)

In the mid 1990s, the IOM initiated a comprehensive effort to enhance the quality of healthcare provided in the U.S. For this initiative, quality was defined as the degree to

which health services and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. A number of reports followed that are pertinent to the assessment of competence.

In 1999, the IOM released a report entitled *To err is human: Building a safer health system*, in which the high rates of preventable medical errors were noted and a detailed systems-oriented strategy for preventing these mistakes was delineated (Kohn, Corrigan, & Donaldson, 2000). Following this, the IOM published *Crossing the quality chasm: A new health system for the 21st century* (Institute of Medicine, 2001) that focused more broadly on how the healthcare system can be reinvented to encourage innovation and to enhance the quality of care. The authors of this report highlighted the need for care to be safe, effective, patient-centered, timely, efficient, and equitable. They articulated rules that could guide the efforts to redesign the health system.

To operationalize the agenda set forth in *Crossing the quality chasm: A new health system for the 21st century* (Institute of Medicine, 2001) and to ensure that training programs were committed to educating the next generation of healthcare providers to deliver the highest quality and safest care possible, the IOM published *Health professions education: A bridge to quality* (Institute of Medicine, 2003). The crafters of this document set out a vision for all programs and institutions engaged in clinical education by articulating a core set of competencies to be taught and directly assessed: (1) delivery of patient-centered care, (2) work in interdisciplinary teams, (3) practice of evidence-based medicine, (4) quality improvement efforts, and (5) use of information technology. This report highlights the responsibilities of educators and accreditors, as well as

licensing and certification bodies, to ensure not only the development of the aforementioned competencies, but also their maintenance.

Citizen Advocacy Center

Going further, the Citizen Advocacy Center recently described a road map including six actions to make the implementation of continuing competency assessment a reality (Citizen Advocacy Center, 2004):

- conduct research needed to develop, validate, and compare continuing competency assessments
- seek enabling legislation by licensing boards
- develop evidence-based standards
- create expectations during initial education that continuing competency assessment is a reality
- finance the administration of continuing competency assessments through the imposition of fees
- reform continuing education to ensure courses are evidence-based and require enrollees to demonstrate the competencies acquired

Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

Since 1996, the JCAHO standards reflect a focus on actual performance and outcomes, and include standards on the assessment and maintenance of employee competence. JCAHO requires that competency be assessed, demonstrated, and improved; maintained by ongoing inservice and other education programs; and collected in terms of aggregate data on patterns and trends to identify learning needs (Parsons & Capka, 1997).

Models have been developed for competency assessment in accord with JCAHO standards (Parsons & Capka, 1997).

In response to similar pressures created by the IOM Report, the JCAHO (Joint Commission on Accreditation of Healthcare Organizations, 2000) sponsored a symposium to advance improvements in professional education and practice that will enhance the safety and quality of healthcare. The Commission appointed a panel comprising representatives from healthcare administration, medicine, nursing, and pharmacy to frame the issues and develop recommendations to be included in an ensuing position paper.

Annapolis Coalition on Behavioral Health Workforce Education

The Annapolis Coalition on Behavioral Health Workforce Education is a multi-stakeholder project designed to improve the education and training of all those concerned with the behavioral health workforce, including students, professionals and paraprofessionals, as well as people in recovery and their loved ones (Hoge et al., 2005). After focusing their efforts on consensus building and the dissemination of strategies for reforming current practices to education and training, and on workforce development (Hoge & Morris, 2003), the coalition members shifted their focus to competency development and assessment (Hoge et al., 2005). This conference, which resulted in a special issue of *Administration and Policy in Mental Health* (May/July 2005), focused on the following topics:

- fundamental principles of competency-based approaches to workforce development
- building a competency model and employing it as a tool in multiple aspects of human resource management

- best practices in the assessment of competence and competency-based training of medical residents
- competency initiatives in various behavioral health disciplines
- curriculum resource and standards that can facilitate training

The coalition also developed the following series of consensus recommendations to guide future work on the identification, assessment, and use of competencies (Hoge et al., 2005). They are as follows.

- Behavioral health competencies should be identified and assessed for a broadly defined “workforce” that encompasses the various providers who deliver care within the formal behavioral health system, members of the general and specialty healthcare system and human service system who routinely encounter individuals with mental health problems or illnesses and substance use disorders, and persons with these disorders and their families.
- Initiatives to identify and assess competencies in behavioral health must strive to achieve reliability and validity using established methods of competency development.
- All members of the behavioral health workforce should develop competencies in the identification, assessment, treatment, and prevention of mental health problems or illnesses and substance use disorders, including the care of individuals with co-occurring mental and addictive disorders.
- The content of competency-based training and education must be broadened beyond the traditional clinical paradigm to include prevention, early intervention, rehabilitation, and recovery- and resilience-oriented approaches to care.

- The traditional focus on the competencies of individuals in the workforce must be complemented by concerted attention to defining and assessing the competencies of the treatment teams, organizations, and systems in which these individuals function.
- Persons with mental health problems or illnesses and substance use disorders and the families of these individuals should play a central role in building a competent workforce by having formal input into both the identification of essential competencies and into competency assessments of individual providers, treatment teams, service organizations, and systems of care.
- All segments of the workforce must develop competencies in delivering culturally, linguistically, and developmentally appropriate services.
- Given the prevalence of stigma, disparities in access to care, and inequities in coverage of care for those with mental illnesses and substance use disorders, a core competency that should be developed by all members of the behavioral health workforce is the ability to advocate effectively for individuals and for groups of individual who are diagnosed with these disorders.
- A “competency collaborative” should be established to link the multiple groups and organizations that are developing behavioral health competencies and identify the optimal common or core competencies to be demonstrated by most providers.
- Federal, state, foundation and professional association funding priorities should support a health services research agenda that evaluates the link between competent performance and healthcare outcomes.

BACKGROUND ON THE NEED FOR COMPETENCE ASSESSMENT:

PROFESSIONAL PSYCHOLOGY

There are a variety of ways to describe the history of the competencies movement within psychology. For organizational purposes, this section begins with a brief historical introduction. After reviewing the aspects of the Ethical Principles and Code of Conduct of the APA (American Psychological Association, 2002a) and accreditation practices in the U.S. and Canada, there is a description of the competency-based education and training efforts at the undergraduate, graduate, practicum, internship, and postdoctoral levels. The APA's efforts related to competencies are then discussed. Following this, attention is paid to credentialing at the entry and specialty levels, and to international efforts. Finally, the section summarizes the Competencies Conference: Education and Credentialing in Professional Psychology (Kaslow et al., 2004).

Historical Backdrop

The past two decades have witnessed a burgeoning interest in competency-based education, training, and credentialing in professional psychology (Sumerall, Lopez, & Oehlert, 2000), as well as the work climates that can contribute to the enhancement or reduction of professional competence (Willis & Dubin, 1990). As a result, the field has rapidly moved toward competency-based models (Peterson, 2004). Reflecting the growing investment in this movement, there have been disparate and widespread endeavors focused on competencies, including conferences, workgroups, organizational projects, and commissions throughout North America and Europe. In addition to the publication of recent books focused on defining and selecting key competencies (Rychen & Salganik, 2001), competency models (Lucia & Lepsinger, 1999), and the assessment

of student competence in accredited disciplines (Palomba & Banta, 2001), some books have appeared that are specifically focused on competency-based education and training in psychology (Sumerall, Lopez, & Oehlert, 2000).

Ethical Principles of Psychologists and Code of Conduct

One of the hallmarks of any profession is that it is self-regulatory and has a code of ethics that guides professional conduct and behavior. Competence is now granted a separate section in the 2002 revision of the APA *Ethical Principles of Psychologists and Code of Conduct* (Ethics Code) (American Psychological Association, 2002a). This section of the Ethics Code focuses on the boundaries of competence, provision of services in emergencies, maintenance of competence, bases for scientific and professional judgments, delegation of work to others, and management of personal problems and conflicts. Of particular relevance to this document are the following two aspects of this section of the Ethics Code.

Boundaries of Competence – 2.01: Psychologists provide services, teach, and conduct research with populations and in areas only within the boundaries of their competence, based on their education, training, supervised experience, consultation, study, or professional experience. Where scientific or professional knowledge in the discipline of psychology established that an understanding of factors associated with age, gender, gender identity, race, ethnicity, culture, national origin, religion, sexual orientation, disability, language, or socioeconomic status is essential for effective implementation of their services or research, psychologists have or obtain the training, experience, consultation, or supervision necessary to ensure the competence of their services, or they make

appropriate referrals...Psychologists planning to provide services, teach, or conduct research involving populations, areas, techniques, or technologies new to them undertake relevant education, training, supervised experience, consultation, or study. When psychologists are asked to provide services to individuals for whom appropriate mental health services are not available and for which psychologists have not obtained the competence necessary, psychologists with closely related prior training or experience may provide such services in order to ensure that services are not denied if they make a reasonable effort to obtain the competence required by using relevant research, training, consultation, or study. In those emerging areas in which generally recognized standards for preparatory training do not yet exist, psychologists nevertheless take reasonable effort to obtain the competence required by using relevant research, training, consultation, or study.

Maintaining Competence – 2.03: Psychologists undertake ongoing efforts to develop and maintain their competence.

Accreditation in the U.S. and Canada

The Committee on Accreditation (CoA) in the U.S. (<http://www.apa.org/ed/accreditation/>) (American Psychological Association, 2005a) and the Accreditation Panel in Canada (<http://www.cpa.ca/accreditation.html>) moved to competency-based approaches to accreditation during the 1990s. Thus, the accreditation of professional education and training programs in psychology is based largely on the program's ability to demonstrate how and the extent to which foundational and foundational competencies for the profession are developed in the students they graduate.

The CoA's *Guidelines and Principles for Accreditation of Programs in Professional Psychology* (hereafter referred to as *Guidelines and Principles*) requires programs at the doctoral, internship, and postdoctoral stages of professional education and training to demonstrate how their students are assessed in various domains of competence. At the doctoral level, programs are expected to demonstrate a clear and coherent curriculum plan that provides students the means to acquire competence in the breadth of scientific psychology including its history, methods, and bases of behavior; practice foundations, including professional standards and ethics; knowledge of the theory and introduction to the practice of assessment, intervention, and consultation; cultural and individual diversity as related to the aforementioned competencies; and attitudes essential for life-long learning. At the internship stage of development, programs are expected to provide sequential and organized experiential training so that interns can demonstrate developmentally appropriate competence in theories and methods of assessment, diagnosis, and effective intervention; theories and methods of consultation, evaluation, and supervision; strategies of scholarly inquiry; professional conduct and ethics; and an understanding of cultural and individual diversity issues relevant to the preceding domains. At the postdoctoral level, programs are required to demonstrate that they offer fellows/residents advanced training to ensure higher level competence in methods of psychological assessment, diagnosis, intervention, consultation, program evaluation, supervision and/or teaching; strategies of scholarly inquiry; organization management and administration; professional conduct, ethics, law, and standards of practice; and an understanding of cultural and individual diversity issues relevant to all of the above. It is noted that such competence can be fostered by socialization, mentoring, and

supervisory/consultative guidance. Programs are expected to demonstrate their effectiveness in ensuring that their students achieve developmentally-appropriate competence (outcomes assessment) consistent with the training model or philosophy, goals, and objectives of the program and in accord with the local and national context.

Developmental Stages of Education and Training in Psychology

Undergraduate Education

In recent years, considerable attention also has been paid to the competencies expected of undergraduates in psychology, in keeping with the national *zeitgeist* in assessing the role of the undergraduate major within the context of general and liberal education. In addition, thoughtful theoretical and empirical papers have been written on assessing key learning outcomes for psychology majors, such as critical thinking (Lawson, 2000). The thinking on this issue was summarized in a document entitled *Undergraduate Psychology Major Learning Goals and Outcomes* (Halonen et al., 2002) that outlines 10 goals and suggests learning outcomes that represent reasonable departmental expectations for the undergraduate psychology major across educational contexts. The goals are divided into two major categories:

- knowledge, skills, and values consistent with the science and application of psychology; and
- knowledge, skills, and values consistent with liberal arts education that are further developed in psychology.

Of particular relevance to the work of the *APA Task Force on the Assessment of Competence in Professional Psychology*, the *Undergraduate Psychology Major Learning*

Goals and Outcomes document emphasizes the assessment of undergraduate psychology learning goals and outcomes and provides the following principles of assessment:

- A set of outcomes is meaningful and useful in improving instruction only if student abilities are measured thoughtfully with the specific intent of improving teaching and learning. Whenever possible, students should receive direct feedback to facilitate their learning from completing assessment activities.
- Assessment planning should encourage systematic improvement rather than concentrate on deficiency.
- Although some aspects of assessment can be accomplished using multiple-choice formats, other approaches to assessment often provide a richer picture of student achievement.
- Departments may choose to focus only a few goals on an annual basis.
- Departments will benefit from discussions that compare existing curricula to the *Undergraduate Psychology Major Learning Goals and Outcomes* document.
- Whenever possible, assessment is most beneficial when embedded within existing coursework.

As a follow-up to this report, there is now a comprehensive, on-line Assessment Cyberguide for Learning Goals and Outcomes in the Undergraduate Psychology Major (www.apa.org/ed/guidehomepage.html). Top 10 best practices for assessment are highlighted and encourage departments to:

- drive the assessment process
- define objectives in the context of the institutional mission
- focus on collaboration and teamwork

- clarify the purpose of assessment
- identify clear, measurable, and developmental student learning
- use multiple measures and sources consistent with resources
- implement continuous assessment with clear, manageable timelines
- help students succeed on assessment tasks
- interpret and use assessment results appropriately
- evaluate assessment practices

A taxonomic overview of assessment strategies is provided that depicts methods of assessing learning, including the use of classroom/course data, individual projects and performance assessment, summative performance assessment, self-assessment and reflection, interviews and surveys, archival measures, and assessment of collaboration. Attention also is paid to designing viable assessment plans, evaluating assessment strategies, sustaining an assessment culture, and applying assessment strategies in psychology.

Doctoral Education

Professional education and training groups. Various graduate and postgraduate education and training groups have articulated competency-based training models. The National Council of Schools and Programs of Professional Psychology (NCSPP) was among the first of these, developing a competency-based core curriculum as a guide for professional schools of psychology (Bourg et al., 1987; Bourg, Bent, McHolland, & Stricker, 1989; Callan, Peterson, & Stricker, 1986; Peterson et al., 1992; Peterson, Peterson, Abrams, & Stricker, 1997) designed to ensure that graduates possess the competencies needed to provide high quality professional psychology services

commensurate with their level of training (Kenkel, DeLeon, Albino, & Porter, 2003). NCSPP highlighted that each competency is composed of the knowledge, skills, and attitudes that are necessary for professional functioning and practice (Bourg et al., 1987). In addition, they have identified core competency domains based on the variety of roles that psychologists perform (e.g., relationship, assessment, intervention, research and evaluation, consultation and education, management and supervision). NCSPP acknowledged cross-cutting competencies, such as diversity, that need to be integrated within each of the other competency domains. In addition, those individuals who are focused on evaluation within professional psychology programs underscore the importance of taking the local culture of the institution into account when assessing competence (Peterson, 2004). At the 2003 NCSPP conference, *Strategic Impact: Continuing to Shape the Future of Professional Psychology*, attendees focused on ways to further develop the competence model of professional training. They agreed to the following action step: *“NCSPP should gather ‘best practices’ as well as different tools used by programs to teach and assess competencies as well as the overall process of ‘becoming a psychologist.’ ... We should be vigilant and advocate for appropriate implementation of the NCSPP competency model in accreditation and other arenas to ensure that it is not implemented in a trivial or oversimplified manner”* (http://www.ncspp.info/webaction_files/frame.htm).

At the National Conference on Scientist-Practitioner Education and Training for the Professional Practice of Psychology (Belar & Perry, 1992), components of education and training required for the preparation of scientist-practitioners were articulated. The scientist-practitioner model provides for the development of the knowledge, skills, and

attitudes that encourage the integration of scientific methods with professional practice. The model calls for life-long learning, and places value on role models. Attention is paid to didactic scientific and practice cores, as well as to scientific and professional practice experiential cores.

Clinical scientists (psych.arizona.edu/apcs/apcs.html) emphasize training students in psychological science that is directed at (1) the promotion of adaptive functioning, (2) the assessment, understanding, amelioration, and prevention of human problems in behavior, affect, cognition or health, and (3) the application of knowledge in ways consistent with scientific evidence (McFall, 1991). They are committed to training competent clinical scientists whose endeavors (e.g., research, practice) are grounded in science and who seek out careers in clinical science research.

Counseling psychologists (Murdock, Alcorn, Heesacker, & Stoltenberg, 1998) developed a model training program and outlined core training and a modal approach to educating counseling psychologists in accord with accreditation guidelines and principles. In general, counseling psychologists espouse the scientist-practitioner model of training, despite recent accreditation of some counseling psychology programs whose training philosophy is consistent with the practitioner-scholar model (Stoltenberg et al., 2000). In their discussion of the attainment of competence, counseling psychologists have attended to the differences between novices and experts with regard to information-processing characteristics, and have highlighted the fact that despite the documented efficacy of counseling, evidence supporting a claim of expertise among counseling practitioners is lacking (Lichtenberg, 1997).

