Recommendations for Training in Pediatric Psychology: Defining Core Competencies Across Training Levels

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Received September 29, 2013; revisions received February 28, 2014; accepted March 4, 2014

Objective As a field, pediatric psychology has focused considerable efforts on the education and training of students and practitioners. Alongside a broader movement toward competency attainment in professional psychology and within the health professions, the Society of Pediatric Psychology commissioned a Task Force to establish core competencies in pediatric psychology and address the need for contemporary training recommendations. **Methods** The Task Force adapted the framework proposed by the Competency Benchmarks Work Group on preparing psychologists for health service practice and defined competencies applicable across training levels ranging from initial practicum training to entry into the professional workforce in pediatric psychology. **Results** Competencies within 6 cluster areas, including science, professionalism, interpersonal, application, education, and systems, and 1 crosscutting cluster, crosscutting knowledge competencies in pediatric psychology, are presented in this report. **Conclusions** Recommendations for the use of, and the further refinement of, these suggested competencies are discussed.

Key words education; pediatric psychology; professional issues; training.

Introduction

The goal of training programs in pediatric psychology is to produce graduates who can carry out high-quality professional services in the field. Although the development of training recommendations has been an ongoing process for several decades, there remains at present, limited contemporary guidance on the identification, training, and evaluation of competencies for trainees in pediatric psychology. The broader field of professional psychology has given increasing attention toward identifying core competencies in professional psychology as a response to calls across higher education for accountability and outcomes-based instruction (Fouad et al., 2009). The American Psychological Association (APA)'s Committee on Accreditation requires accredited training programs to address issues related to competency when completing a self-study and when describing components of their programs (APA, 2009). Particularly relevant to pediatric psychology, within the health professions (e.g., medicine, nursing), a large focus on competency attainment has been spearheaded by accreditation bodies to ensure that professional schools focus on the identification, training, and evaluation of important competencies (Englander et al., 2013). Thus, identifying competencies in pediatric psychology is critical for the field to keep pace with other health professions in also demonstrating accountability for learners in our own training programs. Fortunately, we are able to build on the work conducted by the APA to define and measure learning outcomes for psychologists and psychology students (Fouad et al., 2009), and tailor these recommended

Journal of Pediatric Psychology 39(9) pp. 965–984, 2014
doi:10.1093/jpepsy/jsu015
Advance Access publication April 8, 2014

competencies specifically to the training needs of pediatric psychologists.

Many different training councils and organizations have worked to articulate these competencies and a dominant conceptual framework has emerged in psychology known as the Competency Cube (Rodolfa et al., 2005). The Cube Model depicts three dimensions: (1) foundational competencies of professional psychology practice (e.g., knowledge, values, and attitudes); (2) functional competencies of professional psychology practice (e.g., areas of practice such as assessment, intervention, and research); and (3) stages of professional development (from initial entry to practicum training to readiness for entry to practice). Because these competencies are broad and pertinent to all of professional psychology, specialty areas have begun to refine and develop specialty-specific functional and foundational competencies such as for clinical health psychology (France et al., 2008; Masters, France, & Thorn, 2009), clinical child psychology (Jackson, Wu, Aylward, & Roberts, 2012), and cognitive-behavioral practice (Klepac et al., 2012). There are ongoing working groups formed through APA to address competencies specific to psychologists providing health services (APA, 2013; Health Service Psychology Education Collaborative, 2013) and psychologists in primary care (Competencies for Psychology Practice in Primary Care Report of the Interorganizational Work Group on Competencies for Primary Care Psychology Practice, 2013). Research-based competencies in pediatric psychology have also recently been proposed (Madan-Swain et al., 2012).

This movement toward operationalizing professional competency attainment is not unique to psychology; as mentioned, there has been a recent transformation of health professional education involving a wide range of organizations performing training, accreditation, and licensing of health professionals. Several cross-disciplinary efforts to articulate core competencies for all health professionals have arisen. For example, the Interprofessional Education Collaborative has published a report of core competencies for interprofessional collaborative practice (Interprofessional Education Collaborative Expert Panel, 2011) intended to be obtained through interprofessional education.

History of Training Models in Pediatric Psychology

> Pediatric psychology is a multidisciplinary field of both scientific research and clinical practice which attempts to address the psychological aspects of illness, injury, and the promotion of health behaviors in children, adolescents, and families in a pediatric health setting. Psychological issues are addressed in a developmental framework and emphasize the dynamic relationships which exist between children, their families, and the health delivery system as a whole (Aylward, Bender, Graves, & Roberts, 2011, p 3).

The Society of Pediatric Psychology (SPP) was established in 1969, and became its own Division (Division 54) of the APA in 2000. Although the field of pediatric psychology has a relatively long history, pediatric psychology is not a licensed term for scope of professional practice in any state, province, or territory; moreover, pediatric psychology is not one of the recognized specialties of the Commission for the Recognition of Specialties and Proficiencies in Professional Psychology. However, because pediatric psychology is a defined field, articulating the core competencies needed by learners in the field is important. At the graduate level, tracks within training programs exist to provide training in pediatric psychology, while at the internship and postdoctoral level of training, focused pediatric psychology training programs are available. Critical to the mission of SPP since its inception has been the education and training of students and practitioners. There has been enduring interest in appropriate training in the field, as demonstrated by numerous published survey results and descriptions of training models and recommendations for training in pediatric psychology (Drotar, 1975; La Greca, Stone, Drotar, & Maddux, 1988; La Greca, Stone, & Swales, 1989; Routh, 1977, 1988; Spirito et al., 2003; Tuma, 1980; Tuma & Grabert, 1983). As noted by Aylward et al. (2009, p. 11), "the development and refinement of several sets of training recommendations targeting professionals who work with children, adolescents and their families (La Greca & Hughes, 1999; Roberts et al., 1998; Roberts, Erickson, & Tuma, 1985) provides a groundwork for understanding part of the professional development of pediatric psychologists." Although there is clearly no single path to becoming a pediatric psychologist, many of these documents provide recommendations for the types of varied training experiences deemed most crucial in preparing graduate students, interns, and postdoctoral fellows for entry into the professional workforce as a pediatric psychologist.

Over a decade ago, the SPP Task Force on Recommendations for Training of Pediatric Psychologists (Spirito et al., 2003) provided an overview of the critical knowledge and training experiences important to the development of competency in pediatric psychology. The 12 topic areas included (1) life span developmental

psychology; (2) life span developmental psychopathology; (3) child, adolescent, and family assessment; (4) intervention strategies; (5) research methods and systems evaluations; (6) professional, ethical, and legal issues; (7) diversity; (8) role of multiple disciplines in service delivery systems; (9) prevention, family support, and health promotion; (10) social issues affecting children, adolescents, and families; (11) consultation and liaison roles; and (12) disease process and medical management. Each area was briefly described and recommendations for obtaining training in these areas were offered. These recommendations expanded on those of Roberts et al. (1998) for clinical child psychology by identifying areas unique to the training of pediatric psychologists. Although the document provided a comprehensive review of the ideal types of training experiences most important in developing competencies in pediatric psychology, the document did not outline the specific competencies that were necessary for optimal functioning as a pediatric psychologist. Moreover, over the past 10 years since the Task Force published their report, there have been significant changes in health-care delivery, necessitating a contemporary examination of pediatric psychology education and training.

