Title

Psychological Science and Innovative Strategies for Informing Health Care Redesign: A Policy Brief

Journal

Journal of Clinical Child & Adolescent Psychology, 44(6)

ISSN

1537-4416

Authors

Asarnow, Joan Rosenbaum
Hoagwood, Kimberly E
Stancin, Terry
et al.

Publication Date

2015-11-02

DOI

10.1080/15374416.2015.1077451

Peer reviewed

HHS Public Access

Author manuscript

J Clin Child Adolesc Psychol. Author manuscript; available in PMC 2017 August 07.

Published in final edited form as:

J Clin Child Adolesc Psychol. 2015 ; 44(6): 923–932. doi:10.1080/15374416.2015.1077451.

Psychological Science and Innovative Strategies for Informing Health Care Redesign: A Policy Brief

Joan Rosenbaum Asarnow,
Psychiatry & Biobehavioral Sciences, University of California, Los Angeles

Kimberly E. Hoagwood,
Department of Child and Adolescent Psychiatry, New York University School of Medicine

Terry Stancin,
Department of Pediatrics, Psychiatry and Psychology, Case Western Reserve University School of Medicine, MetroHealth Medical Center

John E. Lochman,
Department of Psychology, University of Alabama

Jennifer L. Hughes,
Department of Psychiatry, University of Texas Southwestern Medical Center, Children's Medical Center, Dallas

Jeanne M. Miranda,
Psychiatry & Biobehavioral Sciences, University of California, Los Angeles

Tim Wysocki,
Center for Healthcare Delivery Science, Nemours Children's Health System

Sharon G. Portwood,
Department of Public Health Sciences, The University of North Carolina at Charlotte

John Piacentini,
Psychiatry & Biobehavioral Sciences, University of California, Los Angeles

Douglas Tynan,
American Psychological Association, Center for Psychology and Health

Marc Atkins, and
Institute for Juvenile Research, University of Illinois at Chicago

Anne E. Kazak
Center for Healthcare Delivery Science, Nemours Children's Health System

Abstract

Recent health care legislation and shifting health care financing strategies are transforming health and behavioral health (a broad term referring to mental health, substance use, and health behavior)

Correspondence should be addressed to Joan Rosenbaum Asarnow, UCLA, Department of Psychiatry & Biobehavioral Sciences, 300 Medical Plaza, Los Angeles, CA 90095-6968. jasarnow@mednet.ucla.edu.

care in the United States. Advances in knowledge regarding effective treatment and services coupled with incentives for innovation in health and behavioral health care delivery systems make this a unique time for mobilizing our science to enhance the success of health and behavioral health care redesign. To optimize the potential of our current health care environment, a team was formed composed of leaders from the Societies of Clinical Child & Adolescent Psychology, Pediatric Psychology, and Child and Family Policy and Practice (Divisions 53, 54, and 37 of the American Psychological Association). This team was charged with reviewing the scientific and policy literature with a focus on five major issues: (a) improving access to care and reducing health disparities, (b) integrating behavioral health care within primary care, (c) preventive services, (d) enhancing quality and outcomes of care, and (e) training and workforce development. The products of that work are summarized here, including recommendations for future research, clinical, training, and policy directions. We conclude that the current emphasis on accountable care and evaluation of the outcomes of care offer numerous opportunities for psychologists to integrate science and practice for the benefit of our children, families, and nation. The dramatic changes that are occurring in psychological and behavioral health care services and payment systems also require evolution in our practice and training models.

RATIONALE, GOALS, AND CHARGE OF REPORT

Recent health care reform efforts in the United States have led to a focus on health and mental health care system transformation, with the goals of enhancing quality of care and patient outcomes while reducing costs. This poses major challenges and opportunities for psychologists. The present report focuses on the question of how our psychological science can contribute to policies that lead to improved health, mental health, and well-being among our nation's youths and families. In this report, we use the term "health care redesign" to refer to the major changes that are occurring due to health care reform legislation and other initiatives aimed at improving the U.S. health and mental health care delivery systems and improving health and mental health in our nation.