School psychologists have focused on competency-based training since the 1970s (Reilly, Barclay, & Culbertson, 1977). Many of these efforts have targeted the assessment of the outcomes of school psychology interventions (Bonner & Barnett, 2004). The National Association of School Psychologists has developed *Guidelines for Performance-based Assessment and Program Accountability and Development* (Waldron, Prus, & Curtis, 2001) as a companion to their *Standards for Training and Field Placement Program in School Psychology* (National Association of School Psychologists, 2000). They underscore the importance of selecting assessment measures on the basis of reliability, validity, and utility, and they highlight the value of incorporating information from multiple data sources and environments, and across multiple domains. They also note the need for assessing across time, with continuous monitoring of progress toward the desired goals and outcomes. In this document, attention is paid to specific assessment methods that programs may want to consider including examinations, performance appraisals, case studies, simulations, portfolios, candidate and graduate questionnaires, exit interviews, and surveys of superiors, employers, and other external constituents. In addition, they highlight characteristics of performance-based program assessment and accountability.

Recently, the Division of School Psychology of the APA reported findings from a Task Force on School Psychology Training Standards (Phelps, 2001). These standards outline core competencies or procedures (i.e., skills) that fall under the following rubrics: assessment of individuals, diagnostic assessment, prevention, direct intervention, psychological and educational consultation, integrated service delivery, supervision, health-related consultation, and monitoring and evaluating services. The standards also

delineate the core knowledge base to be obtained with regard to psychology, education, professional practice, and measurement and the level of competence expected of their program graduates for both procedures and core knowledge base categorized as exposure, experience, and expertise. It is noteworthy, that with a few exceptions, the considerable efforts at the doctoral level have focused on the identification and training of competencies, but not on the assessment of competence.

Practicum training. The Commission on Education and Training Leading to Licensure (April, 2001) recommended that guidelines be developed for practicum training that included competency objectives at different stages of training. Partly in response to this recommendation, the Association of Directors of Psychology Training Clinics (ADPTC) Practicum Competencies Workgroup expanded the work of Dreyfus and Dreyfus (Dreyfus & Dreyfus, 1986) who identified five levels of competence (novice, intermediate, advanced, proficient, and expert). Workgroup members focused on the knowledge, skills, and attitudes that students should possess at the novice level prior to their practicum experience and the novice, intermediate, and advanced levels of competencies that should be developed during practicum training. Their work, still in development, is focused on delineating the components and levels of each competency to be attained prior to and at the completion of practicum experiences (www.adptc.org). In addition to the core competencies delineated at the Competencies Conference, they highlight the development of leadership skills in accord with the recommendations of the 2001 Education Leadership Conference (Belar, Nelson, & Wasik, 2003). Their work also is consistent with the growing emphasis on self-assessment (Boud, 1995; Weinert, 2001), as it focuses on meta-knowledge (knowing what you know and what you do not know)

and metacompetencies (ability to judge the availability, use, and learnability of personal competencies). This work is timely also in the context of a recent survey of doctoral and internship educators and trainers that revealed an emerging consensus regarding the practicum experience, namely that the most relevant focus should be on general competencies rather than hours *per se* (Kaslow, Pate, & Thorn, 2005), a stance consistent with the efforts of the ADPTC Practicum Competencies Workgroup. Hopefully, these efforts will strengthen the connection between practicum training and doctoral education and training (Lewis, Hatcher, & Pate, 2005).

Internship Training

One of the underlying principles of accreditation is that the model of training should be linked to the competencies taught, developed, and assessed. Recently, the Association of Psychology Postdoctoral and Internship Centers (APPIC) examined whether or not the conceptualization and implementation of training models actually reflected interns' training experiences and associated competency-attainment (Rodolfa, Kaslow, Stewart, Keilin, & Baker, 2005). Results revealed little connection between model name and training experiences, leading to the recommendation that it may be more productive to evaluate programs according to the competencies they help trainees develop. More recently, APPIC is working toward developing recommendations for competency attainment at the internship level similar to that well underway by the ADPTC for the pre-internship practicum experience.

Postdoctoral Education

In 1992, a National Conference on Postdoctoral Training in Professional Psychology, sponsored by APPIC, included experts in education, practice, and

credentialing (Belar et al., 1993). The conference was cosponsored by the APA, the American Board of Professional Psychology (ABPP), the Association of State and Provincial Psychology Boards (ASPPB), and the National Register of Health Service Providers in Psychology (NRHSPP). A policy statement was drafted regarding postdoctoral education and training. Of particular relevance to the present document was the emphasis on postdoctoral education and training being for the attainment of advanced competency for general or specialized practice. As an outgrowth of this conference, an Inter-Organizational Council (IOC) was formed that developed a process and set of guidelines by which postdoctoral programs might be accredited. Members of the IOC worked with the CoA to formalize competency-based guidelines for the accreditation of postdoctoral residency programs drawing upon the work of the National Conference on Postdoctoral Training in Professional Psychology. As a result of this work, APA began accrediting postdoctoral programs in 1996 (Belar & Kaslow, 2003).

APA Initiatives

Joint Council on Professional Education in Psychology (JCPEP)

JCPEP included leaders of APA practitioner divisions, joined by national leaders of the professional psychology education and training community. Their goal was to advocate for policies that would bring consistency and coherence to professional education, training, and credentialing standards for the benefit of the profession and the public (Joint Council on Professional Education in Psychology (JCPEP), 1990). Members of this group addressed foundational knowledge competencies, research competencies, and practice competencies at the doctoral and postdoctoral levels of education and training. Of particular relevance to this document was this group's focus on core

competencies versus a required core curriculum. Thus the work of this group is one of the first major efforts to shift from a required curriculum to a competencies-based approach.

Education Leadership Conference

Since 2001, the Education Directorate of the APA has held an Education Leadership Conference (ELC) (Belar, Nelson, & Wasik, 2003). The second ELC, held in 2003, built on and expanded upon the work of the Competencies Conference and focused on specific methodologies for assessment. Attention was paid to the advantages and disadvantages of the use of standardized patients (SPs) for the assessment of clinical competence (Belar, 2004). One of the most significant outcomes from the 2003 ELC was the formation of the Task Force on the Assessment of Competencies in Professional Education and Training (Belar, 2004), renamed the APA Task Force on the Assessment of Competence in Professional Psychology.

Commission on Education and Training Leading to Licensure

In the concluding statement of its final report, the APA Commission on Education and Training Leading to Licensure recognized that an essential component of organized, sequential education and training in professional psychology is the ongoing assessment of competence. Of particular relevance to this document, the Commission recommended that the profession define competencies expected of graduates of doctoral programs in professional psychology and design developmentally-informed education and training guidelines for their achievement and assessment. It is also recommended that the CoA re-examine and consider revising Domain B (Program Philosophy, Objectives, and Training Plan) of the Accreditation Guidelines and Principles with regard to competency

objectives, curriculum plan, and guidelines for practicum and internship training. At the CoR meeting in February 2006, Council members voted in favor of a two year sequence of training, one year including internship, that was required for entry into the profession by APA policy. In other words, postdoctoral supervised work experience would no longer be required. However, it remains to be seen whether or not and how this policy change will be implemented across licensure jurisdictions in the U.S. and Canada.

Assessment of Competency Benchmarks Workgroup

In light of the endorsement of this policy, and consistent with the recommendation made by the Commission on Education and Training Leading to Licensure, a thirty-two member work group was convened by the Council of Chairs of Training Councils (CCTC) and the APA Board of Educational Affairs for a two-day meeting in September 2006. The charge to the group was to identify essential components, or benchmarks, for each of the core foundational and functional competencies in professional psychology that reflected the development of competence over the sequence of professional education and training in an integrated manner. Further, the group was asked to delineate behavioral indicators for attainment of these competencies and identify strategies for assessment. The group focused on four levels in the education and training sequence: Graduate Training and Readiness for Practicum, Practicum Training and Readiness for Internship, Internship Training and Readiness for Entry to Practice, and Entry to Advanced Practice and Specialization. Work group members were selected based on recognized expertise related to competency based education and training which included areas such as ethics, diversity, credentialing and regulatory issues, as well as knowledge of specific components of the education and

training pipeline. Members were assigned to one of the four levels and much of the work of the group was conducted in these small groups. In addition, for a period of time during the meeting work group members rotated to another group. This allowed for rich discussions of the work of various groups as well as an opportunity to focus on the developmental aspect of the task to ensure that the expectations of the individual groups were integrated. By the end of the meeting each group had outlined benchmarks for each of the competency areas. The group is developing a draft document that can be shared with communities of interest with the hopes that comments will be made to better inform the product and that the concepts outlined may start to be implemented.

Other Competency-Related Documents

The APA CoR has approved a series of guidelines for work with specific populations. These include the *Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists* (American Psychological Association, 2002b), *Guidelines for Psychotherapy with Lesbian, Gay, and Bisexual Clients* (Division 44, 2000), and the *Guidelines for Psychological Practice with Older Adults* (American Psychological Association, 2004). While the aforementioned aspirational guidelines are not intended to specifically delineate competencies for working with diverse populations, they do suggest best practices. Similarly, other related groups within psychology have offered guidelines for specialty practice. For example, there are *Guidelines on Specialty Education and Training in Clinical Neuropsychology* (Hannay et al., 1998), *Principles for Education and Training at the Doctoral and Postdoctoral Level in Consulting Psychology/Organizational* (Education and Training Committee, 2002), and recommendations for the training of pediatric psychologists and

psychologists who provide services for children and adolescents (La Greca & Hughes, 1999; Roberts et al., 1998; Spirito et al., 2003).

Credentialing

Association of State and Provincial Psychology Boards (ASPPB)

ASPPB's mission is serving member jurisdictions by promoting excellence in regulation and advancing public protection. A major objective of ASPPB is to “develop, evaluate, and offer to member jurisdictions examinations, credentialing and other assessment methodologies necessary to assess competency for psychology licensure, certification and practice, and relicensure.” In that capacity, ASPPB sponsors the Examination for Professional Practice of Psychology (EPPP), a computer-delivered, multiple-choice examination designed to cover the generic base of knowledge of psychology regardless of individual specialties. Successful completion of the EPPP is required for licensure in all US jurisdictions and in seven Canadian provinces. Since the early 1980s, ASPPB has sponsored the systematic conduct of content validity investigations including studies of the practice of licensed psychologists in the U.S. and Canada to update the EPPP test specifications and examine content classification to assure that the items on the EPPP represent that part of the test blueprint they were intended to measure (Rosen, 2000; Smith & Greenberg, 1998; Smith & Hambleton, 1990).

In the most recent practice analysis (Greenberg & Jesuitus, 2003), process- and content-based approaches were used to refine the delineation of roles and responsibilities performed by psychologists and the content areas and knowledge required in practice. Revised test specifications relate to the biological, cognitive-affective, and social and

multicultural bases of behavior; growth and lifespan development; assessment and diagnosis; treatment, intervention, and prevention; research methods and statistics; and ethical/legal/professional issues. Responsibility and knowledge statements that highlighted ethical behavior were rated higher on importance, frequency, and criticality than statements in other domains. Survey respondents identified knowledge and skills that should be covered in the future.

A series of studies designed to ascertain associations between types of graduate training programs and scores on the EPPP reveal that various characteristics of one's doctoral program, including class size, faculty-to-student ratios, entrance requirements, APA accreditation status, traditional versus professional program, free-standing versus university based, and area of specialization (e.g., clinical, counseling) contribute to EPPP scores (Templer & Tomeo, 1998, 2000; Tomeo, Arikawa, & Templer, 2000; Yu et al., 1997). Also, EPPP performance is highest immediately following completion of all requirements for the doctoral degree, which is consistent with its role as a summative assessment of foundational knowledge.

ASPPB has supported the development of assessment methods to complement the EPPP. As early as 1983, ASPPB considered including written simulations as part of the licensure examination process and funded a project to develop a sample of prototype simulations (Smith, 1983; Smith & Greenberg, 1998). Two sets of three written simulations, involving problem-solving related to specific case scenarios, were administered to EPPP candidates who volunteered to participate in a field test immediately following their completion of the licensing examination in October, 1986. Analysis of the findings indicated that while the EPPP and the simulations were

measuring somewhat different dimensions of professional performance, reliability estimates for the simulations were only in the .70 range. Reliability estimates for the EPPP are in the mid .90s. This meant that a simulation examination used for licensure would require more than three cases to achieve acceptable reliability for pass/fail decision-making. Perhaps most important, candidates requested that information about the simulation methodology and its scoring be available during training and prior to the implementation of this approach in the licensing program. In most cases, this was their first experience with this type of testing format. Though promising, in the end, the technical, administrative, and cost considerations required to support development and maintenance of the simulation methodology suggested that this was a long-term strategy that ASPPB should continue to keep itself informed about.

ASPPB also developed a manual to assist state and provincial boards in preparing essay and oral examinations (Fisher & Hall, 1990) and oral examination guidelines (Melnyk et al., 1999). In recent years, the continued use of these examinations has come under increasing scrutiny for lacking psychometric precision or for being impractical and inefficient. As an example, the New York State Psychology Board for many years administered and scored an essay examination. It took board members substantial time to implement sufficient quality control procedures to assure scoring reliability and accuracy. As a consequence, the timeframe for reporting the licensure decision to candidates was considerably delayed over the reporting timeframe had the machine-scorable EPPP been the only examination to consider. The essay examination was eventually eliminated.

Serious concerns have recently been raised with regard to the continued use of oral examinations. In Colorado, for example, the state's Office of Examination Services

found that the public protection value of the oral examination is dubious and concluded, despite the board's efforts to keep the examination current, that the examination was seriously flawed and should be ceased (Professional Licensing Report, 2004, July/August July/August, July/August July/August July/August July/August July/August July/August). The Texas Sunset Advisory Commission found that the oral examination used by the state's psychology board lacked demonstrable validity and was graded subjectively. Accordingly, the Commission recommended that the oral examination be eliminated as a licensure requirement (Professional Licensing Report, 2004, March/April March/April, March/April March/April March/April March/April March/April March/April). Independent reviews in California also found questionable administration and scoring practices and led the state to discontinue their oral examination.

Given the trends in discontinuing the requirement of an oral examination for licensure, the variation in the quality of oral examinations across licensing agencies, and the increasing numbers of psychologists who have not had an oral examination for licensure, effective June 1, 2006, ASPPB will no longer require the passage of an oral examination to obtain its Certificate of Professional Qualifications in Psychology (CPQ). The CPQ program was established by ASPPB to facilitate professional mobility through recognition by ASPPB member boards of psychology licenses issued by other ASPPB member boards.

Currently, most assessment of competence by licensure bodies occurs at the point of initial licensure. Assessment of competence to practice also occurs, often in a less standardized manner, when questions of disability, impairment or incompetence, are raised with regard to an individual who already holds a license. Licensure serves to verify

minimal “competencies” to protect citizens. In granting the initial license to practice, licensure bodies rely on a variety of evaluation approaches to assess competency to practice independently. The EPPP serves to determine acquisition of the foundational knowledge of the field of psychology, a summative assessment of a broad knowledge base. In addition, there is reliance on the summative evaluations by supervisors who attest to the attainment of clinical skills and judgment, as well as the evidence of commitment to ethical behavior. Further, many jurisdictions administer a jurisprudence examination to assess awareness of local statutes and administrative rules pertaining to the practice of psychology. The assessment of knowledge of regulations includes a variety of methodologies that range from a take-home open-book design to standard paper and pencil administration.

By contrast, there is no routine external assessment of continued competence at the time of licensure renewal and over time in psychology. Regulatory bodies rely on self-assessment, the complaint process, and the commitment of psychologists to limit their practice of psychology to areas of competence. The mandatory requirement of continuing education is the sole licensing action addressing continued competencies by licensees. ASPPB and its member boards have not yet developed affordable and acceptable mechanisms to assure maintenance of clinical skills and judgment over time. However, ASPPB is committed to furthering its strategic objective to assist member boards in their mission of protecting the public by exploring variable methodologies, consistent with the evolution of the profession, in assessing competency at relicensure.

Two implications for assessment practices in professional psychology follow: (1) each measure used in the licensure process must meet acceptable psychometric standards

and make a contribution to the public protection function; and (2) it might not be reasonable or fair to introduce new assessment methods and new types of scoring at the licensure stage without first planting their seeds at the education and training levels of the profession.

National Register of Health Service Providers in Psychology (NRHSPP) and Canadian Register of Health Service Providers in Psychology (CRHSPP)

The U.S. NRHSPP and the CRHSPP provide a service to the public beyond identifying psychologists who are licensed, registered, or certified in the states, provinces, and territories. As their names imply, they identify psychologists whose education and training, including postdoctoral supervised experience, qualifies them to be listed as health service providers in psychology. Inasmuch as licensure in the U.S, and licensure, registration, or certification in Canada, are generic to the practice of psychology in most jurisdictions, the listing of those who in addition meet criteria of health service providers is of value to consumers of psychological services, health care agencies, and health service reimbursement organizations. Listing of psychologists so qualified is based on a review of academic and professional practice credentials, as in a portfolio review. Each of these organizations allow registrants to note the particular areas of health service practice in which they focus, and each provides information to registrants that encourages the maintenance and advancement of their competence through continuing education and other venues.