Charge of the Task Force

At the SPP Board of Directors meeting during the 2012 APA conference, a Task Force on Competencies and Best Training Practices in Pediatric Psychology was established to address the need for contemporary training recommendations in pediatric psychology, and specifically to establish core competencies.[1] Tonya Palermo and David Janicke were appointed as co-chairs of the Task Force. The Task Force members were selected to obtain a breadth of experiences across different types of training settings and to include a range of levels of experience from current postdoctoral trainees to senior-level supervisors. Volunteer members of the Task Force included Elizabeth McQuaid, Larry Mullins, Paul Robins, and Yelena Wu. Task Force members conducted their work using conference calls and electronic mail. First, members reviewed the literature specific to psychology, graduate medical education, and interprofessional competencies. The intent was to make use of available models for defining professional competence within professional psychology (Fouad et al., 2009), clinical child psychology (Jackson et al., 2012), clinical health psychology (France et al., 2008; Masters et al., 2009), and medical education (Batalden, Leach, Swing, Dreyfus, & Dreyfus, 2002), but then to tailor competencies specifically for pediatric psychology education and training. The Task Force adopted a framework based on competency models in professional psychology.

Specifically, the Task Force tailored the framework proposed by the Competency Benchmarks Work Group and used by others (Hatcher et al., 2013). The Benchmarks document focuses on preparing for health service practice, which the Task Force considered most relevant to pediatric psychology. Third, each member of the Task Force was assigned a competency cluster area and articulated competency domains and behavioral anchors for each. Drafts of these documents were reviewed by the entire Task Force and revised based on Task Force member feedback. This document was then presented to the SPP Board of Directors at the 2013 Mid-Winter Meeting, and the document was again revised based on feedback received from the Board.

General Competencies for Professional Psychology

In developing the competencies for pediatric psychology, the Task Force used the general competencies for professional psychology as articulated in the Benchmarks Model (Hatcher et al., 2013) and the competencies for psychologists as Health Service professionals (Health Service Psychology Education Collaborative, 2013) as the expected general background training to be targeted within curricula for broad, graduate-level psychology training. These include such components as professional values and attitudes, reflective practice and self-care, interpersonal competence, interdisciplinary systems, leadership, and advocacy. Thus, these general competencies serve as a broad-based foundation, and the Task Force focused on developing competencies that build further on these for the specific training of the pediatric psychologist. Moreover, the Task Force assumed that pediatric psychologists come from different graduate training programs in clinical, counseling, and school psychology (as examples) and thus a uniform training experience would not be possible. Finally, given the interdisciplinary nature of pediatric psychologist's practice and research, the Task Force believed it was important to align with cross-disciplinary efforts to articulate core competencies for all health professionals. As such, language was made consistent with competencies outlined by the Accreditation Council for Graduate Medical Education (ACGME; Batalden et al.,

[1] The ideas expressed in this document reflect the perspective of the authors and the Division 54 Task Force and do not constitute policy of the American Psychological Association.

2002) and for interprofessional collaborative practice (Interprofessional Education Collaborative Expert Panel, 2011) where possible.

How the Competencies Should Be Used and By Whom

The competencies presented in this document should be viewed as *recommendations* designed to identify the training needs of pediatric psychologists. Similar to sentiments expressed by Spirito et al. (2003), we expect that training directors of graduate, internship, or postdoctoral child and pediatric psychology programs may use these recommendations as they set goals and refine and develop curricula (e.g., training experiences, courses). This document may be useful in helping students evaluate the training experiences available in graduate or postdoctoral training programs so that they may select programs that best facilitate the development of these recommended competencies. Current practitioners can use these recommendations to assess their own skills and to select continuing education experiences that promote lifelong learning and competent practice. These competencies may also be used to help employers or licensing or credentialing boards evaluate applicants' training backgrounds (Roberts et al., 1998). Ideally, these recommendations will assist other health-care professionals in understanding the type of skills and competencies that fall under the purview of a pediatric psychologist (Spirito et al., 2003). Through each of the previously listed audiences, this document is intended to protect children, adolescents, and their families by outlining the fundamental competencies that are recommended for quality practice as a pediatric psychologist (Roberts et al., 1998). Finally, we hope this document will stimulate ongoing discussion about the essential competencies for pediatric psychologists, as well as best education and training practices to help facilitate competency development.

Defining Competencies

Competencies were tailored for pediatric psychology education and training using six competency cluster areas (Hatcher et al., 2013), and articulating domains and behavioral anchors relevant to pediatric psychology within each cluster. Using the structure provided by Fouad et al. (2009), specific examples of measurable behaviors that would demonstrate competence at different training levels were developed. These are referred to as "behavioral anchors" and can be considered developmental milestones that reflect increasing levels of expertise and independence. Examples of behavioral anchors corresponding to competencies across training levels are provided within each cluster. These are not intended to be exhaustive lists of all behavioral anchors within each cluster, but rather to illustrate progression of a competency as training advances.

Three developmental/training periods are considered in this document to align with those used by APA in the Competency Benchmarks document (Fouad et al., 2009) that refer to readiness at different developmental levels: readiness for initial practicum training, readiness for internship, and readiness for practice. These training periods roughly map onto (1) early graduate training, (2) end of graduate training, and (3) end of internship or postdoctoral training. Although a postdoctoral fellowship is not mandatory for licensure in every state, we acknowledge that in many cases it is necessary preparation for entry into the workforce. We want to highlight that not all trainees will have exposure to pediatric psychology experiences at each of these developmental periods and thus may not gain competencies in pediatric psychology at an even pace throughout their training. We would underscore that there are a number of paths to becoming a pediatric psychologist. For example, a large portion of pediatric psychology-specific competencies may be acquired during postdoctoral training for some individuals.

Summary of Competency Cluster Areas

The Task Force used the six cluster areas identified in the Benchmarks document (Hatcher et al., 2013), including science, professionalism, interpersonal, application, education, and systems. One additional cluster was defined by the Task Force to highlight specialized knowledge, which is referred to as crosscutting knowledge competencies in pediatric psychology.

Crosscutting Knowledge Competencies in Pediatric Psychology

A core set of knowledge within the field of pediatric psychology was considered necessary to achieve specialized competence in pediatric psychology. Table I presents the 10 crosscutting knowledge competencies. These competencies represent recommended background for pediatric psychologists across a diversity of settings, roles, and responsibilities and would be desirable to be obtained by the end of training when the individual is ready to enter the professional workforce as a pediatric psychologist. In addition to understanding the scientific foundation underlying the practice of pediatric psychology, a foundation in

Table I. *Crosscutting Knowledge Competencies in Pediatric Psychology*

1.1. Values and understands the scientific foundation underlying the practice of pediatric psychology
1.2. Has a strong foundation in clinical child psychology including an understanding of normative, adaptive, and maladaptive child emotional, cognitive, social, and behavioral development in the larger context of developmental expectations and caregiver behavior (i.e., family, schools, peers)
1.3. Has knowledge of biological, cognitive, social, affective, sociocultural, and life span developmental influences on children's health and illness, including mechanistic and mediational pathways
1.4. Understands pediatric acute and chronic illness, injury conditions, and medical management from the medical literature, including the effects of disease process and medical regimen on child emotional, cognitive, social, and behavioral development
1.5. Has knowledge of the role and effect of families on children's health, and of health, illness, and medical management on family functioning
1.6. Has knowledge of the effect of socioeconomic factors on health and illness, including issues associated with access to care, diversity, and health disparities in children
1.7. Understands how other systems (e.g., school, health care, state and federal policies) affect pediatric health and illness and a child's adaptation to illness
1.8. Understands the roles of other disciplines in health service delivery systems
1.9. Appreciates the function of health information technology in children's health care
1.10. Has knowledge of the transition of pediatric patients to adulthood and adult-oriented health care

clinical child psychology was also considered necessary. As previously noted by Spirito et al. (2003), pediatric psychologists need an understanding of normative, adaptive, and maladaptive child emotional, cognitive, social, and behavioral development in the larger context of developmental expectations and caregiver behavior (i.e., family, schools, peers) in line with the model for training psychologists to work with children and adolescents (Roberts et al., 1998). Moreover, across all types of professional practice in pediatric psychology, an understanding of pediatric acute and chronic illness, injury conditions, and medical management, including the effects of disease processes and medical regimens on child emotional, cognitive, social, and behavioral development, will be important. Knowledge of issues pertaining to diversity, access to care, and health disparities is considered critical for the pediatric psychologist to recognize in their professional practice. Recognizing the important role of families and other systems (e.g., school) on children's health, several competencies address knowledge of the relationship between children's health and illness and these systems. In addition, pediatric psychologists will benefit from having knowledge of issues relevant to the transition of pediatric patients to adulthood and adult-oriented health care.