To address this question, the Societies of Clinical Child & Adolescent Psychology, Pediatric Psychology, and Child and Family Policy and Practice (Divisions 53, 54, and 37 of the American Psychological Association [APA], respectively) formed a cross-division collaborative team. This team was charged with reviewing the scientific and policy literature focusing on improving health and behavioral health (a broad term referring to mental health, substance use, and health behavior) for children and families with the following specific aims.

1. To examine and mobilize our science and evidence-base with the goal of clarifying strategies for implementing health care redesign in ways that lead to real improvements in the health, behavioral health, and well-being of youths and families.
2. To identify innovative programs with documented efficacy and/or effectiveness, that can be implemented to achieve the aims of health care redesign, while recognizing limits of the current evidence base.

3. To identify strategies for developing our science to learn from the real-world experiments that are occurring as part of health care redesign.

4. To develop a set of consensus statements and recommendations regarding policy, practice, and research priorities for optimizing health care redesign based on currently available and new science.

APPROACH AND STRUCTURE OF THE REPORT

The collaborative team studied the issues through scientific review plus consultation with a large and diverse group of stakeholders, including representatives of health care organizations, government agencies (e.g., the U.S. Substance Abuse and Mental Health Services Administration, Health Resources & Services Administration (HRSA), National Institute of Mental Health, and insurance companies; consumers; and other groups within the APA, particularly the Presidential Task Force on the Patient Centered Medical Home formed by Nadine Kaslow during her term as APA President [2014]). The team subsequently convened a forum in Washington, DC, to review the results of the study group and the targeted issues.

This report of our work is offered with the aim of contributing to policies that will lead to better quality health and behavioral health care and improved health, mental health, and well-being among our nation's youths and families. The report is organized into several remaining sections. First, we provide general background on health care reform and redesign in the United States and address five central issues for health care redesign, specifically (a) improving access to care and reducing health disparities, (b) integrating mental/behavioral health care within primary care, (c) preventive services, (d) enhancing quality and outcomes of care, and (e) training and workforce development. Next, we offer a set of consensus statements/recommendations and conclusions regarding future directions for policy, research, training, and practice priorities for optimizing the success of health care redesign for youths and families.

BACKGROUND: HEALTH CARE REDESIGN

This is a period of change for health and behavioral health care in the United States, with current health care initiatives emphasizing the Institute of Healthcare Improvement's "triple aim" of (a) improving population health, (b) enhancing the patient experience of care, and (c) reducing per capita health care expenditures (Berwick, Nolan, & Whittington, 2008). The Mental Health Parity & Addiction Equity Law (2008) provides increased insurance coverage for behavioral health problems, and the federal 2010 Affordable Care Act (ACA) provides opportunities for expanded coverage for uninsured populations, prevention of behavioral health problems in youths, and incentives for integrated health and behavioral health care. Implementation of the ACA is still in an early stage, as debate and legal challenges to implementation continue. There is and will continue to be variation in implementation at the state level. Nonetheless, this legislation has led to initiatives aimed at testing innovative models for achieving health care reform goals by the Centers for Medicare and Medicaid Services, and commercial insurers are responding with policies that incentivize changes

throughout health care. These initiatives present psychologists with opportunities to use our science to advance efforts to improve health and behavioral health care in our nation.

Our current period of health and behavioral health care transformation was stimulated by compelling data supporting the need to improve the U.S. health care delivery system. Of 11 developed nations (Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United Kingdom), the United States ranked last overall on indicators of health system quality, efficiency, access to care, equity, and healthy lives (Davis, Stremikis, Squires, & Schoen, 2014). This low performance ranking contrasts with the U.S. ranking for health expenditures, which topped that of the other nations. Whereas U.S. health care expenditures were estimated at $8,508 per person, expenditures in the United Kingdom, which ranked first for overall health care performance, was estimated at $3,405 per person.