American Board of Professional Psychology (ABPP)

ABPP is the umbrella organization that provides board certification for psychologists in 13 specialty areas (www.abpp.org). ABPP's mission is to serve the

public need by providing oversight through certifying psychologists competent to deliver high quality services in the following specialty areas of psychology: clinical, clinical child and adolescent, clinical health, clinical neuropsychology, cognitive and behavioral clinical, counseling, family, forensic, group, organizational and business, psychoanalysis, rehabilitation, and school. Each specialty area requires the individual to meet generic and specialty eligibility criteria, to provide a practice sample, and to complete an oral examination. In addition, two specialty boards (clinical neuropsychology, forensic) require an objective written examination. Each specialty board outlines competencies that must be demonstrated in the written materials and during the examination process. The practice sample and oral examination used by the ABPP specialty boards to assess competence in a given specialty area may reflect higher fidelity approaches than those used elsewhere in the profession. In other words, these assessment strategies may tap competence in a manner that reflects actual practice.

Specialties

Commission on the Recognition of Specialties and Proficiencies in Professional Psychology (CRSPPP)

In 1995, the APA approved criteria and procedures by which specialties and proficiencies of professional psychology would be recognized and established CRSPPP to implement that process. Among the criteria for specialty recognition is the requirement to demonstrate distinctiveness of education and practice in regard to one or more of the following the practice areas, which may be akin to competency domains: assessment, intervention, consultation, supervision, research and inquiry, consumer protection, and professional development. This distinctiveness in practice areas is defined

by particular combinations of populations served, problems addressed, and procedures/techniques used.

Council of Credentialing Organizations in Professional Psychology (CCOPP)

CCOPP was formed in response to the APA's recognition of the need for a mechanism by which organizations having the authority for specialty recognition, professional education and training, program accreditation, and practitioner credentialing could discuss policy issues related to specialization. The members of CCOPP, an inter-organizational council focused on credentialing of psychologists in the U.S. and Canada, crafted a conceptual framework for specialization in the health service domain of professional psychology. Building on the competency cube developed at the Competencies Conference, described later in this text, CCOPPP delineated principles related to specialty-distinctive competencies, which result from the integration of foundational and functional competencies in relation to the distinctive patterns of practice defined by populations served, problems targeted, and procedures or methods used in the context of various settings of practice common to a specialty. Specialty-distinctive competencies assume the acquisition of foundational and functional competencies. Each specialty organization in the health service domain defines the educational and training sequences required for acquiring specialty-distinctive competencies.

Council on Specialties in Professional Psychology (CoS)

In 1997, the CoS was formed as an organization (external to the APA) to facilitate communication among recognized specialties in professional psychology for the benefit of the public on issues of education and training, credentialing, and practice. It was formed on the recommendation of the IOC, which had worked on issues of accreditation

for postdoctoral education and training in professional psychology. One outcome of the CoS is the development of guidelines for specialty education and training at doctoral and/or postdoctoral levels in terms of competencies expected, building on the competency domains recognized in the *APA Guidelines and Principles for Accreditation of Programs in Professional Psychology*. It also is on the basis of competencies beyond the entry level for practice licensure credential in the profession that specialty credentialing is based. An example of such is the credentialing system managed by ABPP, the largest and oldest specialty credentialing organization for professional psychology in the U.S.

International Efforts

Mutual Recognition Agreement of the Regulatory Bodies for Professional Psychologists in Canada (MRA)

There have been significant advances in the competencies movement in Canada. In 2001, consensus on competency-based regulations to facilitate mobility for professional psychologists was achieved in Canada through the MRA (www.cpa.ca/MRA.pdf). This product was an outgrowth of a collaborative process among the Canadian Psychological Association, the CRHSPP, and the Council of Provincial Associations of Psychologists. This document outlines the following core competencies: interpersonal relationships, assessment and evaluation, intervention and consultation, research, and ethics and standards. Two provinces also included supervision as a core competency. Within each competency domain, the document defines the domain, and delineates the requisite knowledge and skills. The intent of the MRA is to ensure that psychologists who possess the required competencies and are

licensed/registered to practice without supervision in one Canadian jurisdiction have their qualifications recognized in another jurisdiction that is a party to this agreement. Within two years of the signing of the MRA, a significant number of Canadian jurisdictions had instituted the assessment of the aforementioned required core competencies for initial licensure. Within another year, a definition of and method for evaluating foundational knowledge was established and included in the MRA appendices (Hall & Lunt, 2005).

Trilateral Forum

In 1994, psychologists in national leadership positions from Canada, Mexico, and the U.S. formed the Trilateral Forum as a process by which to review annually developments in education and training, accreditation, and credentialing in professional psychology within each of the three North American countries. Although education and curriculum structures were the focus of discussion in the earlier years, in part as a way of understanding the history and culture of education in the three countries, the current focus is on competencies -- a more meaningful construct than curriculum on which to facilitate exchange. Mexico is also developing an accreditation program similar to that for professional education and training in the U.S. and Canada, but tailored to its historical and cultural context of professional education.

ASPPB International Congress on Licensure, Certification, and Credentialing in Professional Psychology

In 1996, the ASPPB sponsored its first International Congress on Licensure, Certification, and Credentialing in Professional Psychology as a forum for exchange on a global basis. Since that time, the Congress has met every four years, during which time increased focus has been given to the definition and assessment of competencies expected

of professional psychologists from entry to more advanced levels of practice. Significant work in this direction is under way in the United Kingdom, the European Union, and such other countries as South Africa, New Zealand, and Australia, in addition to Canada, Mexico, and the U.S. A prime example of these efforts is the Leonardo Project in the European Union countries (Hall & Lunt, 2005).

Competencies Conference: Future Directions in Education and Credentialing in Professional Psychology

Background

The competencies-based movement gained momentum at the Competencies Conference: Future Directions in Education and Credentialing in Professional Psychology, held in Scottsdale, Arizona in 2002. The impetus for this conference was an increasing realization that the identification, training, and assessment of competencies that define a professional psychologist enable the discipline to communicate to the public and legislators about services psychologists can provide. A growing consensus emerged that until there is better agreement about domains and levels of competence, tensions will continue among constituency groups regarding the curriculum in professional education and training, the role of practicum training, the timing of internship relative to awarding the doctoral degree, and licensure for independent practice.

The mission of this Competencies Conference was to gain greater agreement about domains and levels of competence by bringing together representatives from diverse education, training, practice, public interest, research, credentialing, and regulatory constituency groups. The overarching goals of this conference were to: (1) be a catalyst for continued collaborative efforts related to the identification, training, and

assessment of competencies; (2) foster links among a broad array of constituency groups to better train the next generation of professional psychologists; (3) enhance the competence of professional psychologists; and (4) better serve and protect the public and consumers of psychological services. More specific goals were to: (1) identify core competencies building upon already existing models, (2) formulate developmental and integrated models of competencies for the training of the next generation of professional psychologists, and (3) develop strategies for the evaluation of competencies and the assessment of competence. These latter goals were based on three core beliefs: core or foundational competencies can be identified, individuals can be educated and trained to develop these core competencies, and core competencies can be assessed.

This multinational conference brought together representatives from diverse constituency groups to focus on the identification, training, and assessment of competencies within professional psychology (Kaslow et al., 2004). Initiated by APPIC, co-sponsorship was obtained from APA, education and training groups under the auspices of the Council of Chairs of Training Councils (CCTC), credentialing and regulatory bodies affiliated with CCOPP, ethnic minority psychology organizations, and other educational and professional institutions. Eight of the ten workgroups were formed around competency domains: (1) ethical and legal issues (de las Fuentes, Willmuth, & Yarrow, 2005), (2) individual and cultural diversity (Daniel, Roysircar, Abeles, & Boyd, 2004), (3) scientifically-minded practice (Bieschke, Fouad, Collins, & Halonen, 2004), (4) psychological assessment (Krishnamurthy et al., 2004), (5) intervention (Spruill et al., 2004), (6) consultation and interprofessional collaboration (Arredondo, Shealy, Neale, & Winfrey, 2004); (7) supervision (Falender et al., 2004; Falender & Shafranske, 2004),

and (8) professional development (Elman, Illfelder-Kaye, & Robiner, 2005). Two other workgroups focused on the assessment of competence (Roberts, Borden, & Christiansen, 2005) and specialties (Rodolfa et al., 2005).

Themes

The following is a brief review of the common themes that emerged from the various working groups (Kaslow, 2004; Kaslow et al., 2004). With regard to the identification of competence, the notion that this construct includes knowledge, skills, and attitudes was reaffirmed and their integration was emphasized. In addition, there was an acknowledgement that there were cross-cutting or super-ordinate competencies related to issues of individual and cultural diversity, ethical practices, interpersonal and relationship skills, critical thinking, knowledge of self, and personal suitability or fitness for the profession. Also recognized was the necessity for developmentally-informed education and training sequences that include progressively more complex and sophisticated content and greater expectations for performance over time. Conference participants opined that this can be achieved best in the context of a respectful and facilitative learning environment, one in which the culture of assessment is embedded. It was asserted that competency-based education and training should include the integration of science and practice as well as a value on life-long learning and reflective practice. In addition, education and training for capability, not just competency, was considered essential (Fraser & Greenhalgh, 2001; Halpern, 1998).

Cube Model for Competency Development

A cube model for competency development was devised at the conference (Rodolfa et al., 2005). The cube includes the following axes: foundational competency

domains (reflective practices/self-assessment, scientific knowledge and methods, relationships, ethical and legal standards/policy issues, individual and cultural diversity, interdisciplinary systems); functional competency domains (assessment/diagnosis/conceptualization, intervention, consultation, research/evaluation, supervision/teaching, management/administration); and stages of professional development (doctoral education, doctoral internship/residency, postdoctoral supervision/residency/fellowship, continuing competency). Foundational competency domains are the building blocks of what psychologists do. Knowledge and skills in these foundational domains lay the groundwork for psychology trainees and psychologists to subsequently gain functional competency. Functional competencies reflect the requisite knowledge, skills, and attitudes to perform the work of a psychologist. The model assumes that foundational and functional competencies are orthogonal. The stages of development represent the developmental context in which the foundational and functional competencies are acquired. The intent of the cube model is to frame the essential elements in the development of a professional psychologist. In addition, this model can be used as a conceptual framework for regulators to ascertain competence for independent practice and specialty practice in professional psychology.

Assessment of Competence

Particularly relevant to this document were the discussions pertaining to the assessment of competence. As a profession, we need to become more effective at assessing knowledge, skills, attitudes, capabilities, and suitability for the profession, and at developing people's capacity for and commitment to self-assessment (Belar et al., 2001; Kaslow, 2004; Kaslow et al., 2004; Roberts, Borden, & Christiansen, 2005).

Unfortunately, there is evidence that professionals often do not use data for assessing their own performance (Audet, Doty, Shamasdin, & Schoenbaum, 2005), which is unfortunate given that assessing oneself is central to maintaining professional competence (Reiter, Eva, Hatala, & Norman, 2002). Thus, it was asserted that as a part of culture shift towards greater emphasis on competence and competency, the profession must promote the importance of self-assessment, self-monitoring, reflection, and self-awareness, which reflect ethical behavior and are critical elements of the assessment of competence. In order to achieve this, professionals need to know what is required for effective self-assessment. Self-assessment, like many other abilities, is an ability that requires learning, practice, feedback, and public criteria so one knows the standard against which one is being assessed (Alverno College Faculty, 1994; Belar et al., 2001). As indicated by research, this ability can be assessed.

Methods of assessment should be used continuously throughout a psychologist's training and career (Belar, 2004; Roberts, Borden, & Christiansen, 2005). Assessments should be: (1) developmentally-informed through multi-method and multi-informant processes; (2) conducted through the use of reliable and valid methods for the evaluation of multiple traits; (3) formative and summative; and (4) matched to education and training goals. There need to be performance-based measures of the integration of knowledge, skills, and attitudes (Belar, 2004). Also recommended was that special attention be paid to context and individual and cultural diversity in competency assessment. Evaluators must be trained in the provision of clear and accurate formative and summative feedback in a collegial, comprehensible, and meaningful fashion (Kaslow, 2004; Peterson, 2004).

COMPETENCY ASSESSMENT MODELS

Justification

In light of the preceding conceptualization of what is meant by competence, competencies, and capability, it is clear that these constructs imply much more than simply an aggregate of knowledge, skills, and attitudes. Their multi-dimensionality requires a multi-faceted approach to the assessment of their development and maintenance. Competencies assessment must be viewed as a continuum from the earliest stages of professional training through continued learning in practice (Bashook, 2005). Although the focus and methods of assessment are likely to differ across stages of professional development, expected competence can be summarized in the phrase: *“he/she should know his/her own limits of expertise, and should know what to do when those limits are reached”* (Bashook, 2005). This statement captures the complex integration of judgment and performance that is essence of professional competence.

How best is such competence assessed? What antecedent competencies in earlier stages of professional development develop in time into capability, and how might such competencies be assessed? These types of questions beg for further research to validate the assessment of competencies (Roberts, Borden, & Christiansen, 2005). What follows is an overview of assessment methods and models that have been used in the context of education, training, and practice in the health professions, the attributes that characterize these models, and commentary on cost-benefit issues important in considering their use.

Types and Principles of Assessment Models

This section draws from and extends upon prior efforts in the health professions (Accreditation Council for Graduate Medical Education and American Board of Medical

Specialties, 2000; Bashook, 2005; Interprofessional Workgroup on Health Professions Regulation, 1997), as well as in psychology (Roberts, Borden, & Christiansen, 2005). Attention is paid to the following key qualities of assessment models: validity, feasibility and practical considerations, and fidelity to actual practice.

Validity

Validity refers to the accumulated evidence about an assessment model regarding how well the assessment measures the competencies it intends to measure. The interpretation of validity is not based on a single statistic, but through a combination of all available evidence about the assessment. The concept of content validity is frequently the focus of attention in examinations used in the professions. Content validity refers to the topics or areas of competency that become the basis for the assessment. A test plan or outline is developed and assessment items and content are constructed to match the plan. The concept of validity also subsumes the construct of reliability, which refers to the degree to which an assessment will yield similar results if repeatedly administered under comparable conditions, the extent to which two or more raters will evaluate the performance similarly, and the internal consistency of the measure. A fuller explication of the psychometric requirements for assessment models can be found in the *Standards for Educational and Psychological Testing* (American Educational Research Association, 1999), the *(Council on Licensure, 2003)*, *Principles of Fairness: An Examination Guide for Credentialing Boards* (Council on Licensure, 1993), *Development, Administration, Scoring, and Reporting of Credentialing Examinations* (Council on Licensure, 2003), *Guidelines for Computer-based Testing* (Association of Test Publishers, 2002), *Standards for the Accreditation of Certification Programs* (National Commission for

Certifying Agencies, 2004), and *General Criteria for Certification bodies Operating Certification of Personnel* (American National Standards Institute, 2001).

Feasibility and Practical Considerations

Feasibility and practical considerations deal with issues associated with the development, administration, scoring, and ongoing administration of an assessment model. These considerations typically address resources, cost, expertise, and time needed to develop and maintain the assessment. Typically, cost is the determining factor as to whether or not an assessment model can be developed and sustained consistent with validity standards. For example, written, multiple-choice examinations are typically less expensive to develop and maintain than assessments using computer simulations or SPs. This is a primary reason why multiple-choice assessments are used routinely in professional healthcare credentialing, while computer simulations and other complex assessment models are not. Even the cost of multiple-choice assessments is increasing because they are being moved from traditional paper-and-pencil administration to computer-based administration, which adds the cost of computer time to the cost of development and maintenance of the assessment itself. Computer delivery of multiple-choice assessments also can include pictures, video clips, actual clinical findings, and different types of item formats that can make the cost and delivery of the assessment more expensive.

It is also important to consider that the scope and comprehensiveness of the profession's assessment system, particularly at the licensure and specialty certification levels, is highly related to the number of licensees and specialty certificants tested annually and the salary levels of beginning and specialty practitioners. In the end, the

costs to develop and maintain a comprehensive assessment system must be supported by candidate fees. Both candidate volume and salary levels of practitioners play a sizable role in determining what an affordable per candidate fee might be. To a large extent, that directly impacts what the scope of the assessment(s) might be.

Even the profession of medicine may be reaching its limits. The cost for all four steps of the licensure examinations is \$2,455, with a \$950 fee charged each time a candidate takes the SP examination. Some have argued it is too expensive given the cost-benefit. The pass rate is between 93% and 95%, with an ultimate pass rate of 98% to 99%. One might ask if there is a less expensive way to identify this small portion of medical students and residents who lack critical foundational and functional competencies.

The implications for psychology are that choices will have to be made on the basis of the financial resources that can be generated through funds, grants, and fees to candidates. Collaboration with other professions with similar interest or even existing licensing assessment technology from other professions could help reduce cost.

Fidelity to Actual Practice

Fidelity refers to the degree to which the assessment model reflects the actual behaviors the practitioner performs in practice. For example, multiple-choice examinations, though efficient and cost-effective, possess low fidelity. Multiple-choice examinations primarily reflect the knowledge base underlying practice, but are not direct measures of practice behaviors. On the other hand, computerized simulations that present cases and require the practitioner to make sequential and interactive clinical judgments and decisions are higher on the fidelity continuum since these behaviors are closer to

what is performed in actual practice. In general, assessments of competence have the potential to have higher fidelity the more advanced the practitioner, inasmuch as these evaluations can focus on a level of competence consistent with the increased integration expected of more advanced practitioners and thus be more reflective of actual practice.