In concert with ongoing changes in health service delivery, knowledge competencies also focus on pediatric psychologists' understanding of the roles of other disciplines in health service delivery systems and of the function of health information technology. These knowledge-based competencies are essential for practice and leadership within hospital-based settings and within accountable care organizations. Although pediatric psychologists have historically functioned alongside physician colleagues in medical teams (Opipari-Arrigan, Stark, & Drotar, 2006; Stabler & Mesibov, 1984), a new level of integration, communication, and shared decision-making within and outside of a medical setting will be expected in the future. Pediatric psychologists will benefit from understanding interprofessional teams and team approaches to both maintenance of health and prevention of disease (Rozensky & Janicke, 2012). Working in interprofessional medical teams also requires an understanding of information technology, including its use for health communication in clinical practice and its use in clinical outcomes research.

Science

Pediatric psychology has a strong foundation in science. Over the decades, the specialty has been built around meaningful scientific contributions ranging from descriptions of the specialized nature of professional practice and delivery of clinical services to sophisticated research methodology and clinical trials. Research training has been considered an essential aspect of professional education and competency attainment in pediatric psychology (Madan-Swain et al., 2012; Spirito et al., 2003). As shown in Table II, four competency domains in science relevant to pediatric psychology were identified, including research and evaluation methodology, ethical conduct of research with children, interdisciplinary research, and dissemination and knowledge transfer.

Research and evaluation methodology refers to the range of methodological approaches characteristic of pediatric psychology research. For example, the first applied competency is learning to conduct pediatric psychology research in multiple settings (e.g., medical, home, school) applying sound research methodology, data collection techniques, and data analytic approaches. This may include experience with single-case subject designs, health services and public health research approaches, randomized controlled trials, qualitative research methods, program evaluation and quality improvement, and

Table II. *Cluster: Science*

Domains	Applied competencies
A. Research and evaluation methodology	2.1.A. Conducts pediatric psychology research in multiple settings (e.g., medical, home, school) applying sound research methodology, data collection techniques, and data analytic approaches 2.2.A. Effectively uses research skills to evaluate practice, intervention, and program outcomes and processes in community-based and health-care settings 2.3.A. Acquires familiarity with clinical trial methodology and reporting, systematic reviews, and search strategies to enable conduct of research to inform evidence-based practice 2.4.A. Acquires familiarity with methods of intramural and extramural funding for pediatric psychology research
B. Ethical conduct of research in children	2.1.B. Understands and applies local and federal regulations for the protection of children involved as subjects in research 2.2.B. Understands and appropriately handles ethical issues relating to interdisciplinary research in pediatric populations
C. Interdisciplinary research	2.1.C. Functions within interdisciplinary research teams to address diverse research questions in pediatric psychology
D. Dissemination and knowledge transfer	2.1.D. Develops and uses effective strategies to translate research findings to multiple audiences such as other psychologists, medical professionals, patients, community providers, media, funding agencies, and policy and decision makers

Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:
• Effectively organizes and implements participant recruitment and data collection with supervision • Demonstrates understanding of literature searches and systematic review methodology • Demonstrates basic understanding of how cultural diversity and developmental issues affect research outcomes • Demonstrates basic understanding of the treatment of human subjects and how to develop protocols for institutional review boards • Contributes to the preparation of scientific abstracts and manuscripts • Demonstrates understanding of the role of research funding in advancing the science of pediatric psychology	• Effectively designs approaches or hypotheses to be tested and methodology to be used; analyzes data and develops conclusions using accepted research methodologies • Reviews the literature using rigorous systematic review methodology • Effectively handles ethical and safety issues that arise in carrying out research • Presents research findings effectively in professional forums (e.g., published manuscripts, oral presentations at conferences) • Participates in interdisciplinary research teams • Demonstrates understanding of basic components and aspects of writing grant applications	• Effectively uses research methodologies characteristic of pediatric psychology research (e.g., single-case designs, randomized controlled trials, qualitative research methods, longitudinal studies) • Conducts research to inform evidence-based practice using rigorous systematic review or clinical trial methodology • Designs research protocols that address issues of diversity • Teaches ethical principles to research staff and students on associated research projects • Effectively presents and tailors research findings to various groups • Leads interdisciplinary research teams • Prepares grant applications for funding research

prospective longitudinal studies. Research and evaluation also requires knowledge of the broad range of assessment and measurement approaches pertinent in the field and the ability to take into account children's developmental status, culture, illness, and context in the choice of measures. Reflecting the strong focus in the field on clinical interventions, another applied competency is to effectively use research skills to evaluate practice, intervention, and program outcomes and processes in community-based and health-care settings. Moreover, the pediatric psychologist is in an important position to contribute to research to inform evidence-based practice. Familiarity with clinical trial methodology and reporting, search strategies, and systematic reviews (as examples) are important value-added experiences. Finally, competency attainment in research evaluation and methodology includes acquiring familiarity

with methods of intramural and extramural funding for pediatric psychology research, including practical experience in preparing grant applications.

Science competencies could be achieved through coursework (e.g., research methodology) and hands-on research experiences. At the practicum level, the graduate student may learn to effectively organize and implement participant recruitment and data collection through work in a mentor's laboratory. By the end of graduate training, the trainee is expected to demonstrate the ability to propose hypotheses to be tested using effective approaches and methodology (such as through dissertation research). At the end of training, the psychologist is expected to have developed competency in research evaluation and methodology that would enable him or her to independently analyze data and develop conclusions using accepted research methodologies. Competencies in conducting research that informs evidence-based practice are acquired through exposure to rigorous systematic review and clinical trial methodology during graduate training. By the time of entry into the workforce, the pediatric psychologist demonstrates the ability to independently conduct a systematic review or clinical trial using rigorous methdology.

Another specialized competency in research with children and important in the scientific training of pediatric psychologists is the ethical conduct of research with children. This involves understanding and applying local and federal regulations for the protection of children involved as subjects in research as well as appropriately handling ethical issues relating to interdisciplinary research in pediatric populations. This may be demonstrated at the beginning level of training as having a basic understanding of the treatment of human subjects acquired through relevant coursework as well as practical experiences learning how to develop protocols for institutional review and ethics boards. By entry into practice, progression along this competency may be demonstrated by the psychologist effectively teaching ethical principles to research staff and students on associated research projects.

Competency in science for the pediatric psychologist also includes solid experience and training in interdisciplinary research. This requires specifically learning to function within interprofessional research teams to address diverse research questions. Interdisciplinary research may involve collaborating with other disciplines, such as pediatric subspecialties, nursing, anesthesiology, epidemiology, biostatistics, and computer science. At the beginning level of training, the graduate student may acquire competence through participation in research didactics offered by other disciplines (e.g., work-in-progress seminars) to learn conventions and methods used in other fields and by participation on interprofessional research teams. Over time, competency in this area will be demonstrated at entry into the workforce with the psychologist leading interprofessional research teams.