The APA (2005, p. 5) indicated in a policy statement that “evidence-based practice is the integration of best research evidence with clinical expertise and values.” We now have extensive data showing that increasing access to evidence-based care and improving quality of care leads to improved outcomes for youths and families and may have potential for decreasing mental health disparities for ethnic minority youth populations (Asarnow, Rozenman, Wiblin, & Zeltzer, 2015; Kazdin, 2011; Kolko et al., 2014; Weisz et al., 2013). Although there is a clear need for additional research to further develop the science supporting practice, identify treatments that work in practice, and develop systems for tracking and monitoring outcomes to promote “evidence-informed” care, the field of psychology has advanced to the point where our science can and should inform practice. Psychological science, evidence-based and informed practice, and innovative program development can inform health and mental health care redesign and improve outcomes for children and families.

Improving Access to High-Quality Care, Reducing Health Disparities

National data indicate that up to 80% of the 6% to 9% of youths with a documented need for mental health care receive no services, and this unmet need is associated with lack of insurance and minority status (Kataoka, Zhang, & Wells, 2002; Merikangas et al., 2010; U.S. Department of Health and Human Services, 2001). When treated, members of racial and ethnic minority groups also tend to receive poorer quality of care compared to nonminorities (U.S. Department of Health and Human Services, 2001). Despite increased awareness, data indicate little to no progress toward eliminating disparities in mental health care (Cook, McGuire, & Miranda, 2007). In addition to expanded health insurance coverage, system redesign will need to identify strategies for making care more accessible, partnering with communities to increase the likelihood that needed care will be accessed, and providing equal access to high-quality providers and effective treatment (APA, 2011; Asarnow & Miranda, 2014).

Rural populations represent another group with limited access to care, with current data indicating that youths and adults living in rural areas suffer from high rates of medical and behavioral problems and are less likely to receive treatment for these problems compared to individuals living in nonrural areas (Janicke & Davis, 2011). Despite the high level of need

for behavioral health care in rural communities, there is a shortage of mental health services in rural nonmetropolitan counties, with 20% of nonmetropolitan counties (compared to 5% of metropolitan counties) lacking mental health services. Data released by the National Center for Health Statistics (Centers for Disease Control, 2011) further indicate lower rates of physician visits and higher rates of emergency department (ED) visits among youths from rural versus nonrural areas, with no past-year physician visits in 12% of rural youths (compared to 10% for nonrural youths) and past-year ED visits in 24% of rural youths (compared to 20% of nonrural youths). There are substantial challenges to serving children and families in remote rural areas where distance and transportation difficulties can seriously impede the ability to reach needed services. This underscores the importance of innovative service delivery systems for meeting the needs of people living in rural/nonmetropolitan areas, such as telehealth, technology-enhanced care, and mobile health using mobile devices such as cell phones and text messaging (Rotheram-Borus, Tomlinson, Swendeman, Lee, & Jones, 2012; Tomlinson, Rotheram-Borus, Doherty, et al., 2013; Tomlinson, Rotheram-Borus, Swartz, & Tsai, 2013).

Integrating Mental/Behavioral Health Care Within Primary Care

Because most youths in our nation are seen annually in primary care, primary care provides a major point of health system contact, is often the de facto site for behavioral health care, and provides opportunities to link youths to needed care for behavioral health problems (Chevarley, 2001; Kolko & Perrin, 2014; Stancin & Perrin, 2014; Weersing, 2010). The Health Home and Patient Center Medical Home (PCMH) concepts emphasize integrated care for health and behavioral health problems, and expanded primary care with timely access, continuity of care, and coordination and comprehensiveness of care. Enthusiasm for the PCMH concept has been increasing due to demonstrations that the PCMH can lead to improved quality of care while reducing costs on some measures (e.g., lower ED and hospitalization costs; Farmer, Clark, Drewel, Swenson, & Ge, 2011; Mosquera et al., 2014; Patient-Centered Primary Care Collaborative, 2014). Research has demonstrated the value of integrating behavioral health care within primary care (Asarnow et al., 2005; Asarnow et al., in press; Kolko, Campo, Kilbourne, & Kelleher, 2012; Kolko et al., 2014; Richardson et al., 2014). Incentives for integrated care and PCMHs are leading to increased integration of care for behavioral and physical health problems, with the expectation that increasing integrated care will lead to improved patient outcomes, decreased costs, and improvements in population health through early detection of potential health risks, preventive services, and improved continuity and coordination of care.