Models of Assessment

Assessment models used across the professional development continuum in the healthcare professions can be grouped into four categories based on what they purport to measure and/or are best at measuring: (1) measures of knowledge, (2) measures of professional decision-making, (3) measures of practice performance including professional attributes, and (4) integrated assessments of practice-based skills and tasks.

Measures of Knowledge

This class of assessments includes multiple-choice, essay, and short-answer questions. A standardized test may consist of several hundred multiple-choice questions that come in different formats. These questions almost always consist of a stem that poses the question and three- to five-options, one of which is the correct or best choice. This type of assessment is considered the most efficient and cost-effective way of measuring knowledge. Deceptively simple to develop, the quality of questions in this format can be vague and confusing, yielding an unreliable indicator of the knowledge base it is intended to measure. Instructor-made, multiple-choice tests may be particularly susceptible to these concerns because they are less likely to undergo the psychometric scrutiny associated with examinations used for licensure or certification purposes. Accordingly, the reliability of instructor-made tests is more likely to be perceived in terms of its

sufficiency of information about the gap between the students' work and the ideal work defined by learning objectives (Brookhart, 2003).

In the hands of a skilled item writer, the multiple-choice format can even yield valid assessments of higher order reasoning skills. Much of the testing with this format has moved from paper-and-pencil delivery to computer-based delivery. The multiple-choice format is currently being used at virtually every level in the professional development continuum in the healthcare professions.

Essay and short answer questions present the test-taker with a problem or scenario and require a response that explains how the problem or scenario would be addressed in written format. Essays can require lengthy responses, while short answer questions demand only a phrase or one-sentence answer. Guidance regarding the length of responses required and the issues to be addressed in the response may also be provided. The content of essays and short answer questions should be selected to reflect specific categories in the test plan. Protocols should be developed to guide those responsible for scoring these assessments. Well-designed essay and short answer formats can provide effective measurement of conceptual understanding of facts and concepts, as well as written communication skills important in professional performance.

In essay scoring, the ideal process should involve initial training of raters, calibration using sample essays to establish scoring accuracy to a specified standard, actual scoring of the essays, and periodic re-calibration at appropriate intervals to ensure that score drift is minimized. Grading may be pass/fail or based on the use of various rating scales depending on the concepts, facts, and/or judgments required. Consistent monitoring of the grading process, whether by an individual grader or teams of graders,

will improve the reliability of the grading process. Software designed to automate the scoring of essays and short answer questions is available (Educational Testing Service, 2004).

Essays and short-answer formats are most likely to be used during education and training as a component in a comprehensive specialty certification program. Their inclusion in licensure initiatives is less likely due to the considerable human and financial resources required to obtain sufficient reliability to justify and defend pass/fail decisions.

Measures of Decision-Making

Healthcare professionals must make sequential and interactive judgments about critical actions that can impact a patient/client. These behaviors are not well measured in the assessment models previously reviewed. The case-based oral examination is used extensively in specialty certification programs in medicine and dentistry, as well as in psychology, specifically by ABPP. Different formats can be used to present case materials to the candidate including written vignettes, images, videotape, audiotape, the candidate's own reports, or live patient/client situations. As the case unfolds, the candidate must explain her/his actions and decisions regarding assessment, diagnosis, treatment, and case management. One or more trained examiners question the candidate about actions taken as well as those not taken. Examiners may add variations to the assessment by asking additional questions to probe further as to the candidate's level of expertise. A typical case-based oral examination consists of six or more cases and obtains a sufficient number of scorable responses reflecting clinical decision-making to ensure an appropriate level of reliability to support accurate judgments of candidate performance.

The case-based oral assessment method requires training of examiners similar to

the procedures described earlier in the scoring of essay examinations, including the standardization of cases as well as efforts to maintain a uniform affective environment across cases and candidates. When well-designed, case-based oral examinations can yield valid results at the specialty certification level. In professional psychology, however, the use of the oral examination format at the licensure level has not fared well, having recently been discontinued by several jurisdictions due to a lack of demonstrable validity and the appearance of subjectivity in scoring, as noted previously in this report. Despite this concern regarding inter-rater reliability of the judges with regards to high stakes testing, the case-based oral examination method shows promise in terms of its use for performance-based assessments designed to help individuals learn. In such instances, the emphasis is more on the quality of the feedback than the interrater reliability of the judges.

In a recent study of roles and responsibilities in professional psychology, discussed earlier in this report in the context of practice analysis, statements regarding ethical behavior were rated as extremely important and critical to safe and effective practice (Greenberg & Jesuitus, 2003). At present, in psychology, credentialing tests of ethical decision-making have been limited to assessments of the profession's code of ethics, rather than the capacity to implement ethically defensible actions. However, in moral psychology, progress has been made in defining the internal processes that give rise to morality (sensitivity, reasoning, motivation and commitment, and implementation abilities) and how these capacities develop across the life-span (Rest, 1983). There is a growing literature in nursing, dentistry, medicine, and veterinary medicine professions education (Rest & Navrvaez, 1994) demonstrating the distinctiveness of these processes,

their importance to professional ethical development, as well as strategies for assessing their development. Profession-specific measures of ethical sensitivity, reasoning, professional role concept, and ethical implementation have been devised in a number of contexts, including counseling and school psychology (Brabeck et al., 2000). See Appendix C of the IOM report *Integrity in Scientific Research* (Institute of Medicine, 2002a) for a review of measurement strategies for each of the ethical decision-making constructs (Institute of Medicine, 2002b). The assessments have high fidelity to professional practice as they require students or practitioners to view a videotape or audiotape of an interaction that replicates professional interactions of ethical dilemmas; these can be used to provide insight into this important dimension of professional behavior (Bebeau, Rest, & Yamoore, 1985; Brabeck et al., 2000).

Measures of Performance and Personal Attributes

Assessments of performance during education and training typically are conducted repeatedly at specified intervals with systematic feedback and monitoring of performance. The objective is to reflect growth and development of professional competences, as well as the need for change in specific behaviors and personal or professional attributes consistent with appropriate ethical codes of conduct. This type of assessment is used in virtually all healthcare professions education and training leading to professional degrees. The most common assessments in this category include global rating scales, portfolios, and 360-degree evaluations.

Global rating forms require a trained rater to make judgments about performance in multiple areas. The ratings may reflect information obtained from multiple sources. The approach provides a place to make overall judgments regarding competency levels

and space to provide written comments. Scoring strategies can include the individual ratings by the assessor, frequency counts of specific behaviors, aggregated ratings across assessors, and qualitative as well as quantitative statements.

Portfolios are collections of products prepared by students, interns, postdoctoral residents, or practitioners to provide evidence of learning, achievement, and accomplishment. Products can be from training or practice experiences such as patient/client encounters or ethical situations, and can include video- and audio-recordings, photographs, or other forms of information, including self-reflection. Each product prepared and submitted should be based on specifications about the competencies to be assessed. Portfolios are typically evaluated against predetermined standards and can be used to assess the mastery of competencies that are difficult to assess in other ways, such as practice-based improvement, the use of empirical evidence in making professional judgments, and ethical issues and how they are addressed.

Another comprehensive assessment method for the measurement of performance and personal attributes utilized in business contexts, human resource activities, and leadership development programs is that of 360-degree evaluation. Although the process may be completed via paper-based measurement tools, there has been an increasing development of computer software packages that enable these protocols to be completed on line. The 360-degree evaluations glean systematic input retrospectively, concurrently, and individually from multiple raters, such as supervisors, a diverse cadre of peers and colleagues, subordinates (e.g., supervisees), and oneself (Atkins & Wood, 2002; Fletcher & Bailey, 2003; Maurer, Mitchell, & Barbeite, 2002). Receiving ratings from colleagues from other disciplines also has been found to be invaluable, as they often offer a different

perspective on one's competence (Koeske, Koeske, & Mallinger, 1993). Others from whom feedback may be received include one's patients/clients. However, gathering such information may be complex, raising questions about the reliability and validity of the data obtained.

Each evaluator receives the same written survey containing the rating categories such as professionalism, teamwork, interpersonal and communication skills, emotional intelligence, management skills, and interpersonal functioning. Most 360-degree evaluations use rating scales to assess how frequently a behavior is performed. The ratings are then summated across all evaluators by topic or competency and overall to provide feedback. In most applications, the evaluators are encouraged or required to add comments illustrative of the reasons for the specific ratings. Incorporated primarily in formative evaluation situations, the method can be used to assess a broad array of skills, professional behaviors and attitudes, and some aspects of service delivery. The 360-degree evaluation methodology allows individuals to gain a greater appreciation of how they are viewed by others, areas of strength, aspects of their personal functioning that they can improve on, and where there are discrepancies between their self-perceptions and the perceptions of others. The process is most effective if it is associated with the development of a systematic action plan to address specific areas for self-improvement. The potential advantages of this assessment approach are that it offers a more fair and well-rounded assessment of the person, empowers people by enabling them to give feedback to their superiors and peers, enhances people's knowledge about the competency framework relevant to their organization or program, provides a powerful tool for development and learning, offers a culture shift that values the provision and

receipt of feedback, and enhances self-awareness (Fletcher & Bailey, 2003). The management of a 360-degree evaluation, however, requires effort to ensure the confidentiality of information since comments and ratings may be sensitive and thus should not inadvertently be revealed.

Integrated Assessments of Practice-Based Skills and Tasks

This category of assessments involves the use of clinical case situations that can consist of a short description of a patient's/client's characteristics or a more extensive situation that attempts to portray the actual realities of practice to the fullest extent possible. Commonly used strategies include role playing situations that may be supported by the inclusion of audio or video material and live interactions with patients/clients, and computer simulations designed to simulate practice-based reality. Pertinent innovative assessment approaches that have become popular in medicine are the Objective Structured Clinical Examination (OSCE), computer simulations of the service delivery process, and role playing by SPs to assess clinical skills.

In the OSCE (Harden, Stevenson, Downie, & Wilson, 1975), one or more assessment methods are administered at separate stations that can last for ten to fifteen minutes or longer. The station may include SP encounters or tasks requiring interpretation of clinical information. Candidates may complete notes or prepare other written material about a patient/client encounter between movements from one station to another. All candidates move from station to station in sequence on a uniform schedule.

The OSCE provides a valid, reliable, and informative approach for measuring a wide variety of skills including physical examination and history taking skills, communication skills, ability to summarize and document findings, make differential

diagnoses, or plan a treatment (Barrows, 1993; Colliver, Swartz, & Robbs, 2001; Colliver, Swartz, Robbs, & Cohen, 1999; Joorabchi & Devries, 1996). Separate performance scores are generated for the tasks at each station and then combined across stations or tasks. Although this methodology is useful for cross-sectional assessments, it is not particularly useful in measuring the continuity of care across time and this raises questions about its utility in evaluating some intervention competencies. An OSCE is labor intensive to create and administer and may only be cost-effective if large number of candidates can be assessed at the same time. The OSCE approach can be used for both formative and summative evaluations (Roberts, Borden, & Christiansen, 2005). In addition, there is some evidence that it can be helpful in using it to ascertain competence for individuals to enter the profession (Eva, Rosenfeld, Reiter, & Norman, 2004).

Computer simulations (Hummel, Lichtenberg, & Shaffer, 1975; Lichtenberg, Hummel, & Shaffer, 1984) used in assessment closely mirror the clinical decision-making process. Simulations force the candidate or practitioner to make decisions on a variety of issues. The assessment permits examinees to reason through difficult clinical problems not possible to evaluate in another manner (e.g., decision-making in life-threatening situations) with minimum cuing. The assessment can also provide feedback, so that corrective action can be taken.

Computer simulations are enhancements of paper-and-pencil simulations, referred to as patient management problems (PMP's). Of note, the ASPPB undertook the development and piloting of PMP's in the 1980's as a possible complement to the EPPP. The methodology has been used to assess clinical reasoning, diagnostic planning, and treatment in a wide variety of clinical disciplines and healthcare professions.

The development of effective computerized simulations is an extremely time-consuming process and probably the most expensive to develop and maintain of all the assessments described. Many variations of the cases need to be developed to make sure that a fair sampling of content is included in the assessment. The level of cost to initially develop and maintain a computerized simulation initiative may be beyond the financial resources of many healthcare professions. A number of different scoring models for simulations exist that differentially reward various types of clinical decisions and related professional behavior. A fair assessment requires that candidates know how the simulations are scored and how different behaviors will increase or decrease the scores.

In the SP assessment, individuals are trained to portray a medical or health condition or actual patients/clients are trained to present their condition in a standardized way. The trainee or candidate must interact with the SP as they would with the real patient/client. The practitioner's performance is evaluated against pre-defined competencies and evaluated directly by the SP or by a trained observer. SP examinations are effective in assessing history taking and patient/client work-up, communication and counseling skills, and the management of complex situations that could result in harm to the patient/client and others. The development of a SP assessment is quite time-consuming and can be costly to develop in comparison to some of the other assessment models reviewed depending on the number of SPs presenting. SPs can also be used at one or more stations in conjunction with or separate from the administration of an OSCE methodology. The SP methodology has not only been used in professional education and training for medicine, but also for social work (Barsky & Coleman, 2001; Linsk &

Tunney, 1997) and to a lesser extent in psychology (Roberts, Borden, & Christiansen, 2005).

Summary of Assessment Models

Appendix B summarizes the different assessment models based on several important criteria. In considering which methods to explore, it is important to acknowledge that no single assessment model can evaluate all competencies, and that a given model may measure the same competencies but in a different way. Ideally, the optimum plan will identify multiple assessment models relevant to the competencies to be measured taking into account the different stages in professional development and practice. Where possible, care should be taken to avoid one-shot testing through reliance on a single assessment model in making critical decisions at any stage of professional development (Chambers, Dugoni, & Paisley, 2004).

Examples from Other Health Professions

Assessment practices in the professions of nursing, dentistry, and medicine are briefly reviewed to provide perspectives for professional psychology in light of the critique of the health professions previously discussed. The similarities and differences are noted in their approach to measuring competencies across the professional development continuum. The presentation also highlights how each profession in their way, based on their available human and financial resources, has responded to the need for improvements in the assessment of competence and performance in practice.

Nursing

Nursing education. The Commission on Collegiate Nursing Education (CCNE) is the autonomous agency that accredits baccalaureate and graduate education programs to

ensure their quality and integrity in preparing effective nurses. The accreditation criteria call for programs to establish and implement an evaluation and recognition process that is efficient and cost effective, but make no reference to any specific assessment methodologies in gauging the outcomes of the teaching-learning process. Suggested student outcome data to be provided during the accreditation process include graduation rates and pass rates on the licensure and/or certification examinations of graduates.

The nursing schools construct their own assessments and administer a comprehensive standardized, multiple-choice examination at the end of the nursing program. The National League for Nurses, an independent agency whose mission is to advance nursing education through support for evidence-based teaching practices that enhance learning, has developed a series of multiple-choice achievement examinations that nursing faculty can purchase for use in measuring student achievement.

The National Council of State Boards of Nursing (NCSBN) (www.ncsbn.org), comprised of member boards from the U.S. and its territories, provides leadership within the profession of nursing to advance regulatory excellence for public protection. In 1985, this group prepared a position paper on continued competence, followed in 1991 by publication of a conceptual framework for continued competence that considered the measurement of competence from empirical and standard-setting perspectives. In 1996, this organization disseminated a seminal position paper on the regulatory responsibility of assuring competence. With regard to competence assessment, the NCSBN states that competence assessment can be accomplished via multiple methodologies, such as peer review, professional portfolio, professional certification, testing, and re-testing. They further note that these assessments can occur at every license renewal, through random

audits, or in response to various triggers events. Highlighted as well is the importance of having nurses conduct self-assessments, of having educators evaluate student performance based upon standards, of having employers evaluate nurses' performance based on standards, and of having regulatory boards establish standards for competence and mechanisms to ensure that adequate assessments are conducted for accountability to such standards. In other words, the nursing profession articulates a system of assessment throughout the education, training, credentialing, and life-long learning continuum.

The NCSBN has worked toward developing a model for review of ongoing competence that is flexible, creative and forward-thinking, and responsive to changes in the health care and regulatory environments. The model, Continued Competency Accountability Profile (CCAP), utilizes a portfolio approach and offers a framework for nurses to document a synthesis of their professional growth activities over time. The CCAP, building on a self-assessment methodology, requires the nurse to assess her/his strengths and weaknesses and identify learning needs, plan strategies to maintain/attain/regain competence, implement strategies needed by the individual nurse to assure competence within the nurse's role and current practice setting, and conduct an evaluation to ascertain if learning objectives have been met.

Assessments for licensure. The NCSBN sponsors the development of two computer delivered examinations for the licensure of nurses: The NCLEX-RN® for registered nurses and the NCLEX-PN® for practical nurses. Both examinations are variable length adaptive tests. The NCLEX-RN® examination can be anywhere between 75 and 265 items long. Regardless of the number of items administered, the time limit for the examination is six hours. The NCLEX-PN® examination can be anywhere between 85

and 205 items long and the time limit is five hours, regardless of the number of items answered.