Students in pediatric psychology attain competency in science through developing skills in dissemination and knowledge transfer of research findings, such as oral and written communication and community outreach activities. This includes developing and using effective strategies to translate research findings to multiple audiences. At the practicum level of training, the graduate student may demonstrate competency through contributing to the preparation of scientific abstracts and manuscripts. Over the course of training and at the level of entry into practice, competency is demonstrated through ability to effectively present and tailor research findings to various groups such as other psychologists, medical professionals, patients, community providers, media, funding agencies, and policy and decision makers.

Professionalism

Competencies in professionalism are of high importance, given that pediatric psychologists typically interface not only with patients and families but also with other health-care professionals with varying backgrounds and expertise. As indicated in Table III, the professionalism cluster includes competency domains of professional values and attitudes, individual and cultural diversity, ethical, legal standards and policy, and reflective practice/self-assessment/self-care. Professional values and attitudes include interacting with patient and research populations with professionalism and appropriate boundaries. Working effectively and in a professional manner with colleagues from a range of health-care disciplines such as nursing, social work, pediatrics, and medical specialties is also critical. Engaging in opportunities to refine and develop skills in psychological intervention is important; however, gaining knowledge in areas of medicine relevant to patient populations is highly desirable. In early training, professionalism is evidenced through professional appearance and behaviors such as keeping appointments and demonstrating awareness of appropriate professional boundaries. Ultimately, the trainee will be able to present and tailor information to a range of groups, including families, other health-care professionals, and lay audiences. As skills build through internship and in preparation for professional practice, pediatric psychology trainees will develop competencies that will enable them to function as leaders of interprofessional teams, and serve as role models for others in their professional demeanor and interactions.

Table III. *Cluster: Professionalism*

Domains	Applied competencies
A. Professional values and attitudes	3.1.A. Exhibits professionalism in interactions with patients, research participants, and their families 3.2.A. Provides clinical care to children and families, implementing appropriate personal boundaries 3.3.A. Works effectively with colleagues from other disciplines (e.g., nursing, pediatrics, social work) to maintain a climate of mutual respect and shared values 3.4.A. Utilizes ongoing educational opportunities that are provided (e.g., seminars, lectures, grand rounds, workshops) to gain greater knowledge regarding the professional practice of pediatric psychology, and the areas of medicine relevant to pediatric psychology
B. Individual and cultural diversity	3.1.B. Works effectively with diverse patients and families, as well as diverse professionals (e.g., age, gender, race/ethnicity, socioeconomic background) in providing and coordinating care
C. Ethical, legal standards, and policy	3.1.C. Applies professional standards associated with practice in pediatric care settings 3.2.C. Applies the local mental health laws and APA guidelines regarding the rights of children and caregivers especially pertinent to pediatric psychology practice
D. Reflective practice/self-assessment/self-care	3.1.D. Engages in reflective practice conducted with personal and professional self-awareness, including attention to one's health behaviors and reactions to working with children and families under stress 3.2.D. Conducts self-assessments to continuously improve services offered

Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:
• Consistently keeps appointments with supervisors, patients, and other professionals • Presents with an appropriate demeanor and appearance • Demonstrates understanding of the importance of appropriate professional boundaries regarding contact with patients and families • Becomes familiar with the local mental health laws and ethical issues relating to clinical work in pediatric psychology (e.g., disclosure of child private health information, medical decision-making involving multiple family members) • Assesses how patient and provider individual and cultural diversity (e.g., race/ethnicity, age, sex, sexual orientation, disability status) may affect the delivery and receipt of healthcare services • Acknowledges how personal experiences and attitudes may play a role in clinical service delivery	• Applies local mental health laws and APA guidelines regarding the rights of children and their caregivers when making decisions regarding medical care or disclosure of private child health information (e.g., sexual risk behavior, substance use, pregnancy, HIV status) • Works effectively with diverse clients and families, as well as diverse professionals (e.g., race/ethnicity, age, sex, sexual orientation, disability status) in providing and coordinating care • Engages in self-reflection regarding attention to personal experience, attitudes, and health behaviors, and how those may affect clinical service	• Effectively presents and tailors clinical information to a range of individuals (children, parents, other health professionals, lay audiences) • Leads interprofessional teams providing health and behavioral health services to children and families • Teaches students and trainees regarding local mental health laws and ethical issues relating to clinical work in pediatric psychology • Educates others regarding issues relating to work with diverse clients and families (e.g., race/ethnicity, age, sex, sexual orientation, disability status) in providing and coordinating care • Models appropriate professional boundaries and behavior for trainees and other professionals • Conducts ongoing self-reflective practice regarding one's own health behaviors and reactions to working with children and their families under conditions of acute and chronic stress • Participates in continuing education focused on pediatric psychology

With the increasing diversity of the demographics of the United States, competencies in the area of individual and cultural diversity assume great importance. Pediatric psychologists are motivated to work effectively with diverse patients and families, and have awareness of issues relating to racial/ethnic diversity, age, sex, sexual orientation, and disability status. In early training, graduate students will learn to consider how patient and provider individual and cultural diversity may affect the therapeutic relationship as well as the delivery and receipt of health-care services. As skills build through graduate school and toward readiness for internship, trainees will develop competencies in working effectively with a range of diverse patients and families in providing and coordinating care. At the readiness for entry to practice level, the psychologist will be able to serve as a model and provide education for others regarding how diversity plays a role in the provision of care.

Building competencies toward effective application of ethical and legal standards and policy is also a core component of developing professionalism in pediatric psychology. Early in graduate school, this is demonstrated by students becoming familiar with ethical and legal issues and local mental health laws relating to clinical work in pediatric psychology. As training progresses toward readiness for internship, trainees will demonstrate application of local mental health laws and APA guidelines in clinical practice, such as considering the rights of children and caregivers in medical decision-making (e.g., consent for procedures and end-of-life decisions), and disclosure of private health information. By the end of training, pediatric psychologists will serve as teachers and role models regarding ethical and legal professional standards and their application to clinical practice.

Reflective practice, self-assessment, and self-care have also emerged as important areas of professional development among psychologists (Fouad et al., 2009). For pediatric psychologists, this can be conceptualized as ongoing efforts toward personal and professional self-awareness, including consideration of one's own health behaviors, and attention to one's own reactions to working with children and families under stress. For graduate students, behavioral competencies include increasing ability for self-reflection regarding how one's own experience, attitudes, and health behavior patterns may affect clinical service delivery (e.g., case conceptualization, treatment priorities). By the end of training, pediatric psychologists will demonstrate ongoing self-reflective practice regarding the interface between their own development and the services they provide. This may include self-assessment of areas in need of professional or personal development, as well as participation in continuing education opportunities to promote lifelong learning.

Interpersonal

Interpersonal skills are critical to almost all of a pediatric psychologist's activities, ranging from clinical service development and delivery, to interdisciplinary teamwork, to research, to policy work. As shown in Table IV, the interpersonal cluster includes communication and relational domains. The communication domain comprises the pediatric psychologists' ability to communicate effectively and problem-solve with the many different individuals and systems encountered in the course of their work (APA, 2013; Masters et al., 2009; Spirito et al., 2003). While the types of individuals and systems may differ between psychologists and the demands of their particular setting and role, commonly these include patients, families, other health-care professionals, schools, religious organizations, governmental organizations, and research collaborators.

The relational domain includes applied competencies related to the team-based approach pediatric psychologists take in their work and the strategies pediatric psychologists use to develop and maintain productive and efficient relationships and interactions with others (Spirito et al., 2003). One applied competency is the pediatric psychologist's efforts to support team-based approaches to promoting health. For example, a pediatric psychologist may seek consultation and collaboration with a patient's other health-care providers to coordinate a patient's clinical care. A second applied competency within this domain is the pediatric psychologist's ability to develop and maintain relationships with all individuals and systems encountered. For instance, a pediatric psychologist might work with a patient's school to implement a stepped academic re-entry after hospitalization and maintain regular contact with school staff to monitor the patient's progress and problem-solve new issues. The third applied competency is the pediatric psychologist's ability to effectively manage challenging relationships and interactions so that the larger goals of the psychologists or team's work can still be achieved. This may involve use of problem-solving or mediation skills.

At the early stages of training, trainees will work toward an understanding of the rationale for using different communication strategies and taking a team approach to pediatric health. Trainees will also learn to recognize challenging relationships and interactions and have initial exposure to the variety of strategies that can be used to manage these challenging relationships. When a trainee advances toward internship, the trainee will demonstrate

Table IV. *Cluster: Interpersonal*

Domains	Applied competencies		
A. Communication	4.1.A. Uses and facilitates accurate, clear, and effective communication with and between patients, their families, other health-care professionals, community institutions, and systems involving the patient		
B. Relational	4.1.B. Supports a team approach to the maintenance and promotion of health and treatment of disease 4.2.B. Develops and maintains relationships with patients, their families, other professionals, communities, and other systems involving patients 4.3.B. Effectively manages challenging relationships and interactions		
Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:	
• Demonstrates understanding of the rationale for promoting effective communication with and between patients, families, other professionals • Demonstrates understanding of basic components of effective written and oral formats of communication • Understands the rationale for a team approach to care • Recognizes a challenging clinical or professional relationship and understands strategies for addressing such relationships	• Understands ways to tailor communication strategies to different patients, families, professionals, and across situations • Demonstrates developing skills in effective written and oral forms of communication • Demonstrates understanding of psychologists' and other professionals' unique roles on health-care teams • Uses strategies to promote team approaches to care • Develops productive working relationships with patients, families, other professionals	• Provides written and oral communication that facilitates collaboration with patients, families, other professionals • Effectively facilitates communication between patients, families, other professionals • Provides consultation to patients, families, other professionals tailored to their needs and understanding • Integrates knowledge of team organization, relevant systems and policies, and relationship-building principles to promoting effective relationships among teams • Uses effective strategies to manage challenging relationships	

developing skills in implementing communication strategies tailored to particular individuals, contexts, and forms (i.e., written vs. oral); promoting team approaches to care; and developing productive relationships with others. As an example, a trainee may demonstrate an ability to tailor an explanation of a child's assessment results for the family versus another health-care provider. By the end of training, the psychologist demonstrates well-developed abilities to effectively communicate across individuals, systems, and settings by tailoring communications to the other's needs, understanding, and preferences. In addition, the pediatric psychologist initiates relationship-building with others to promote team-based approaches to care and uses a variety of effective strategies to manage challenging relationships and interactions. For instance, the pediatric psychologist is able to manage his/her reactions to challenging interactions with team members, patients, and families so that clinical care continues to be maximally effective.

Application

Application includes those competency domains pertinent to a pediatric psychologist's clinical practice, including evidence-based practice, assessment, intervention, and consultation. Within the Cube Model (Rodolfa et al., 2005), these competencies are within the functional competencies domain, that is, the major functions a psychologist is expected to perform (Fouad et al., 2009). Evidence-based practice is a guiding principle of the discipline of psychology, and within clinical psychology, has been designated as a process of clinical decision-making that integrates research evidence, clinical expertise, and patient preferences and characteristics (Spring, 2007). As mentioned in the science cluster, pediatric psychologists have training needs in the areas of clinical trial methodology and reporting, systematic reviews, and search strategies to enable conduct of research to inform practice. In addition, for the pediatric psychologist to contribute to evidence-based practice, training is needed in measuring patient preferences, and acquisition of clinical skills to perform empirically supported or evidence-based treatments. This relationship is stressed throughout the development of the pediatric psychologist, from basic knowledge of the value of evidence-based practice within practicum experiences, to the application and later independent application of skills to perform evidence-based practice by the end of training.

An essential clinical function of pediatric psychologists is the biopsychosocial assessment of children to better understand their coping and adaptation to health. This assessment occurs in the context of a child's development, as well as family, school, health, and community systems. As can be seen in Table V, assessment competencies include the selection, administration, scoring, and interpretation of data relevant to a child's health and developmental status, and the effective communication of assessment results across a wide variety of professionals involved in a child's care. Readiness for practicum implies a basic understanding of how to select, administer, and score evidence-based assessment tools, while entry to practice includes incorporating the independent practice of assessment across both commonly occurring as well as atypical case presentations.

Pediatric psychologists provide effective intervention to individuals, families, and health-care teams and systems to improve the health of children, youth, and families. They use biopsychosocial treatment models; treatment planning, case conceptualization, health promotion, and prevention are applied to a wide variety of health concerns. The recursive relationship between clinical expertise and best available research is recognized across context, including patient illness, culture, and preferences. Intervention competencies progress from more basic knowledge of health and behavior strategies at a practicum level, to empirically grounded, highly integrative, and adaptive interventions at entry to practice.

Consultation is a core pediatric psychology clinical activity directed toward improving health and behavior. It involves effectively working with health-care professionals across disciplines (e.g., pediatrics, nursing) as well as systems (e.g., health care, school, family, and social welfare) to improve the provision of services to identified patients, typically through responding to specific referral questions. The pediatric psychologist as consultant fulfills a variety of roles, including translating and communicating relevant clinical findings in response to a wide range of consultation-liaison questions that emerge in the course of child, family, and health-care team response to illness and coping. Over the course of their development, trainees are increasingly able to determine situations that require different role functions and shift roles accordingly to meet referral needs.

Education

A core professional activity of the pediatric psychologist is to provide education, teaching, and supervision of psychologists and other health professionals. As shown in Table VI, the education cluster includes two competency domains: teaching and supervision. Teaching encompasses the applied competencies of applying teaching strategies that demonstrate understanding of the knowledge, skills, and competencies required to be a pediatric psychologist. A second applied competency is to provide education and training to psychologists, other health-care professionals, and trainees on pediatric psychology approaches and biological, cognitive, affective, sociocultural, and life span developmental influences on children's health and illness. The third applied competency is to model and encourage commitment to the profession through professional conduct and integration of ethical principles. Teaching may occur in formal ways such as through lecturing in undergraduate, graduate, and medical school courses on approaches to diagnosis, treatment, and research in child health and illness. Education and teaching may also occur in other ways, such as creating novel clinical service programs, contributing to clinical practice guidelines, or contributing to hands-on training and supervision in the conduct of research in pediatric psychology.

At the beginning level of training, a trainee may obtain membership in pediatric psychology and child health-related organizations to become familiar with professional issues in the field. At readiness for internship, the trainee demonstrates the ability to teach principles of pediatric psychology within formal or informal venues (e.g., undergraduate lectures, discussion sections). At the readiness for entry to practice level, the psychologist will be able to provide education, skill development, and training in pediatric psychology for trainees from a variety of disciplines.