The length of both tests is determined by the responses made by the candidate to the items presented. Once the minimum number of items has been answered, testing will stop when the candidate's ability is determined to be either above or below the passing standard with 95% accuracy. Depending on the particular pattern of correct and incorrect responses, different candidates will respond to different items, and take varying amounts of time. However, each examination conforms to the test plan. It is also important to note that the absolute length of the examination is not an indication of a pass or fail result. Candidates see items in different formats, which may include, but are not limited to: multiple-choice questions that require a single response; multiple-choice items that require more than one response; fill-in-the-blank items; drag-and-drop items; and items requiring evaluation of charts, tables, or graphic images.

The current nurse licensing examination program is the result of a decade of research during which time the NCSBN explored the development of computerized case management simulations as a complement to the existing multiple-choice examination. Their initiative was facilitated by gaining access to the technology developed by the NBME in their work with computerized case management simulations. In the end, however, a multiple-choice examination and a separate case management simulation examination gave way to the current approach in which multiple-choice features and elements of the simulation approach were integrated into a single examination.

Licensure renewal and continuing competency. Licensure renewal requirements vary by state. Many states require licensees to obtain a passing score on a current form of

the NCLEX-RN® and the NCLEX-PN® or complete a mandated number of continuing education hours. A number of states merely require the submission of an application along with the appropriate application fee. Several boards have also explored the development of portfolios and case reports, but found the approach to be too time-consuming in relation to the resources available to carry out the approach effectively.

Through the efforts of NSCBN, nursing has been one of the most active health professions in the continuing competency movement stimulated by the work of Pew Health Professions Commission in the late 1990's. Currently, NCSBN is conducting a national practice analysis study of post entry-level registered nurses, licensed practical nurses, and vocational nurses to describe post entry-level nursing practice and understand the interface between entry-level practice and continued competency in practice. It is expected that the outcome of the study will lead to the selection of competencies that would serve as the basis for the development of continuing competency initiatives.

Specialty certification. The American Board of Nursing Specialties (ABNS) is a membership organization of specialty groups in nursing and an accrediting body for nursing specialty education and training programs. There are 27 member organizations, with twelve having earned accreditation status to date. It is required of accredited programs that they certify that their graduates have completed advanced education and training in the specialty and achieve passing scores on a written, multiple-choice, paper-and-pencil or computer-delivered examination.

The accreditation standard for continuing competency requires the certification agency to implement a recertification program in which certificants maintain their current knowledge and periodically document the knowledge necessary to maintain competence

in the specialty. The accredited organizations recertify in three-, four-, or five-year cycles through a combination of continuing education in specified areas, completion of a practice portfolio, documented publications, or other related educational accomplishments. One board requiring recertification every four years by passage of the current form of the certification examination recently introduced the option that meeting specified continuing education requirements can substitute for the examination requirement in alternating recertification cycles. Several member specialties have expressed interest in pooling their resources to develop a portfolio assessment. Recently, about 20 ABNS member organizations joined forces to conduct an Internet-based survey of their memberships regarding the value of specialty certification. A database of about 11,000 participants is currently being analyzed. ABNS has also worked closely with groups like the Citizen Advocacy Center in their efforts to promote the need for continuing competence assessment in the healthcare professions.

States are beginning to regulate two nurse specialty credentials: nurse practitioner and clinical nurse specialist. Several ABNS-accredited nurse specialty certification agencies offer these credentials. Known collectively as advanced practice nursing, the practice may be beyond the scope of practice a state identified for the registered nurse. Many states are currently reviewing their scopes of practice for these two specialties.

Dentistry

Dental education. Dental schools employ a wide variety of assessment techniques to assess student progress through the curriculum. These include: (1) multiple choice examinations (primarily in the sciences); (2) written essay examinations (in professionalism and ethics); (3) performance-based examinations to demonstrate

technical skills during pre-clinical training—usually on a typodont, though some dental schools are now using computer-based simulators that are able to provide students with instant feedback; and (4) OSCEs with SPs, though not as widely deployed as in medicine, address diagnostic, interpretive, and communication abilities. All dental schools have elaborate systems for assessing technical skills performed on dental patients, as well as case presentations where a student's ability to manage a patient over an extended period of time can be evaluated. Finally, many schools also hold mock board examinations as preparation for the regional clinical licensure examinations.

Accreditation standards require that schools conduct outcomes assessment, develop and publicize a list of competencies, and implement an on-going curriculum management plan that ensures formative evaluation. During the past decade, the accrediting body for dental education has embraced the concept of assessing educational outcomes by requiring through its standards that dental schools describe and document what their students have learned. Demonstrating that students have learned what has been taught is part of what entitles institutions to the confidence of the educational community and the public. The Commission of Dental Accreditation document on Outcomes Assessment is available online (<http://www.ADA.org>).

Assessment of student learning is a vital element in the accreditation standard requiring dental schools to demonstrate the effectiveness of their programs, relative to the goals and objectives that each program establishes related to the practice of dentistry. To assist schools in defining these goals and objectives, a standard list of competencies has been developed by the American Dental Education Association (ADEA) (www.adea.org/DEPR/Competencies.htm). A recent article (Plasschaert et al., 2002)

critiques these competencies and a consensus set of competency statements developed by representatives from seventeen countries. Most dental schools have websites that list the particular competencies emphasized in their program goals and objectives.

Curriculum management. To assure that schools engage in formative evaluation of student performance and revise the teaching and assessment process, the American Dental Association (ADA) accreditation standards require dental schools to have a curriculum management plan that ensures: (1) an ongoing curriculum review and evaluation process that includes input from faculty, students, administrations and other appropriate sources; (2) evaluation of all courses with respect to the defined competencies of the school to include student evaluation of instruction; and (3) elimination of unwarranted repetition and outdated and unnecessary material, incorporation of emerging information, and achievement of appropriate sequencing.

Summative evaluation materials. Dental schools also have academic standards (for science courses and technical skills) that must be met for promotion each year. In addition, students must have an acceptable grade point average and have passed competence examinations on technical skills to be admitted to clinical practice. Admission to clinical practice is usually at the beginning of the third year—though some schools involve students in patient care earlier than third year such as practicing non-invasive procedures like patient education, assisting more advanced students, and taking radiographs. Though they are conditions for licensure, National Board Examinations (Part 1 and Part 2) also are used as requirements for graduation from dental school. Thus, the type of assessment used for licensure is built into the education and training assessment process.

Assessments at time of licensure. Licensure requirements include:

(1) graduation from an accredited dental school, (2) passing scores on Part 1 and Part 2 of the National Board Dental Examination, (3) passing scores on other written examinations as determined by the state (e.g., jurisprudence exam), and (4) passing the Clinical Examination required by the state.

Jurisprudence examinations are administered by the state boards, and clinical examinations are conducted by individual state boards of dentistry or by regional dental testing agencies. Regional Boards are a relatively recent development (late 60s and early to mid 70s) in a gradual movement towards more uniformity in clinical examinations. Currently, there are four regional boards: Northeast Regional Boards (consisting of 15 states), Central Regional Dental Testing Service (comprised of 12 states), Southern Regional Testing Agency (comprised of 6 states), and Western Regional Examining Board (comprised of 12 states). The limited number of regional boards enables dental professionals to more easily move from one licensing jurisdiction to another.

The National Board Dental Examination is intended to fulfill or partially fulfill the written examination requirements, but acceptance of National Board scores is completely at the discretion of the individual state. A state may place any limit on acceptance of National Board scores that it deems appropriate. For example, some states accept National Board scores only if earned within the last 10 or 15 years.

The Joint Commission on National Dental Examinations is the agency responsible for the development and administration of the National Board Dental Examinations. This fifteen-member Commission includes representatives of dental schools, dental practice, state dental examining boards, dental hygiene, dental students, and the public. A

standing committee of the Joint Commission includes other dentists who act as consultants regarding this Examination.

Clinical examinations are conducted by individual state boards of dentistry or by regional dental testing agencies. A regional agency, often called a regional board, is a group of state boards that develops and administers a clinical examination jointly.

Continuing education requirements. Continuing dental education requirements vary by state, but the profession is beginning to modify its continuing education requirements in an effort to tie them more closely to specific competencies specified by state boards, and to some forms of competence assessment. It is evident that dentistry, like other professions, is beginning to take seriously the recommendations of groups like the Citizen Advocacy Center for the establishment of continuing competency assessment and assurance. These are new developments published for each state.

Specialty certification. The ADA recognizes nine specialties in the profession. Certification requirements typically include the completion of advanced training requirements in the specialty and achieving passing scores on written, multiple-choice, computer-delivered examinations, and clinical examinations comprising case presentations and reviews, and an oral examination. At least one board also requires a site visit and an examination of case records.

In general, the specialty boards are addressing the recommendations of groups like the Pew Health Professions Commission for continuing competence assessment. Most of the dental specialties offer time-limited initial certification (three-year, ten-year, or fifteen-year) and require the demonstration of continued competence in the specialty

though a combination of some form of formal examination process and continuing education in order to recertify.

Medicine

Medical education. The Liaison Committee on Medical Education (LCME) is the nationally recognized accrediting authority for medical education programs leading to the M.D. degree in U.S. and Canadian medical schools. The LCME is sponsored by the Association of American Medical Colleges (AAMC) and the American Medical Association (AMA).

All accredited medical schools in the U. S. and Canada must have defined graduation competencies and a comprehensive system for evaluating medical students (www.lcme.org/standard.htm). Knowledge is assessed using either end-of-course or end-of-year examinations, typically multiple-choice in nature. Clinical skills and tasks are assessed by supervising clinicians beginning with the first year of medical school regarding the taking of basic history of present illness, and continuing through the use of SP examinations in a series of OSCEs in the 3rd or 4th year. These OSCEs may be eliminated by some medical schools since a clinical exam is now included in the U.S. Medical Licensing Examination (USMLE) required at the regulatory stage of professional practice. Evaluations of professionalism, ethics, work habits, and other important personal attributes are assessed during clinical rotations by supervisors who provide constructive feedback and document performance ratings.

In 1996, in response to observers of medicine who expressed concern that graduating physicians were not as well prepared as they should be, the AAMC established the Medical School Objectives Project (Medical School Objectives Writing

Group, 1999). The goal of the first phase was to develop consensus within the medical education community on the attributes that medical students should possess upon graduation and to develop learning objectives for the medical schools as they develop their programs. The four attributes decided upon for physicians were altruistic, knowledgeable, skillful, and dutiful. Learning objectives were developed for each attribute. The intention was that medical schools would shape their curricula to the learning objectives and measure outcomes based on the learning objectives (Smith, Dollase, & Boss, 2003). There is a paradigm shift in medical education from structure- and process-based to competency-based education and measurement of outcomes (Carraccio, Wolfsthal, Englander, Ferents, & Martin, 2002).

Graduate medical education: Residency education and training. The Accreditation Council for Graduate Medical Education (ACGME) initiated an Outcomes Project to increase the emphasis on educational outcomes in the accreditation of residency education programs. First, in 1999, the ACGME identified six general competency domains for residents: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice (www.acgme.org/outcome). These have now been adapted for each medical specialty area (Andrews & Burruss, 2004). Second, the ACGME engaged in a joint initiative with the American Board of Medical Specialties (ABMS) to develop measurement tools for programs to utilize as part of an overall evaluation system. The aim of this initiative was to improve graduate medical education by using educational outcome assessments as an accreditation tool and to strengthen the education of residents and practicing physicians by using assessments that demonstrate achievement of certain

competencies (Leach, 2002). Utilizing information from a comprehensive survey of residency programs' evaluation practices and resources, input from the Outcome Project Advisory Group, an extensive review of the literature, inquiry into "best practices", and input from programs and experts across the country, the Toolbox of Assessment Methods was created (Accreditation Council for Graduate Medical Education and American Board of Medical Specialties, 2000).

After offering a thoughtful discussion of key considerations for selecting assessment instruments and implementing assessment systems, the following assessment approaches, which comprise the toolbox, are detailed: 360-degree evaluation instrument; chart stimulated recall oral examination (CSR); checklist evaluation of live or recorded performance; global rating of live or recorded performance; OSCE; procedure, operative, or case logs; patient surveys; portfolios; record review; simulations and models; standardized oral examinations; SP examinations; and written examinations. Each assessment methodology is described, potential uses are presented, psychometric qualities are delineated, and feasibility and practicality issues are outlined. Ways to utilize each assessment method for each of these six competency domains is described. These multiple suggestions per competency reflect the idea that multiple measures provide the most reliable and valid way to assess whether or not a competency has been achieved. Also, the suggestions can help guide programs in developing their own assessment approaches to the competencies.

General competencies were incorporated into residency accreditation in 2002. This shift moved the accreditation model to one based on educational outcomes. Two challenges resulted from this shift. The first was to refrain from using the formative

evaluations as summative evaluations and the second was to identify interventions for residents when deficiencies are found. Residencies in some specialties (e.g., family medicine) are moving toward an individual education plan for each resident based on their own strengths and weaknesses. Therefore, there will not be set rotations, but one resident may be able to shorten one rotation and to extend the length of another. Residencies will be working on how to measure and make decisions regarding the utility of this more flexible rotation process. Similarly, consideration is being given to a competency-based residency training model in which graduation is dependent on competency attainment rather than time (Long, 2000).

Assessments for licensure as a physician. The National Board of Medical Examiners (NBME) administers the USMLE, taken during medical school and residency, which must be passed for licensure. Step 1 is taken after the second year of medical school, Step 2 is taken at the end of the fourth (senior) year, and Step 3 typically is taken after the internship (first post-graduate) year. Each step is substantively different, and the structure is progressive. That is, students must pass Step 1 before they can take Step 2, and so on.

Step 1 is a comprehensive multiple-choice examination on basic scientific principles. Step 2 recently (2004) shifted from having one component, a multiple-choice examination of clinical knowledge (Step 2CK - clinical knowledge) to having two components. The second component includes an SP examination to evaluate clinical, information gathering, and communication skills (Step 2CS - clinical skills). The SPs—actually actors and others who have been trained to describe their symptoms and

emotional state — present themselves in person to the candidate just as they would do in an ambulatory clinic.

Step 3 is a two-day examination designed to determine whether or not the student is ready to practice medicine *without* supervision. It tests substantive knowledge and clinical judgment. The test includes multiple-choice questions and nine case simulations in the form of a virtual dialogue with a computer-simulated patient. The patient initially presents with certain symptoms and the candidate must respond by selecting appropriate tests and other courses of action from a menu. A simulated clock advances the time in the scenario, allowing for follow up visits and counseling based on the patients test results.

Licensure re-registration: Fifty-four boards require 12 hours to 50 hours of continuing medical education (CME) per year for licensure re-registration. Some states mandate CME content (e.g., HIV/AIDS, risk management, medical ethics).

Specialty certification. There are 24 member boards of the American Board of Medical Specialties (ABMS) issuing certificates in 36 areas of general specialization and subspecialty certificates in 90 areas. Sensing growing concerns from the public regarding the need for the continued demonstration of competence by practitioners, member boards of ABMS began to move toward the establishment of time-limited certificates. By 1998, all 24 boards had proposed time-limited certificates requiring recertification at interval of seven to 10 years. In 2000, the ABMS boards committed to evolving their current or planned recertification programs into programs of maintenance of certification (MOC).

An MOC program is defined by: (1) evidence of professional standing to include an unrestricted license in at least one jurisdiction; (2) commitment to participate in life-long learning and involvement in a periodic self-assessment process; (3) evidence of

cognitive expertise determined by periodic examination covering practice-related knowledge; and (4) evidence of evaluation of performance in practice indicating to the public and the profession that physicians provide safe, effective, patient-centered care.

The MOC evaluation of practice performance focuses on the six core competencies (patient care, interpersonal and communication skills, professionalism, medical knowledge, practice-based learning and improvement, and systems-based practice). Evaluation of performance is based on participation in a valid process during which physicians are asked to demonstrate that they can assess the quality of care they provide compared to peers and national benchmarks and then apply the best evidence or consensus recommendations to improve that care using follow-up assessments (www.abms.org). The ABMS notes that for the MOC, engagement in self-assessment is critical and preferable to a regulatory inspection approach (www.abms.org).

The ABMS is working with member boards and specialty societies to develop a patient safety practice assessment, education, and improvement program for physicians (www.abms.org). The program will feature performance measurement and feedback, interactive case scenarios, downloadable tools, improvement strategies, and opportunities for clinicians to participate in an online community. A web-based education and improvement module is planned. State legislatures concerned about patient safety have begun to explore the possibility of mandating that re-licensure require demonstration of continuing competence. Nevada and South Carolina have adopted such initiatives.

Psychology

The use of assessment strategies across stages of education and training, as well as for certifying readiness to practice, has a long history in psychology. In its professional

education and training, psychology uses multiple assessments along the path to graduation to ensure that skills and knowledge are learned. Common assessments include multiple choice and essay examinations; comprehensive examinations (both written and oral); proposal and defense of master's theses, dissertations, and doctoral papers. Some programs require direct observation of direct service activities as part of the summative evaluation process, but this is relatively rare. Similarly, not all programs require formal presentation of clinical case material during a summative evaluation process. This is despite the fact that formative evaluations often include a focus on direct service work.