Although related to teaching, supervision is a distinct construct that is considered a vital component of professional training in psychology. Supervision has been defined as "the formal provision, by approved supervisors, of a relationship-based education and training that is work-focused and which manages, supports, develops and evaluates the work of colleagues..." (Milne, 2009, p. 15). Supervision is important within all of professional psychology and is mandated in training for some types of doctoral training in psychology. Supervision serves the function of monitoring the patient and evaluating supervisee competence, supporting the supervisee's personal and professional well-being, and educating and guiding the supervisee's professional practice (O'Donovan, Halford, & Walters, 2011). Supervision processes, such as use of role-play and modeling, are important to consider, as they may influence implementation of evidence-based practice (Bearman et al., 2013). Supervision includes the ability to outline competency expectations for pediatric psychologists and to regularly provide feedback to trainees on progress. In addition, competency in supervision includes

Table V. *Cluster: Application*

Domains	Applied competencies
A. Evidence-based practice	5.1.A. Applies the concept and value of evidence-based practice and its role in scientific and applied psychology
B. Assessment	5.1.B. Flexibly uses multiple methods of assessment to address presenting concerns in ways that are responsive and respectful of the diverse needs of children, caretakers, family, and referral sources 5.2.B. Effectively assesses biopsychosocial, developmental, environment, and family systems factors that can impact children's coping and adaptation to health 5.3.B. Selects, administers, scores, and interprets biopsychosocial and cognitive assessment tools appropriate to the child's developmental level and health concern for various purposes 5.4.B. Effectively communicates the results of assessments in written and verbal form appropriately tailored for various consumers (e.g., patients, other medical professionals) and professional contexts (e.g., team meeting, disability evaluation, family meeting)
C. Intervention	5.1.C. Demonstrates treatment planning skills, including case conceptualization, appropriate to the health concern and developmental status of the patient and family 5.2.C. Implements evidence-based biopsychosocial treatment interventions to support overall treatment goals 5.3.C. Implements evidenced-based wellness, health promotion, and prevention interventions appropriate to the health concern 5.4.C. Effectively communicates about progress/treatment updates in written and verbal form appropriately tailored for various consumers (e.g., patients, other medical professionals) and professional contexts (e.g., team meeting, family meeting) 5.5.C. Integrates best available research with clinical expertise in the context of patient illness, characteristics, culture, and preferences
D. Consultation	5.1.D. Provides consultative/liaison services to health-care professionals across disciplines and systems related to health and behavior 5.2.D. Translates and communicates relevant clinical findings as they bear on health-care consultation/liaison questions

Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:
• Demonstrates basic knowledge of the value of evidence-based practice and its role in scientific psychology • Understands the different components of a comprehensive biopsychosocial interview with patient and relevant caretakers • Demonstrates understanding of importance of conducting brief, targeted assessments with patient and relevant caretakers to evaluate biological, psychosocial, and physical health functioning • Demonstrates basic understanding of how to select, administer, and score evidenced-based assessment tools appropriate for the patient for the purpose of case conceptualization, treatment planning, monitoring and evaluating treatment outcomes, and facilitating referrals • Demonstrates basic case conceptualization and treatment planning skills • Demonstrates basic knowledge of health and behavior intervention strategies • Demonstrates exposure level awareness of the pediatric psychologist's consultant's role, including features distinguished from other professional roles in a health-care setting	• Applies knowledge of evidence-based practice, including empirical bases of assessment, intervention, and other psychological applications with moderate supervision • Conducts a comprehensive biopsychosocial interview with patient and relevant caretakers to evaluate biological and psychosocial functioning related to the presenting health concern across commonly occurring case presentations • Conducts brief, targeted assessments with patient and relevant caretakers to evaluate biological and psychosocial functioning related to physical health or illness/injury with moderate supervision • Selects, administers, scores, and interprets evidence-based assessment tools appropriate for the patient for the purpose of case conceptualization, treatment planning, monitoring and evaluating treatment outcomes, and facilitating referrals across commonly occurring case presentations with moderate supervision • Demonstrates case conceptualization and treatment planning that are theoretically grounded and evidence-based • Implements evidence-based health and behavior interventions • Demonstrates knowledge of the pediatric psychologist consultant's role and its unique features as distinguished from other professional roles (such as therapist, supervisor, teacher) • Informs consultee of assessment findings in health-care settings with moderate supervision	• Independently applies knowledge of evidence-based practice, including empirical bases of assessment, intervention, and other psychological applications, clinical expertise, and client preferences • Independently conducts comprehensive biopsychosocial interview with patient and relevant caretakers to evaluate biological and psychosocial functioning related to the presenting health concern across commonly occurring and atypical case presentations • Independently conducts brief, targeted assessments with patient and relevant caretakers to evaluate biological and psychosocial functioning related to physical health or illness/injury • Selects, administers, scores, and interprets evidence-based assessment tools appropriate for the patient for the purpose of case conceptualization, treatment planning, monitoring and evaluating treatment outcomes, and facilitating referrals across commonly occurring and atypical case presentations • Demonstrates case conceptualization and treatment planning that are highly integrative across contexts and adaptive to the changing needs of patients • Implements health and behavior interventions with fidelity to empirical models and flexibility to adapt where appropriate • Determines situations that require different role functions and shifts roles accordingly to meet referral needs • Applies knowledge to provide effective consultee feedback and to articulate appropriate recommendations in health-care settings

Table VI. *Cluster: Education*

Domains	Applied competencies	
A. Teaching	6.1.A. Applies teaching strategies that demonstrate understanding of the knowledge, skills, and competencies required to be a pediatric psychologist 6.2.A. Provides education and training to psychologists, other health-care professionals, and trainees on pediatric psychology approaches and biological, cognitive, affective, sociocultural, and life span developmental influences on children's health and illness 6.3.A. Models and encourages commitment to the profession through professional conduct and integration of ethical principles	
B. Supervision	6.1.B. Outlines competency expectations for pediatric psychologists and regularly provides feedback to trainees on progress 6.2.B. Provides effective supervision to pediatric psychology trainees, as well as trainees and staff from other health professions pertaining to pediatric psychology principles	
Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:
• Obtains membership in pediatric psychology and child health-related organizations • Demonstrates awareness of the importance of recommended competencies to function as a pediatric psychologist	• Demonstrates ability to teach principles of pediatric psychology practice • Demonstrates ability to reflect on individual and team performance in the context of interprofessional health service work • Receives and uses feedback and supervision to enhance pediatric psychology skills and abilities • Demonstrates ability to provide useful feedback to health-care peers on clinical, research, and professional issues	• Provides education, skill development, and training in pediatric psychology for trainees from a variety of disciplines • Uses effective supervision processes (such as role-playing and modeling) to develop the trainee's skills in pediatric psychology applications • Modifies teaching strategies based on learner's needs unique to health-care settings

providing effective supervision to pediatric psychology trainees, as well as trainees and staff from other health professions pertaining to pediatric psychology principles.

At the beginning level of training, a trainee may indicate understanding of the process of supervision and of the learning that is necessary to develop into a competent pediatric psychologist, whereas at readiness for internship, the trainee demonstrates ability to provide useful feedback to health-care peers on clinical, research, and professional issues. At the entry into practice level, the pediatric psychologist uses effective supervision processes to develop skills in pediatric psychology applications and scholarship in a range of learners.

Systems

Pediatric psychology as a discipline has long been characterized as an interdisciplinary field with an emphasis on systems approaches to both practice as well as research (Power, DuPaul, Shapiro, & Kazak, 2003; Steele & Aylward, 2009). By definition, pediatric psychologists work in concert with a wide array of health and allied health professionals in the context of multiple interrelated systems, including family, medical, schools, community, and social systems. Increasingly, pediatric psychologists are also placed in positions of leadership and advocacy in the context of these larger systems. As can be seen in Table VII, the cluster area systems thus includes the domains of interdisciplinary systems, professional leadership development, and advocacy (local, state, national).

As a domain, interdisciplinary systems refers to both the theoretical and practical application of systems models to the discipline of pediatric psychology. More specifically, competency in this domain includes an understanding of systems theory and how these principles apply to a wide variety of both clinical and research settings. In this vein, it is important to understand both the unique and overlapping roles and responsibilities of the pediatric psychologist, as well as the perspectives and culture of other disciplines. A related applied competency is understanding how to use systems collaboration to maximize effective outcomes, and how to measure these outcomes. This will also involve

Table VII. *Cluster: Systems*

Domains	Applied competencies
A. Interdisciplinary systems	7.1.A. Understands basic principles of systems theory as applied to pediatric psychology practice settings, including inpatient hospital, outpatient clinics and private practice, schools, and the larger community 7.2.A. Understands both the unique and overlapping roles, responsibilities, and interrelationships of multiple disciplines within each of these service delivery systems 7.3.A. Understands the basic knowledge, perspectives, service delivery systems, and contributions of other health-care disciplines 7.4.A. Understands how systems collaboration enhances outcomes and how to evaluate effective outcomes in each of these contexts 7.5.A. Has knowledge of systems-based assessment approaches and interdisciplinary interventions across different treatment settings, including outpatient and inpatient settings, schools, and the community 7.6.A. Has knowledge of and can apply continuous performance improvement (CPI) methods
B. Professional leadership development	7.1.B. Engages in the role of the pediatric psychologist as a knowledgeable team member who shares understanding of the behavioral aspects of medical disorders, including etiology, assessment, and treatment 7.2.B. Is familiar with roles of management, administrators, and other peer team members in the medical setting, school setting, and community as they relate to pediatric psychology practice
C. Advocacy (local, state, national)	7.1.C. Advocates for pediatric psychology as an evidence-based science and profession in outpatient and inpatient settings, schools, and communities at the local, state, and national level 7.2.C. Advocates for access to behavioral health care at all levels of the health-care system (i.e., individual, family, institutional, and political)

Readiness for practicum Behavioral anchors:	**Readiness for internship** Behavioral anchors:	**Readiness for entry to practice** Behavioral anchors:
• Demonstrates basic understanding of theoretical models of systems approaches • Demonstrates understanding of the roles of various health disciplines on interdisciplinary teams providing clinical care • Demonstrates basic understanding of evidence-based practices that employ systems frameworks • Demonstrates an emerging ability to conceptualize clinical cases from a systems framework • Demonstrates understanding of the need to evaluate effective outcomes for systems interventions	• Works with an interdisciplinary team with moderate supervision • Advocates for pediatric psychology services in a pediatric practicum setting with moderate supervision • Demonstrates understanding of CPI approaches and their relevance to delivery of services in pediatric psychology	• Independently designs and implements systems interventions in the context of clinical work • Works effectively with an interdisciplinary team independently • Provides appropriate leadership for coordinating delivery of pediatric psychology services in multiple settings • Implements CPI approaches in a clinical health-care context

knowledge of interdisciplinary interventions across a wide variety of treatment settings, including hospital systems, as well as schools and the community at large.

Competency in interdisciplinary systems is expected to begin in graduate training through both coursework (e.g., models or systems approaches to psychotherapy) as well as the individual mentoring obtained through one's primary advisor. During the practicum experience, the graduate student can be further exposed to role models who provide clinical services in pediatric psychology settings, and who work with other disciplines and professionals in these contexts (e.g., specialty clinics, inpatient units, medical homes). At the internship level, the trainee begins to demonstrate the ability to use systems approaches to guide their assessment and treatment implementation, taking into account the need to work in concert with other disciplines and

collaborate to maximize outcomes. By the time the pediatric psychologist enters the professional workforce, systems competencies are demonstrated such that he or she can practice independently and can supervise other individuals in complex health-care settings.

A second systems competency is that of professional leadership development. This competency involves being able to engage in the role of a pediatric psychologist as an integral and knowledgeable team member who shares understanding of the behavioral aspects of various medical disorders, and importantly, also understands the role of management, administrators, and other peer team members in medical, school, and community settings as they pertain to pediatric psychology activities. In the early stages of training, the graduate student and intern acquire a basic understanding of how pediatric psychologists can serve leadership roles on interprofessional teams, as well as the importance of advocating for pediatric psychology services in a complex medical environment. By the end of training, the pediatric psychologist will demonstrate appropriate leadership for delivery of services in a variety of settings, as well as coordination of continuous performance or quality improvement efforts.

Competency in the systems domain also involves that of serving as an advocate. Specifically, the pediatric psychologist is an important and effective advocate for pediatric psychology as an evidence-based science and profession in outpatient and inpatient medical settings, schools, and community at the local, state, and national level. In addition, the pediatric psychologist advocates for access to behavioral health-care services at all levels of the health-care system in an effort to circumvent barriers to care and minimize health-care disparities (Seid, Opipari-Arrigan, & Sobo, 2009). In the early stages of training, the graduate student and intern can work with supervisors to define the role of an advocate and how to appropriately serve as an advocate for their patients and families. As training progresses, competency is demonstrated by increasing independence in successfully advocating for pediatric psychology services at different levels within the health-care system. By the time of entry into practice, the pediatric psychologist demonstrates the ability to independently advocate for services and can supervise students and trainees about advocacy roles.

Discussion

With the growing emphasis on transparency and accountability in the health-care system (Rozensky & Janicke, 2012), demonstrating competency for the field of pediatric psychology is critical. At present, we need to encourage the development of competencies that will not only help pediatric psychologists and the field survive, but actually thrive, in the transparent, outcome-oriented, team-based health-care environment. This competency document goes beyond description of clinical practice competencies and offers a comprehensive set of core competencies that demonstrate the diverse skill set of the highly competent pediatric psychologist.

The competencies build from general competencies in professional psychology and clinical child psychology, are tailored to training needs in pediatric psychology, and align with competency frameworks in other allied health professions. Although there is substantial overlap between pediatric psychology and clinical child psychology, there are also separate specialized areas of competency that distinguish these fields. As a key defining feature, the clinical child psychologist is able to measure, diagnose, and treat mental health problems in youth (under the umbrella of training in clinical psychology) (Jackson et al., 2012), but would not be expected to have knowledge of pediatric acute and chronic illness, medical management, and other health issues, or to have skills in functioning in interdisciplinary health settings, or conducting research and evaluation of interventions in health settings. Many students who enter the field of pediatric psychology have a background in clinical child psychology and have acquired shared competencies in child development that are expanded on in subsequent pediatric psychology training. Students may obtain a combination of foundational coursework in clinical child psychology paired with pediatric psychology-specific practicum experiences. Alternatively, students may not obtain any focused pediatric psychology experiences until their internship and/or postdoctoral fellowship training. As noted previously, there are many paths to becoming a pediatric psychologist; the timing and types of training experiences will vary based on the needs of and opportunities available to the trainee. Given that many pediatric psychologists work alongside other health professionals in their primary work setting, additional consideration was given to align the competencies in pediatric psychology with core competencies for all health professionals, particularly competencies for physicians (Englander et al., 2013) and for interprofessional collaborative practice (Interprofessional Education Collaborative Expert Panel, 2011). This may allow for the development of interprofessional curricula in the future (e.g., shared practica for medical students and pediatric psychology students) with learners working toward similar competency attainment.

The Task Force presents these competencies as recommendations that may be used by training directors, students, and current practitioners. We recognize that there is overlap in competencies between clusters; ideally, programs will strive for training approaches that are integrated across competency clusters. Other health professionals may also use these recommendations to better understand the scope of pediatric psychology practice. As the recommendations are applied by training programs and put into practice, we anticipate that expansion of the behavioral anchors will be necessary. Increased specification within each cluster will allow for educators to fully develop training experiences and curricula for pediatric psychology students. For example, the articulation of research competencies by Madan-Swain et al. (2012) presents a more fine-grained set of recommendations, many of which would be pertinent within the science cluster.