Credentialing examinations are used to demonstrate that a minimum level of competency has been achieved in the field and that the practitioner possesses the generic knowledge base important to practice across the specialties. The EPPP, a multiple-choice examination focused primarily on knowledge, is the only agreed-upon and standard formal assessment for credentialing for the entry level of independent practice. Some jurisdictions use additional written and oral examinations. However, these are not standardized and their validity has been questioned.

There has been growing interest in lifelong learning and post-credentialing assessment. Professional psychology currently has expectations for lifelong learning as represented by continuing professional education requirements for maintenance of licensure. Other mechanisms for credential review are used for a variety of post-licensure credentialing. In addition, individuals may elect to be board certified in a given specialty area of practice, and this board certification process typically has a higher degree of fidelity than other summative evaluation approaches used in the profession. However, there is no planned/structured assessment for learning that occurs after the completion of

the formal educational experiences of graduate school, internship/post-doctoral experiences, and the licensing examination.

Thus, psychology is a fledgling when it comes to the assessment of professional competence (Sumerall, Lopez, & Oehlert, 2000). It lags behind other health care professions in terms of the breadth and use of summative assessment approaches and in the extent to which use of multiple models of formative assessment has been standardized in professional education and training programs. In addition, the profession has not kept pace with other health care professions that are requiring periodic formal assessments of post-entry level competence.

CHALLENGES TO THE ASSESSMENT OF COMPETENCE AND COMPETENCIES

There has been considerable acknowledgement in professional psychology and in other fields, that although the assessment of competence and competencies is essential, it is fraught with many challenges. This section outlines key challenges to the assessment of competence and competencies.

Defining competencies

Professional psychology has had difficulty defining competencies in precise and measurable terms, without reducing them to overly simplified, uni-dimensional tasks. Without clearly delineated descriptions of each competency domain, it is problematic to develop valid and reliable assessment methods to determine the adequacy of people's performance within that domain.

Lack of agreement in the profession about the key elements of each competence domain

Despite what may be assumed as a general acceptance of the “cube-model” of competencies—reflecting general domains within which competence should be demonstrated and can be measured at various stages of professional development — there is not sufficient consensus within the profession regarding the core overarching foundational and functional competencies. In addition, there is even less agreement within the profession with regard to the key elements of each competency domain. For example, clinical psychology, counseling psychology and school psychology, although overlapping in many ways, are (or claim to be) distinctive in their core conceptualizations of how they approach professional practice. This issue of distinctiveness is of fundamental concern in terms of each specialty’s continued recognition as a unique specialty within professional psychology (www.apa.org/crsppp). As such, it is not surprising that there are differences across the specialties in their perspective regarding the specific knowledge, skills, and attitudes associated with each competency domain. As another instance, professional psychologists who espouse different theoretical orientations or different models of training often have marked disagreements regarding what specific knowledge and skills are required for a person to evidence competence within each competency domain.

In a related vein, psychology lacks a seamless, integrated, sequence of training from academic program to internship, to postdoctoral fellowship, to licensing for independent practice with agreed-upon benchmarks of competence among the various parties/stakeholder groups. Although it is appropriate that assessors at different

developmental stages evaluate or assess different things, there is no coherence within the profession regarding what should be mastered at each stage of professional preparation and it is not clear who does or should set them (e.g., doctoral programs and internships may differentially evaluate when a person is “ready for internship”). Further, it would seem that there is insufficient communication between programs, internships, post doctoral experiences, and licensing boards regarding the establishment of defensible professional competency benchmarks. The recent working conference on competency benchmarks in professional psychology should help in this regard.

Without developmentally-informed, clear, and measurable learning objectives for each competency domain and associated benchmarks for performance at each stage of professional development, it is impossible to measure competencies effectively, i.e., in a valid and reliable way that has high fidelity to practice. Further, the frequent lack of coherence and continuity between the assessments used in professional schools to meet graduation requirements and those used for initial licensure contributes to one-shot testing of clinical competence, which is undesirable (Chambers, Dugoni, & Paisley, 2004).

Limitations in assessment armamentarium for assessing all components of competence

Knowledge, skills, attitudes, and their integration. Within professional psychology, our abilities to assess across the areas of knowledge, skills, and attitudes are not equal. As a profession we seem better able to assess knowledge than skills or attitudes, better able to assess skills than attitudes, and generally to have few established methods for assessing critical professional attitudes. It may be that we are not actually that effective at measuring knowledge either, but most of our tools are designed to do so.

Although professional psychology does have measures for evaluating knowledge and skills (e.g., supervisors' reports, examinations, passage of skills courses, etc.), it is generally held that these lack reliability, ecological validity, and fidelity to practice.

Furthermore, and more importantly, psychology does not currently have methods to readily or reliably assess the integration of knowledge, skill and attitudes in the performance of professional functions that comprise competence (e.g., professional judgment, scientific-mindedness, relationship skills, team work, internalized ethical orientation, reflective practice/self-awareness, openness to learning, and commitment to professional growth), yet it is this integration that reflects the construct of competence. In addition, there is little available data regarding the reliability and validity of measurements of those complex professional functions that are the true indicators of competence within professional psychology.

Fidelity. Many measures lack a high degree of fidelity. Commonly used paper and pencil assessments are not "experience near." These examinations are often administered in isolation, and there are many problems with using single measures for evaluating complex abilities, in part because these tools often lack depth. Paper and pencil examinations often are multiple choice in format, and multiple choice examinations often do not do an adequate job of assessing skills, attitudes, or the complex integration of relevant knowledge, skills, and attitudes. Assessment techniques typically used do not involve the observation of the persons being evaluated in simulated or actual situations, do not include feedback from patients/clients or peers, and are not indicative of clinical outcomes.

While high fidelity methods would strengthen professional psychology's ability to accurately assess competencies, they also raise concerns and complications. High fidelity measures are more time intensive, labor intensive, and costly. Further, for some constructs, the higher the fidelity, the lower the generalizability of the assessments from one setting to another setting, and from one stage of professional development to the next.

Provision of feedback

Many professionals find it challenging to give effective evaluative feedback. Although positive feedback is easier to give than negative feedback for most professionals, it is not uncommon for educators, trainers, and credentialers to provide limited positive feedback. This may reflect the prevailing view that "no news is good news" and a lack of priority placed on the role that positive feedback can play in both the learning and assessment process. Professionals are even less likely to offer negative feedback in a constructive fashion. Many shy away from confrontation, are reluctant to shame or hurt the person being evaluated, and have difficulty finding a way to frame their critique in a fashion that will be useful to their student or peer. In addition, many fear institutional or legal consequences if they provide negative input. Often times, a reluctance to give feedback regarding problems is an effort to avoid the demoralization that one fears will result in response to such a confrontation. People often are concerned that the more subjective or subtle (rather than objective or blatant) the behavior they are addressing in their feedback, the more likely it is to be challenged or dismissed.

Evaluative rigor and the institutional stance

Implementation of competence assessment is more difficult in an era of grade inflation and inflation with regard to letters of recommendation (Miller & Van Rybroek, 1988; Robiner, Fuhrman, & Risvedt, 1993; Robiner, Saltzman, Hoberman, Semrud-Clikeman, & Schirvar, 1998). Passage of courses, course grades, and recommendation letters are not as viable or valid as methods of assessment as they may have been historically. This again points to the need for assessments of competencies that are scrutinized and selected based on how well the results provide meaningful data. It also highlights the importance of training raters to maintain the proper level of objectivity for valid and useful assessments.

The attitudes of the institutions towards assessing competence are critical. The adoption of non-defensive postures, avoiding competitive postures within and between institutions, and a commitment to using the results of student and program assessment to strengthen the institution will provide the backdrop for the development of even better assessment strategies and techniques.

Dual roles for educators and trainers

Academic and clinical faculty members typically serve in both formative and summative evaluation capacities for their students or trainees, and many tasks require them to serve in both capacities simultaneously. For example, writing letters of recommendation requires walking a line between aiding and honestly evaluating the student. Faculty members' and supervisors' roles are to facilitate the junior colleague's professional growth and acquisition of competence. At various junctures (e.g., upon completion of courses, in conducting qualifying or comprehensive examinations, in determining satisfactory internship or postdoctoral fellowship performance), faculty

members and supervisors become evaluators of the same individuals whose development they have been fostering.

Those responsible for education and training, and to some extent credentialing, may have dual roles with regard to the provision of both formative and summative assessment. While such dual roles are part and parcel of the educational process, a move toward competency assessment requires educators and trainers to be aware of the tensions and boundary challenges inherent in these different and sometimes disparate roles at different developmental phases. The duality of roles reflects the affirming and validating functions on the one hand, and the gatekeeping functions on the other. It also highlights the tension between the value of relative subjectivity in the teaching and supervisory role related to formative evaluation versus the need for greater levels of objectivity with regards to summative evaluations. These role conflicts need to be acknowledged and managed for the ethical assessment of competence (Roberts, Borden, & Christiansen, 2005).

Assessing Competence Problems

Assessing competence means that subtle to blatant incompetence will be found on some occasions, and that inconsistent competence across domains will be ascertained in other instances (Overholser & Fine, 1990). Unfortunately, at present, we lack an agreed upon nomenclature to describe individuals whose behavior does not meet minimum standards of professional competence (Elman & Forrest, in press). Further, it is necessary for us to develop and implement systems within the profession that enable effective responses to competence problems. These systems must respect competence standards, protect the public, and whenever possible, help the individual being evaluated. When

competence problems are assessed as being significant or an ongoing evaluation reveals they are not responsive to appropriate remediation, appropriate actions must be taken by the profession to protect the public (Forrest, Elman, Gizara, & Vacha-Haase, 1999; Vacha-Haase, Davenport, & Kerewsky, 2004). In this way, the widespread adoption of the competence model and its assessment will create the need to develop new methodologies for dealing with outcomes. While adding yet another challenge, it may also be of service to ethics committees, licensing boards, the public, and add a new level of clarity to professional standards in psychology.

Implementation

There are numerous challenges associated with an increased emphasis on the assessment of competence. One challenge relates to convincing those who are skeptical of the value of the culture shift toward more comprehensive assessments across the professional life-span. Skeptics often question whether or not such assessment(s) will lead to better training for competencies and higher levels of competence overall, whether or not the assessment of competencies will reduce incompetence in the field, and whether the measurement of competencies is a better way to assess professional performance in the long run than what is currently done.

Each of the above questions is a part of the more general question of the cost-benefit analysis of competency assessment. Specifically, is it worth it to the field (specifically, the academic training programs, internships, postdoctoral programs, credentialing organizations, etc.) to undertake and bear the cost of such assessments? Without prior information on current level(s) of competence and the prevalence/base rate

of professional incompetence, it may be hard to justify undertaking what may be seen as an extraordinary effort.

Assessment, by itself, often creates resistance with a system (e.g., doctoral program, internship, postdoctoral program, licensing board). This resistance may be exacerbated when the competency elements to be assessed are prescribed or imposed from outside of that system. This resistance can be expected to be especially strong when one considers that training programs are given the latitude to formulate their own (sometimes distinctive) training models, goals and objectives. In addition, these programs vary in terms of training philosophy (e.g., clinical scientist, scientist-practitioner, and practitioner-scholar), intended training outcomes (e.g., the preparation of academics/scholars/researchers vs. practice professionals), theoretical orientation within professional psychology, and settings in which individuals are being prepared to work.

There are implementation challenges associated with the assessment of competence beyond initial licensure. While it is an expectation/requirement of the profession's current ethics code that psychologists seek to enhance their knowledge and abilities and maintain or increase their competence throughout their careers, there are no formal means for assessing this beyond initial licensure. Even where mid-career assessment of competence does occur, there is often a lack of connection between performance on current competency assessments and how the individual performs in the daily pursuit of his or her professional activities. This is most likely to be the case when such strategies as a portfolio approach or other peer review methods are not used. Many will balk at the notion of being required to demonstrate competence post-licensure in any systematic fashion. Additionally, currently there are not sufficient gates at which one can

or is required to demonstrate specialization or expertise beyond the “licensable level” of competence. Although voluntary gates do exist for those electing advanced certification/specialization (e.g., ABPP, NRHSPP, College of Professional Psychology), unlike medicine, such certification or specialization is not required and most often not pursued within professional psychology—along the order of 90-95% of licensed practitioners in psychology do not pursue advanced certification.

There are varying needs of different stakeholder groups. For example, licensing boards may seek consistency in the preparation of individuals for professional practice and the expediency of the processing of applications. Conversely, a diversity of academic preparation (training program alternatives) may be valued by the profession and asserted by training institutions. Thus, there may be a conflict between what training programs value and teach and what credentialing bodies believe to be relevant.

MOVING PSYCHOLOGY FORWARD:

GUIDING PRINCIPLES IN COMPETENCY ASSESSMENT

Introduction

Having a systematic and comprehensive approach to assessing competence facilitates accountability for the profession and to the public (Messick, 1999). The principles we believe should guide the assessment of competence and that would enhance the creation of a “culture of competence” are delineated in this section. These principles build on the preceding review of competency assessment models and will help ensure that as a profession, psychologists reinforce the importance of a culture of competence.

Guiding Principles

Principle 1: The career-long assessment of competence requires a major culture shift

Competence assessment is a process that must occur throughout the duration of a professional psychologist's career, beginning in the first year of graduate school and lasting through retirement. As argued by members of the Assessment of Competence Workgroup from the Competencies Conference (Roberts, Borden, & Christiansen, 2005), for the assessment of competence to become integrated into the education, training, credentialing, and post-credentialing of psychologists, a culture shift is essential. This shift requires the routine, systematic, and institutional assessment of competence. It is also imperative that the "politics" of the assessment process (e.g., demand characteristics for grade inflation and inflation in letters of recommendation) be acknowledged and altered to support an environment in which reliable and valid assessments are encouraged and valued. Further, given the dynamic character of the profession, the assessment of competence in professional psychology should be dynamic and sensitive to changes that occur in the profession—its knowledge bases, practices, and ethics.

For such a culture shift to occur there will need to be buy-in from students, faculty, supervisors, regulators, and professionals and a strategic plan to ensure effective implementation of the assessment of competence at both the individual and organizational levels. Institutions and all relevant constituency groups within professional psychology must invest the economic and human resources to affect a culture shift that ensures the multimodal and multi-faceted assessment of competence across the professional trajectory. Such a shift in priority and emphasis will have enormous implications for education, training, credentialing, and regulation. This shift should impact the acquisition and maintenance of competence in all professional psychologists and we should assess training programs, service delivery systems, and

continuing professional education activities. For instance, the accreditation of education and training programs should focus on the extent to which they prepare students to perform at the appropriate level of development in each competency domain. Also, it is important to assess a training program's efforts to comply with the expectations of accreditation that attention be paid to cultural and individual differences and diversity and to evidence-based practices to assure that their students behave in a culturally competent evidence-informed fashion and demonstrate respect for diversity. Greater emphasis placed on the assessment of various systems, such as training and educational programs and service delivery programs, in addition to evaluating individuals within the profession, would further support the culture shift toward one in which a premium was placed on the assessment of competence throughout the professional life of the psychologist in all contexts and settings. Such lifespan evaluation will need to consider factors both within psychology, and those outside the profession (e.g., public, legal system).

Principle 2: It is essential that competencies be conceptualized as generic, wholistic, and developmental abilities

Competencies must be conceptualized as generic and developmental abilities in which knowledge, skills, dispositions, self-perceptions, motives, beliefs/attitudes are considered as dimensions of wholistic abilities rather than discrete dimensions of performance (Mentkowski, 1991; Mentkowski & Associates, 2000; Mentkowski, Loacker, & O'Brien, 1998). The assessment of competence needs to focus not only on the knowledge, skills, and attitudes associated with each competency domain, but on the integration of knowledge, skills, and attitudes within and across domains of competence (Epstein & Hundert, 2002). To accomplish this, we need to enhance our ability to reliably

assess performance in a manner that reflects each of these domains. Since we currently are more effective at assessing knowledge than skills and attitudes (Elman, Illfelder-Kaye, & Robiner, 2005), we need to develop more meaningful strategies for measuring skills and attitudes, although some attempts have been made in this regard (Rudestam, Titus, & Weiss, 1987). For example, problem-based learning (PBL) methodologies (Boud & Feletti, 1997; Evensen & Hmelo, 2000), increasingly used in medical education, appear to be innovative and effective approaches for both teaching and evaluating the integration of knowledge, skills, and attitudes, as well as their component parts. These approaches could be used to facilitate training and assessment of competence in professional psychology in the following fashion. A vignette of an individual with psychosocial difficulties can be presented to students, who are then encouraged to reflect upon what they do and do not know about the person's problems, develop hypotheses, pursue answers to questions and hypotheses that pique their curiosity and that will facilitate problem-solving, share with their peers what they have learned from their research and data collection, and articulate how they would address the individual's difficulties based upon what they have learned. PBL facilitates attainment of new knowledge, development of skills in applying basic psychological knowledge to clinical problems, reasoning process required for approaching clinical problems, effective use of available information resources, skills to teach others, ability to work as a team, and skills that will assist in lifelong learning. It offers an invaluable methodology for assessing student's critical thinking skills, judgment, emotional intelligence, interpersonal skills, and capacity to think and behave like a professional psychologist.

Principle 3: A developmental perspective must undergird the assessment of competence

The assessment of competence needs to take into account developmental and incremental learning factors (Kaslow, 2004; Roberts, Borden, & Christiansen, 2005). Systematic attention needs to be paid to the assessment of overall competence in both integrated and competency-by-competency formats at all stages of training and professional development (Roberts, Borden, & Christiansen, 2005). This requires careful analysis of which competencies and aspects of these competencies should be mastered at which stages of professional development (e.g., novice, intermediate, advanced, proficient, expert, master). The Guidelines and Principles for Accreditation are consistent with this stance, as they highlight the importance of education and training for practice as being sequential, cumulative, and graded in complexity (American Psychological Association, 2005a).

For each competency domain, there are rules that must be learned (novice, advanced beginner) and these rules must be applied in increasingly complex contexts (competent, proficient, expert, master) (Dreyfus & Dreyfus, 1986; Leach, 2002). Ideally, graduate students progress from novice to advanced beginner, and interns and postdoctoral fellows from advanced beginners to competent. Board certification is a mark of proficiency. Those who excel in particular competency domains are experts, and those who are creators and innovators are masters in our profession. Such an analysis should also include an understanding of the gradations of competence at each level, ranging from competence problems, to minimum threshold of competence, to highly distinctive performance.

Once this framework is established, we need to establish developmentally appropriate assessment criteria for performance in each competency domain that is

expected for the novice through the master psychologist. In general, it is likely that assessments at earlier stages of development will reflect breadth more than depth, and simplicity rather than complexity, and will be of relatively low fidelity. Assessments at later stages of professional development will reflect greater depth, complexity, and fidelity. Further, it is imperative that the profession develops a lifetime model of the assessment of competence that articulates the types of assessments best-suited for different purposes at various points in the professional life trajectory and that incorporates continuous monitoring of progress toward desired goals and outcomes (Kaslow, 2004; Kaslow et al., 2004; National Association of School Psychologists, 2000; Roberts, Borden, & Christiansen, 2005; Waldron, Prus, & Curtis, 2001).

Principle 4: Assessment approaches must integrate formative and summative evaluations

Assessment approaches are most effective if they integrate formative and summative evaluations, as these are mutually informative processes (Kaslow, 2004; Kaslow et al., 2004; Roberts, Borden, & Christiansen, 2005). Formative assessment refers to an ongoing, developmentally-informed process of competence assessment and direct and thoughtful feedback during training and throughout professional development to ensure the attainment of higher levels of competence through learning and performance improvement. Summative assessment is the term used to depict an end-point or outcome measurement, such as degree conferral, completion of internship or postdoctoral fellowship training, licensure, or board certification. Summative feedback also should result in the enhancement of competence. Both formative and summative assessments of competence should focus on strengths, relative weaknesses, and areas of competence problems (below the minimum threshold for a particular developmental stage

in a given competency domain or domains). This information should guide education and training plans and remediation efforts in ways that are useful to the person being evaluated. Often viewed as separate processes, formative and summative evaluation in fact interact in a continuing sequence of assessments at various points in summative ways and provide information for self-improvements for formative actions (Donaldson, 2003; Prescott, Norcini, McKinlay, & Rennie, 2002). Thus, summative evaluations are most effective if there is a formative component (Weber, 2000).

Regarding formative and summative evaluations of competencies, one challenge is to refrain from using formative evaluations as summative and to develop individual interventions for trainees and practicing psychologists based on their own strengths and weaknesses. At least one accreditation body (dentistry) requires that each school have a curriculum management plan to ensure that the school is engaged in formative evaluation of student performance and able to make evidence-based revisions of the teaching and learning process. The American Board of Family Physicians (ABFP) requires that residencies not use formative evaluations as summative and that interventions are made when deficiencies are identified. That board also requires that residency programs in that specialty not only assess competencies using a variety of methods, including those in the ACGME Toolbox, but that by 2009, they validate the methods being used to evaluate competencies. A final challenge is to manage the dual role between formative evaluations, which are supportive and identify training needs, and summative evaluations done by the same supervisor (Roberts, Borden, & Christiansen, 2005).

Principle 5: There needs to be collaboration across constituency groups in creating coherence and continuity in strategies for evaluating competencies

It is important to establish a level of coherence and continuity between the assessment methods used in education programs and those implemented at the credentialing level. Educators, trainers, and regulators should collaboratively engage in creating practical multi-trait, multi-method, and multi-informant strategies for evaluating competencies that are consistent and integrative across the spectrum of training and practice. These strategies must take into account the type of setting, the population served, the problems addressed, and the nature of the required professional functioning (i.e., procedures and techniques used) (Roberts, Borden, & Christiansen, 2005).

The concepts of coherence and continuity imply the following recommendations. First, the use of multiple complementary methods is encouraged at both the education and credentialing levels. Assessment techniques used for licensure and other credentialing might begin during education and training at developmentally appropriate times. For example, during graduate school or internship, mock board certification examinations could be conducted. Second, selected measures should be implemented at both the education and credentialing level. Third, decisions made at the licensure level could consider the results of common assessments of competence conducted at education and credentialing levels. Such a collaborative model should reduce the false positive and false negative credentialing errors. Professional psychology should seek external funding to design and promulgate prototype assessments across the levels of the profession.

Principle 6: The assessment of competence must reflect fidelity to practice and must incorporate reliable, valid, and practical methodologies

Psychologists should develop and utilize effective, reliable, valid, feasible, practical, flexible, credible, fair, timely, and innovative approaches for assessing all

aspects of competence and all domains of competence relevant to the profession (Chambers & Glassman, 1997; Epstein & Hundert, 2002; Greenhalgh & Macfarlane, 1997; Joorabchi & Devries, 1996; Turnbull, Gray, & MacFadyen, 1998). The methods should be consistent with recognized best practices of measurement and assessment (American Educational Research Association, 1999), albeit practices with varying degrees of fidelity and levels of responsiveness to reliability and validity considerations. For example, a clinical proficiency review in which a graduate student provides a written work sample (e.g., diagnostic formulation, case conceptualization, description of a course of treatment) and participates in an oral interview regarding this material, would have a high degree of fidelity and validity, and a moderate degree of reliability consistent with the student's level of development (Dienst & Armstrong, 1998). (Dienst & Armstrong, 1998). A similar clinical proficiency review often is used for board specialty examinations to determine expertise. For that later stage of development, the procedure may have different fidelity, validity, and reliability. For an evaluation to be meaningful, it must influence the progress of the person being evaluated (Turnbull, Gray, & MacFadyen, 1998). Ideally, there should be coherence throughout the training process with what is assessed and what is practiced (Shulman, 2004). The assessment methodologies developed must be practical in terms of administration, cost, and burden. Marketplace pressures and constraints may make implementation of comprehensive assessment methods difficult to achieve given added costs (time, money, organizational pressure). Thus attention to the efficiency and transferability of approaches is warranted.

Principle 7: Generic and specialty foundational and functional competencies must be evaluated in a comprehensive assessment of competence

As part of a culture of competence, more focused attention needs to be paid to the assessment of overall competence in both integrated and competency-by-competency formats at all stages of training and career functioning. The assessment of competence needs to include a focus on both the generic competencies expected of all professional psychologists, as well as the assessment of specialty competencies that define the distinctive character of each of the specialty areas or subdisciplines. Assessment at both levels should attend to competencies that are foundational (knowledge, skills, and attitudes foundational to competence) and functional (what competent psychologists are expected to do) to professional practice, and equally to stages of professional development (ranging from the various stages of doctoral education to lifelong learning as a professional psychologist).

Principle 8: Assessment of competence should be a multi-trait, multi-method, and multi-informant process

Ideally, the assessment of competence is a multi-trait, multi-method, multi-informant process. Multi-trait refers to the assessment of all competency domains (not personality traits). For example, determining competence in a particular intervention approach would entail: (1) evaluating one's familiarity with the empirical, theoretical, and clinical data associated with that approach; (2) assessing one's capacity to effectively intervene with a patient/client using that intervention approach; and (3) demonstrating the "nonspecifics" associated with the creation and maintenance of an effective working alliance. Multi-trait competency-based evaluations must include measurable indicators of knowledge, skills, attitudes, performance, and their integration. Skills should be evaluated via reviews of samples of behaviors from multiple perspectives using valid and

reliable methods of observation and evaluation using pre-defined and clearly outlined objectives and criteria. Better strategies need to be developed for the assessment of the attitudes/values component of each competency domain. Not only should competencies be assessed individually, but also within an integrative approach in which multiple traits are evaluated simultaneously.

Multi-method refers to the use of different assessment methodologies for assessing competency. In regard to multi-method processes, we need to continue to use traditional forms of testing, such as commonly used paper-and-pencil measures (e.g., multiple choice, matching, essay examinations), typically of knowledge (e.g., the EPPP), oral examinations, and supervisor ratings. However, it is believed that assessments would have greater fidelity with actual professional performance if these assessments also paid greater attention to work samples, (e.g., audiotapes and videotapes, assessment or therapy reports, research portfolios, publications, teaching portfolios, clinical portfolios), written clinical simulations, case-based oral examinations, decision-tree analysis, direct performance observations and ratings, computer-based assessments and clinical simulations, assessments of problem-solving in standardized simulated environments (e.g. OSCEs with SPs), and product appraisals. Such approaches would help to ensure that the assessment measures reflect real-life situations and predict future performance (Accreditation Council for Graduate Medical Education and American Board of Medical Specialties, 2000; Barrows, 1993; Bashook, 2005; Berven & Scofield, 1980; Linsk & Tunney, 1997; McHolland, Peterson, & Brown, 1987; Norman, 1995; Swanson, Norman, & Linn, 1995).

Multi-informant refers to gathering data about a person's competence from multiple sources with myriad perspectives from diverse environments. Effective evaluations should move beyond assessment of a trainee's performance by one supervisor to multiple observers providing input from differing perspectives (e.g., peers, patients/clients, coworkers, individuals from other disciplines) (Turnbull, Gray, & MacFadyen, 1998). In addition, scales such as the Oetting/Michaels Anchored Ratings for Therapists (Oetting & Michaels, 1982) afford the opportunity for both the supervisor and the supervisee to provide behaviorally anchored ratings of the trainee's performance, and to compare these rankings across time. Professional psychology should increasingly utilize 360-degree evaluations and evaluate their link to performance outcomes. The use of this methodology at periodic intervals would facilitate the development of self-assessment skills and lead to the development of personal action plans based on comprehensive feedback that would be designed to improve one's professional and personal functioning. In addition, there should be greater incorporation of OSCEs with SPs, which can provide reliable and valid feedback regarding one's competence. This approach to the assessment of competence could aid in the evaluation of trainees' and professionals' attitudes and values, in addition to knowledge, skills, and integrated competencies.

The specifics of this multi-trait, multi-method, multi-informant assessment battery should depend on the domain or aspect of competence being assessed and the level of performance expected. For example, for graduate students learning to do assessments, evaluations of their performance on simulations may be most appropriate, whereas for

postdoctoral fellows such evaluations may be based on document review (McHolland, Peterson, & Brown, 1987).

Again, it is important to recognize the practical challenges inherent in incorporating multi-trait, multi-method, and multi-informant assessments in both training and practice. Thus, it will be necessary to devise a plan for priorities and preferences that is tailored to local training and practice pressures, as well as specialty needs.

Principle 9: Self-reflection and self-assessment are key components of the assessment of competence and need to be taught and encouraged

Broadly defined, self-assessment refers to learners judging if learner-identified standards have been met (Boud, 1995). It is the process of validly ascertaining one's strengths and areas in need of improvement, have an awareness of one's own limits of expertise, and determine what to do when those limits are reached (Hoge et al., 2005). It also refers to monitoring one's own progress in the process of taking action to address one's own specific developmental needs (Forster, Bussiere, Chiocchio, Laroche, & Sears, 2000). A cognitive skill acquired through continued practice, it refers to the ability to thoughtfully consider the knowledge used when one responds to a situation (Schon, 1987). Present either while the action is occurring or after the behavior has taken place, it connotes the time when the person examines his or her processes to ascertain modifications needed in future responses. Reflection can illuminate areas for growth in knowledge and/or skill and alterations in attitudes, as well as provide insights regarding future educational and training needs.

Due to the lack of consensus regarding how to most appropriately represent self-awareness conceptually or statistically, there is a paucity of measurement tools for this

construct (Fletcher & Baldry, 2000). The 360-degree evaluation methodology, described earlier, is another process that fosters appropriate self-awareness by enabling individuals to develop insight into the ways in which their self-perceptions of their strengths and areas in which improvement are needed are consistent with or discrepant from those around them (Fletcher & Bailey, 2003). Others have argued for the value of an indirect approach to the measurement of self-awareness by examining other individual differences that theoretically should be linked to a person's level of self-awareness, such as the use of interview questions to ascertain previous examples of feedback seeking, capacity for constructive self-criticism, emotional intelligence, and awareness of others' perceptions; and psychometric assessment of personality traits and other individual differences associated with self-awareness (Fletcher, 1997; Fletcher & Baldry, 2000).

Historically, training in self-assessment has been relatively minimal, despite the profession's emphasis on life-long learning. Colleagues in education underscore the value of a "meta-cognitive" approach to instruction that can help individuals learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them (Bransford, Brown, & Cocking, 2000). There are some good examples in our profession, such as a model for training in self-assessment outlined for clinical health psychology (Belar et al., 2001). This model delineates a series of focused questions for students or professionals to reflect upon regarding whether or not they believe that they have gained the requisite knowledge, skills, and attitudes to practice competently. In addition, tools have been crafted for aiding in self-exploration related to the practice of psychotherapy (Pope, Sonne, & Greene, 2006). Of particular relevance is the work done by the College of Psychologists of Ontario, who devised a Self Assessment Guide and

Professional Development Plan that must be completed biannually by all psychologists in the jurisdiction (http://www.cpo.on.ca/QA/QA2006/Self_Assessment2006.htm). The document is designed to assist members in assessing their current level of competence with regards to: legislation, standards, codes and guidelines; service to clients; teaching/training and research activities; and supervisory activities. Attention also is paid to current areas of practice and/or services provided, as well as to anticipated areas of future practice. Each member is required to create a Professional Development Plan to address differences between their current and desired levels of knowledge or skills identified through the self-assessment process. Two years after devising the Professional Development Plan, the individual is asked to reflect on the plan.

Because self-assessment may not line up with other assessment methods (Constantine & Ladany, 2000) and because it is poorly correlated with performance measures (Eva, Cunningham, Reiter, Keane, & Norman, 2004), we need to teach people how to engage in honest reflection of their own performance from the onset of training to the end of their career (Stewart et al., 2000) and to encourage ongoing practice in this assessment methodology to ensure maintenance of self-assessment skills. Training in self-assessment in the early phase of one's education can be enhanced if students are simultaneously receiving monitoring and feedback from external sources, such as professors, supervisors, and peers, and if they are helped to integrate feedback from self and others (Roberts, Borden, & Christiansen, 2005). Such training, both for students and professionals, must underscore the importance of self-assessment throughout one's professional career (Roberts, Borden, & Christiansen, 2005). Engaging in self-assessment reflects a commitment to life-long, self-directed learning (Eva, Cunningham, Reiter, Keane, &

Norman, 2004), that is the cornerstone of psychology's commitment to social and professional responsibility (Belar et al., 2001). Self-assessment also is a vital aspect of professional self-regulation (Eva & Regehr, 2005).

Although useful models for self-assessment have been developed (Loacker, 2000) and their value has been documented, there is a relative dearth of well-articulated self-assessment models within professional psychology (Roberts, Borden, & Christiansen, 2005). Thus, it behooves the profession to adopt or adapt such models and methods for self-assessment and train people in self-assessment processes.

Principle 10: The comprehensive assessment of competence must include a focus on interpersonal functioning and professional development

Despite the identification of sound interpersonal functioning and professional development as key to all competency domains and overall competence, which received some focus in the professions in the early 1990s (Willis & Dubin, 1990), training programs historically have not focused on formally enhancing or evaluating these domains of competence (Oliver, Bernstein, Anderson, Blashfield, & Roberts, 2004) and little effort has been made toward assessing these constructs among practicing professionals. Recently, these constructs have gained prominence (Elman, Illfelder-Kaye, & Robiner, 2005) and require greater attention in the future. For example, the Student Competence Task Force of the CCTC (<http://www.apa.org/ed/graduate/cctc.html>) developed recommendations for the comprehensive evaluation of student-trainee competence in professional psychology programs that was supported by all CCTC member constituency groups. This document highlights the importance of educators and trainers evaluating students in terms of interpersonal and professional competence; self-

awareness, self-reflection, and self-evaluation; openness to process supervision; and resolution of issues or problems that interfere with professional development or functioning in a satisfactory manner. This document also underscores the need for evaluation processes and standards that are consistent and content verifiable, the need for more than one source of information to be gleaned across settings, and the need for ways to ensure that evaluation feedback with regard to this aspect of competence is integrated into a remediation plan.

Of note, in the medical profession, significant recent attention is being paid to the measurement of professionalism (Stern, 2006), which falls under the rubrics of interpersonal functioning and professional development. A framework for assessing medical professionalism has been offered. Constructs to be assessed include communication skills, application of ethical and legal understandings, moral reasoning, empathy, teamwork, and lifelong learning. Various assessment strategies are suggested, such as surveys and scales, observations, critical incident reports, peer reports, portfolios, and self-reflection. There is an emphasis on the assessment of professionalism at both the individual and program level. Of note, there is evidence that disciplinary action by a medical board against a practicing physician is associated with prior unprofessional behavior in medical school, further supporting the notion that professionalism is a critical measure of competence (Papadikis et al., 2005).