The development of competency and training recommendations is an iterative and dynamic process in the field of psychology—one that must undergo refinement to be useful. However, as we move forward, it will be critical to move beyond the identification and definition of competencies to consider the empirical evaluation of training process and outcomes achieved by learners. It will also be important for programs to enhance and describe training in the development of these skills (i.e., a "best practices" consideration) (Masters, France, & Thorn, 2009). In essence, how can we train doctoral students, interns, and postdoctoral fellows in pediatric psychology to acquire and demonstrate the competencies that have been identified as important for entry-level psychologists in pediatric psychology? It is likely that combinations of knowledge-based instruction (i.e., didactic coursework) and experiential learning exercises (i.e., observational learning experiences, applied practice with simulated patients, and supervised performance with actual patients) will be critical components of training. Questions will naturally arise not only as to the critical components of training in competency development, but also the optimal time to initiate and sequence various components. This will be an ongoing process, and many practical issues and barriers to implementation will undoubtedly arise, particularly as training programs struggle to adapt to the rapidly changing health-care environment and stay financially viable. To this end, it will be helpful to have published exemplars of best practice training models and evaluation of outcomes. Thus, we encourage individuals and training programs to prepare reports describing the barriers, challenges, and successes related to training in competency development.

Equally essential to this process will be the development of feasible, reliable, and valid tools and procedures to evaluate trainees' competency attainment. The efforts to define competencies across professional psychology will be of limited usefulness if training programs do not also have systems and procedures in place that allow training directors, supervisors, and mentors to identify and intervene early with those trainees who are failing to meet established competencies (Fouad et al., 2009). Trainees could also perform their own self-assessment to ensure adequate progress toward competency attainment. In pursuit of this goal, Kaslow et al. (2009) developed a Competency Assessment Toolkit for Professional Psychology that describes a variety of potential assessment rubrics. It is likely that "one size will not fit all"; programs will need to examine their own strengths and weaknesses, then develop (or select) and implement procedures that are most appropriate for their situation.

Finally, we recognize the limitations of our method for identifying core competencies for pediatric psychologists as being restricted to the input and perspectives provided by a small expert panel of pediatric psychologists. We did not choose a consensus-building methodology for this report. However, an approach that systematically collects perspectives from a larger representative segment of pediatric psychologists to build consensus, such as using Delphi methods (Hsu & Sandford, 2007), would potentially generate additional ideas and provide more confidence in their perceived importance. We encourage continued examination of the training needs of pediatric psychologists using such methodologies.

While past documents that have outlined training recommendations for clinical child and pediatric psychology have focused mostly on clinical practice (Roberts et al., 1998; Spirito et al., 2003), the present document also emphasizes the development of research, professionalism, interpersonal, education, and systems-based skills and competencies. As we move forward in the new health-care environment, it will be increasingly important for pediatric psychologists to build, refine, and expand competencies in multiple areas. Competency in the science cluster in particular will be critical. It is our research and evaluation skills that allow us to develop and evaluate treatments and new methods of service delivery that will help ensure the survival and growth of our field. Merely being a consumer of research will not suffice (APA, 2013; Belar, 2012). Other disciplines already train their practitioners as consumers of research (Belar, 1989, p. 393). We critically need producers of research, especially in areas that can help demonstrate the value of pediatric psychology to patients and health service colleagues. For example, training in program evaluation, cost-effectiveness, and quality improvement research methodologies will be particularly

applicable to pediatric psychology. Action steps to facilitate training and education that can foster competencies in these areas are outlined in the Blueprint for Education and Training by the Health Services Psychology Education Collaborative (2013). In the current era of evidence-based practice, pediatric psychologists are uniquely positioned to provide an important role in determining treatment efficacy (e.g., evaluating a single course of treatment) and effectiveness for broad clinical practice.

Given the increasing emphasis on interprofessional practice and integrated care within the health-care system, and subsequently the inclusion of interprofessional practice and research competencies within this document, it will be important for training programs to incorporate interprofessional training experiences into their curriculum as early as possible. Granted, it is still expected that a majority of the intensive pediatric psychology training experiences will come during practica, internship, and postdoctoral year(s). However, we would argue that obtaining some predoctoral training exposure to other disciplines will be instrumental not only to the individual trainee, but to our discipline as a whole. Recently, similar conclusions have been put forth in our field emphasizing that students need exposure to the contributions of other disciplines to develop competencies in participating and leading interdisciplinary research, clinical teams, and other interprofessional activities (Drotar, 2012; Madan-Swain et al., 2012; Palermo, 2013). As noted by Belar (2012), as interprofessional education becomes more commonly used in other health professions, psychologists cannot expect to be added to the health-care team when psychology students were not trained with the other health-care team members.

While this document focuses on competencies during the developmental training period from graduate school to entry into practice, it will be important in the future to consider how to best assess and document the maintenance of competence post-licensure (lifelong learning), as well as how to best facilitate and document the expansion of competency into new domains of practice. All individual professionals are expected to keep abreast of advances in the field and to act within their limits of expertise. The APA Ethical Principles of Psychologists and Code of Conduct (2002) require that psychologists only function within the bounds of their competence, and undertake ongoing efforts to develop and maintain their competence. The rapid generation of new knowledge within current specialties, especially health-related areas of psychology, poses significant challenges regarding the ongoing maintenance of competence (Neimeyer, Taylor, & Rozensky, 2012). It is reasonable to assume that persons who have not updated their knowledge base over a 5- to 7-year period are unlikely to be fully qualified to practice their original specialty, much less a new one (Belar et al., 2001). As noted by Kerns and colleagues (2009), for lifelong learning to become a reality, it will require a culture shift in professional psychology with respect to how continuing education is delivered with an expectation that post-licensure evaluation is mandatory. Documenting the maintenance of competence could be conducted through American Board of Professional Psychology procedures (specifically the American Board of Clinical Child and Adolescent Psychology or the American Board of Clinical Health Psychology). Given the increasing importance of transparency, patient-centered outcomes, and accountability in the health-care system (Rozensky & Janicke, 2012), it will be wise for pediatric psychology to be ahead of the curve in this area. To this end we encourage future recommendations for our field to address the issue of lifelong learning.

In conclusion, this report provides contemporary training recommendations that cover a broad description of professional competencies in pediatric psychology. We encourage colleagues to contribute specific descriptions to illustrate best training practices within competency domains. As highlighted, over the course of training, the pediatric psychologist may achieve highly specialized knowledge in the scientific foundation of pediatric psychology and a diverse skill set across science and applied areas of practice including assessment, consultation, and treatment. The pediatric psychologist may be a highly valued team member able to relate to and function alongside other health disciplines and systems in diverse activities of the field. The pediatric psychologist will likely be able to apply ethical and legal standards of practice, recognize how diversity plays a role in the provision of care, and serve as a trainer and supervisor of other psychologists and other health professionals. Competency attainment is an iterative process with differing end points for different individuals; students may acquire variable degrees of competency across these areas. Building from the strong emphasis on education and training in the field, we believe that future pediatric psychology students and trainees will be even better-prepared to take on the unique challenges of the field and to serve in a variety of interprofessional roles to ultimately positively affect health outcomes of children and families.

Acknowledgments

This document was prepared at the request of the SPP. The authors thank the 2013 SPP Board of Directors for

reviewing and providing input on an earlier version of our Task Force report.

Funding

Research reported in this publication was partially supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health under Award Numbers (K24HD060068 to T.M.P. and K24HD058794 to E.L.M., and training grant T32HD068223 supporting Y.P.W.). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Conflicts of interest: None declared.

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