Principle 11: The assessment of competence must be sensitive to and highlight the importance of individual and cultural diversity

The assessment of competence needs to be sensitive to all aspects of individual and cultural differences as noted in the APA Code of Ethical Conduct and Principles:

age, gender, gender identity, race, ethnicity, culture, national heritage, religion, sexual orientation, disability, language, and socioeconomic status (American Psychological Association, 2002a). The assessment of competence in this domain must focus on cultural aspects of competence assessment, that is, how an assessment itself is sensitive to culture (Roberts, Borden, & Christiansen, 2005). In addition, it must address the assessment of cultural competence *per se*, namely how competence in the broad array of diversity considerations is defined and measured (Fox, Blank, Rovnyak, & Barnett, 2001; Roberts, Borden, & Christiansen, 2005; Stuart, 2004). A number of measures have been developed to assess people's sensitivity to cultural considerations. Unfortunately, there are few measures to assess individual's competence in other aspects of individual and cultural diversity (e.g., age, disability status); these need to be developed and evaluated. Further, when assessing competence in all other domains, attention needs to be paid to the integration of individual and cultural diversity considerations, as such factors are viewed as superordinate and cross-cutting among all competency domains (Daniel, Roysircar, Abeles, & Boyd, 2004; Kaslow et al., 2004).

Principle 12: Multimodal methods of assessment are needed to ensure the development and maintenance of ethical practice skills, which underlie all professional activities and performance

Ethics is another superordinate or cross-cutting competency in professional psychology (de las Fuentes, Willmuth, & Yarrow, 2005; Kaslow, 2004; Kaslow et al., 2004). Ethics has been rated the most important and critical issue on every practice analysis conducted for the profession, because professional practice is essentially a moral enterprise (Institute of Medicine, 2002c). In other health professions (e.g., medicine,

nursing), competence in ethical reasoning (one of four general abilities related to ethical decision-making (Rest, 1983)) has been shown to be the single best predictor of clinical performance—better than scores on standardized tests, grades in school, or scores on credentialing examinations (Institute of Medicine, 2002a). Therefore, assessments of competence in ethics should be theoretically-grounded and multimodal, rather than mainly focused on knowledge of ethical codes. The assessment of competence in ethics should include an evaluation of ethical integrity in every aspect (e.g., course, experiential placements, research, comprehensive examinations, theses and dissertations), evaluation of ethical competence in clinical settings in accord with the APA’s Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2002a), ethical decision-making using critical incident methodologies, and ethical behavior as evaluated in a 360-degree format (de las Fuentes, Willmuth, & Yarrow, 2005). Faculty and supervisors, as well as credentialers, should be empowered to initiate significant remediation efforts and/or dismiss individuals whose performance reveals an inability to ethically serve the public (de las Fuentes, Willmuth, & Yarrow, 2005). Systems need to be put into place to ascertain the link between unprofessional behavior in training settings and subsequent disciplinary actions (Papadikis, Hodgson, Teherani, & Kohatsu, 2004). It would be helpful if licensure boards provided information to training programs regarding the adjudication of their graduates (de las Fuentes, Willmuth, & Yarrow, 2005).

Principle 13: It is important to assess capability in addition to competence

In addition to the assessment of competence, assessment also should focus on assessing for capability, that is, the ability to adapt to change, generate new knowledge, and continuously improve performance (Fraser & Greenhalgh, 2001). Capability must be

enhanced through formative and summative feedback. Psychologists need to ascertain whose performance merits the distinction of capability in a particular competency domain.

Principle 14: When competence problems are identified through assessment, it is important to have strategies in place for their remediation and management

Effective assessment approaches will identify individuals across the professional life-span who exhibit competence problems, that is, insufficient professional competence (Elman & Forrest, in press). An infrastructure needs to be put into place to ensure that areas in need of improvement are addressed initially without punitive sanctions, unless the behavior in question is so problematic (e.g., unethical, illegal) or not responsive to remediation. While there are some excellent models for identifying, responding to, and remediating trainee deficits (Forrest, Elman, Gizara, & Vacha-Haase, 1999; Lamb, Cochran, & Jackson, 1991; Lamb et al., 1987), there is a greater need for national policies and processes that promote more consistent identification, evaluation, and intervention at the faculty/supervisor, student, and program levels (Forrest, Elman, Gizara, & Vacha-Haase, 1999; Vacha-Haase, Davenport, & Kerewsky, 2004). Greater attention needs to be paid to the gate-keeping function that trainers must serve when students are assessed as having competence problems that cannot be effectively remediated (Vacha-Haase, Davenport, & Kerewsky, 2004). Similarly, more effective policies need to be put into place for addressing practicing psychologists who are not performing competently (O'Connor, 2001) and these individuals need more encouragement to utilize colleague assistance programs (Barnett & Hillard, 2001; Floyd, Myszka, & Orr, 1998).

Principle 15: Evaluators must be trained in effective methodologies for the ongoing assessment of competence

Professional psychologists (e.g., educators, trainers, supervisors, credentialers) need to be trained to utilize assessment strategies in a consistent, reliable, and valid fashion. This will entail receiving education and feedback regarding the appropriate level of rater objectivity to ensure useful and informative assessments (Roberts, Borden, & Christiansen, 2005). Training also must focus on common biases in performing ratings including halo effects, leniency, dealing with supervisee defensiveness, and conceptualizing variability in ratings across raters. In addition, these evaluators need training in providing direct, specific and accurate feedback in a supportive/collegial, comprehensible, and meaningful fashion (Kaslow, 2004). This feedback should focus on strengths, areas for improvement, and deficits. In addition, evaluators need to be trained in the proper administration and interpretation of results (www.apa.org/ed/guidehomepage.html). The training process must underscore that fact that the competence of evaluators and evaluation methods may be subject to scrutiny by the legal profession.

Further, the profession needs to develop and support the utilization of evaluation methods (e.g., grading systems, letter of recommendation formats) that emphasize accurate portrayals of the competence of the person being evaluated. For example, the Canadian Council of Professional Psychology Programs developed guidelines for competency-based letters of recommendation to internship settings (www.ccppp.ca/en/ref-letter-guidelines.pdf) that ask the evaluator to comment on the current professional and personal skills of the student in terms of core competencies,

work skills, communication skills, other interpersonal skills, personal resources, and professional conduct. Of particular note, letter writers are expected to provide coverage on specific areas for growth and development for the internship year. Such guidelines could be encouraged for use more broadly in the U.S. and its territories, as well as for professional transitions other than the move from graduate school to internship.

Evaluators should be held responsible for how they evaluate.

RECOMMENDATIONS

In this section, we provide recommendations for implementation of strategies to enhance the assessment of competence within professional psychology.

Recommendation 1: It is recommended that there be a culture shift within the profession toward a high value on the assessment of competence across the professional life-span

The long-term goal is for a culture shift within the profession in which a high value is placed on competency assessment across the professional life-span. Subsequent recommendations are designed to support this long-term goal. After the report is revised based upon the feedback from all relevant constituency groups, we recommend that the APA Council of Representatives adopt a policy statement supporting the cultural shift as defined in this document. We encourage the CoA to adopt a policy statement that programs seeking accreditation and re-accreditation make use of professionally accepted, high fidelity, and valid assessment methodologies as they are developed to evaluate the competence of their students, interns, and postdoctoral residents. In addition, it is recommended that training programs teach and evaluate self-assessment, and that continuing professional education programs and re-certification programs include self-assessment components. Further, we recommend that institutions within the professional

community commit the necessary investment in economic and human resources to initiate a culture shift (Roberts, Borden, & Christiansen, 2005).

Recommendation 2: It is recommended that workgroups be formed to further define competencies within professional psychology and to enhance the assessment of competence within professional psychology based upon the Guiding Principles

Probably the most challenging, and yet most foundational recommendation, is that the profession develop a consensus regarding the definition of core competencies. To make progress on this task, it is recommended that workgroups be formed that include educators, trainers, credentialers, regulators, and consumers of psychology (e.g., students, public) to focus on the definition of competence within professional psychology. With regard to defining competencies, it would be useful for generic and specialty-specific foundational and functional competencies to be agreed upon and public criteria (that describe what is expected in observable terms) determined for different levels of expertise for each competency domain (benchmarks). To this end, it will be valuable to synthesize all of the prior work with regards to competencies within professional psychology, ascertain areas of agreement and disagreement, and build consensus based on this review and associated negotiations. Within each overarching foundational and functional competency domain, it will be helpful if greater specificity is determined, and this may be specialty dependent in part. Further, it will be advantageous for competencies to be defined clearly at all levels of professional development as a basis for conceptualizing and developing the valid assessment(s). In addition, it is recommended that structures be put into place to allow for the incorporation of new competencies as the field develops.

Once the competencies are well-defined, it is suggested that stakeholders and assessment experts develop consensus regarding comprehensive and effective strategies for the assessment of competence across the professional life-span. These strategies may build upon the aforementioned Guiding Principles. It is also recommended that workgroup members develop solutions to the key challenges delineated previously that are associated with the assessment of competence within professional psychology.

We recognize that it will be challenging for a diverse array of stakeholders within professional psychology to come together to develop consensus about both the overarching foundational and functional competencies, as well as the specific elements of competence within each broader rubric. Strategies from other professions for forging consensus may be useful in guiding our efforts (www.acgme.org/outcome).

Recommendation 3: It is recommended that research be conducted to facilitate the development of psychometrically sound and comprehensive assessment strategies that have appropriate levels of fidelity

The assessment of competence will be strengthened if research is conducted focused on the development of psychometrically sound and comprehensive assessment methodologies, including methods and tools for the assessment of meritorious performance and capability both within and across professional developmental stages. It is advisable that investigations be performed to ascertain the reliability, validity, utility, and cost-benefit analysis of various assessment methodologies. Studies that evaluate the level of fidelity of current assessment approaches and assessment strategies developed in the future will be useful. Assessment models from the other professions are applicable to psychology, but it is unlikely that they could be implemented in professional psychology

without some modification and pilot testing. How these models were developed, including timeframes, personnel, resources, and cost could be studied as bases for the development of new competency assessment instruments and methodologies in psychology.

Recommendation 4: It is recommended that this report be reviewed by relevant groups and recommendations instituted by these groups

Relevant groups had the opportunity to review a prior version of this report and to provide feedback. These groups include, but are not limited to: the Boards of Educational Affairs, Practice, Science, and Public Interest; the Committee for the Advancement of Professional Practice; CCTC; CoA; Committee on Continuing Education; Council of Graduate Departments of Psychology; CCOPP; and Divisions of the APA. See Appendix 3 and 4 for listing of CCTC and CCOPP member groups. Their feedback, which was coordinated by the Education Directorate and BEA, was incorporated into this final document by members of the Task Force.

We hope that groups will consider addressing some of the recommendations in this report and develop a systematic implementation plan to further move forward the agenda to create a culture of the assessment of competence within psychology. We understand that the Guiding Principles are comprehensive and will require intensive effort to enact the changes necessary for the culture of assessment.

Recommendation 5: It is recommended that collaborative models for competence assessment be developed and best practices shared with the public

The development of collaborative models for competence assessment is recommended. This likely will benefit from the formation of a strategic plan, first to

prepare the profession for competence assessment across the life-span and then to institute the implementation of this plan.

It is unrealistic to expect individual training programs to create defensible high fidelity assessments on their own, as many programs lack the expertise or resources to do so. Hopefully, funding for collaborative projects to develop methods and measures can be provided. Professional psychology is encouraged to sponsor an awards program, such as a Best Practices Award, recognizing exemplary collaborative assessment models at different levels of training and encourage consideration of their use by other programs.

In addition to collaboration among programs of similar education levels, it is imperative that there be collaboration among all agencies, both private and governmental, representing the profession in terms of producing and sustaining new assessment methods. This would help to ensure the coherence and continuity of assessment approaches across the professional life-span. Further, collaboration in the development of assessments and sharing of testing methodologies across the health professions is desirable.

Recommendation 6: It is recommended that a conference on the assessment of competence be held

A national or multi-national conference on the assessment of competence at the program level and for individuals across the professional life-span within psychology may help to advance this agenda. Best practices for the assessment of competence could be shared, as well as electronic portfolios for tracking individuals throughout their careers. Including leaders from other professions, such as medicine, nursing, or dentistry, who are experts in the assessment of competence will be essential. In addition, it would

be useful to develop some agreement regarding the developmentally-informed benchmarks, that is points of reference or indicators of competent performance across domains at different stages of professional development. Presentations by leaders in the field at such a conference can create enthusiasm for further development, recognition that there are feasible approaches, and possible implementation for attendees. A conference can be one valuable mechanism for bringing together thought leaders and key stakeholders to develop a shared perspective on effective strategies for the assessment of competence within professional psychology, as well as benchmarks for competent performance at each stage of the professional life course.

Recommendation 7: It is recommended that a web-based presentation of best practices be developed

Good multi-trait, multi-informant, multi-method assessment models in psychology already may exist that should be promulgated to the profession and new ones will be developed through collaborative processes described above (e.g., Best Practices Awards). A survey may facilitate the identification of such assessment models. A website can be created that presents good assessment models. It would be useful if compendiums of these models were developed. Thus, it is suggested that funding be secured to construct and maintain a competence assessment center website of best practices within professional psychology.

Recommendation 8: It is recommended that an assessment toolbox for professional psychology be created

It is recommended that funds be provided to support the development of a version of the “assessment toolbox” concept (Accreditation Council for Graduate Medical

Education and American Board of Medical Specialties, 2000) for professional psychology. The toolbox assessments could be geared toward the assessment of the foundational and functional competencies promulgated by the profession. These toolbox assessments optimally may be developed for use across the professional life-span. The assessment strategies used in the toolbox will incorporate the aforementioned efforts of the workgroups, collaborative projects, and research, and build upon prior efforts in psychology (www.apa.org/ed/guidehomepage.html).

Recommendation 9: Consideration needs to be given to the value, design, and implementation of planned/structured assessment of competence post-licensure

Increasingly, other health professions are instituting planned/structured assessments following initial licensure. It behooves professional psychology to consider the appropriateness, value, and cost-benefits analysis of such assessments. If such assessments are deemed warranted, it will be necessary to pay attention to developing and implementing high fidelity post-licensure assessment methods and methods that encourage self-assessment.

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APPENDIX A

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APPENDIX B								
Summary of Assessment Models								
Assessment Category	Description	Feasibility ¹	Fidelity to Practice	Use in Stages of Professional Development				
				Professional Training	Post-Doctoral Internship Residency	Licensure	Specialty Certification	Continuing Competency
Knowledge	multiple-choice, essay, short answer	\$ – \$\$\$\$\$	Low	√	√	√	√	√
Decision-Making	case-based oral	\$ – \$\$\$\$\$	Moderate	–	√	–	√	√
Performance and Personal Attributes	global ratings portfolios 360-degree evaluations	\$ – \$\$\$\$\$	Moderate	√	√	–	√	√
Integrated Assessments of Practice-Based Skills and Tasks	OSCE computer simulations standardized patient	\$\$ – \$\$\$\$\$\$	High	√	√	√	√	√

¹ Estimates based on relative expense and resources required to develop, administer and score the assessments. Each \$ represents \$50,000.

Appendix C

COUNCIL OF CHAIRS OF TRAINING COUNCILS (CCTC)

<http://www.apa.org/ed/graduate/cctc.html>

(listserv ID: CCTC@LISTS.APA.ORG)

revised: August 2005

Association of Counseling Center Training Agencies (ACCTA)
Association of Directors of Psychology Training Clinics (ADPTC)
Association of Medical School Psychologists (AMSP)
Association of Postdoctoral Programs in Clinical Neuropsychology (APPCN)
Association of Psychology Postdoctoral and Internship Centers (APPIC)
Canadian Council of Professional Psychology Programs (CCPPP)
Consortium of Combined-Integrated (C-I) Doctoral Programs in Psychology (CCIDPP)
Council of Program Directors in Community Research and Action (CPDCRA)
Council of Counseling Psychology Training Programs (CCPTP)
Council of Directors of School Psychology Programs (CDSPP)
Council of Health Psychology Training Programs (CHPTP)
Council of Postdoctoral Programs in Professional Psychology (COPPPP)
Council of University Directors of Clinical Psychology (CUDCP)
National Council of Schools and Programs of Professional Psychology (NCSPP)
VA Headquarters Psychology Training Advisory Committee
(www.avapl.org/training.html)

Appendix D
Council of Credentialing Organizations in Professional Psychology
Last revised 1/7/05

American Board of Professional Psychology (ABPP)
College of Professional Psychology (CPP)
APA Commission for the Recognition of Specialties and Proficiencies in Professional Psychology (CRSPPP)
APA Committee on Accreditation (CoA)
Association of Psychology Postdoctoral and Internship Centers (APPIC)
Association of State and Provincial Psychology Boards (ASPPB)
Canadian Psychological Association (CPA)
Canadian Register of Health Service Providers in Psychology (CRHSPP)
Council of Provincial Associations of Psychologists (CPAP)
National Register of Health Service Providers in Psychology (NRHSPP)
Council of Specialties in Professional Psychology (CoS)