Preventive Services

The ACA emphasizes the importance of prevention, with efforts to shift the health care system from treating illness to achieving wellness. This increased emphasis on prevention and wellness highlights the need for the development and use of standardized measurement of key wellness-related outcomes (e.g., psychosocial functioning, sleep) and is likely to lead to an increased emphasis on screening for behavioral health conditions, such as depression and substance use. For instance, the National Center for Quality Assurance, developed the Healthcare Effectiveness Data and Information Set, a tool used by more than 90% of U.S. health plans to measure performance on key dimensions. Currently, the National Center for

Quality Assurance (2015) is exploring measures for assessing depression care, and more specifically whether adolescents receive screening for depression and appropriate care when needed. Prevention is another area where psychological science has made major contributions, with numerous demonstrations of effective prevention programs (Rotheram-Borus, Swendeman, & Chorpita, 2012).

Behavioral health problems are often episodic or persistent, and recovery is often incomplete with risk continuing over extended time intervals and sometimes lifetimes (Asarnow & Miranda, 2014; Dodge & Pettit, 2003; Kazdin, 2011). Consequently, acute illness models of care are poorly matched with many behavioral health problems. Care models that emphasize the prevention of relapse, recurrence, and/or secondary complications through continuing personalized care are more likely to prove effective than crisis-oriented and reactive models. These models provide an approach to populations with identified risk, such as those showing elevated symptoms in the absence of disorder, children whose parents struggle with mood or other mental health problems, and for populations who have recovered from acute episodes (e.g., depression, substance use, suicide) yet are known to have continuing elevations in risk levels (Clarke et al., 2001; Dodge et al., 2014; Garber et al., 2009).

Enhancing Quality and Outcomes of Care

Advances in psychological science and intervention and services research have led to the identification of a number of treatment and service delivery strategies with documented benefits for improving outcomes in children, adolescents, and families. Although it is beyond the scope of this report to review this broad and expanding literature, interested readers are referred to the evidence-based practice reviews in the *Journal of Clinical Child & Adolescent Psychology, Journal of Pediatric Psychology, Journal of Child Psychology and Psychiatry, Journal of the American Academy of Child & Adolescent Psychology*, and other sources (e.g., www.nrepp.samhsa.gov, www.effectivechildtherapy.org). With the transformation in our health and behavioral health care systems, an increased emphasis on accountable care and evaluation of the process and outcomes of care exists. These changes in the health and behavioral health care environment and the needs of children and families underscore the importance of delivering evidence informed care. Clearly, there are challenges in translating results of tightly controlled laboratory-based clinical trials to routine clinical practice settings, where clients present with a broad range of complex conditions and situations and providers are faced with diverse practice challenges. However, an increasing number of effectiveness trials are emerging and demonstrate that bringing evidence-based treatments into our routine practice settings leads to improvements in clinical outcomes and overall child functioning (Asarnow & Miranda, 2014; Kazdin, 2008).

Effectiveness trials, however, are only part of the story. To meet the demands of healthcare system changes, states are now ramping up large-scale experiments to test strategies for implementing effective treatments and quality improvement practices, applying a population health lens. For example, New York, California, Washington, Pennsylvania, among others, are experimenting with pay-for-performance systems, statewide training on evidence-based practices, and use of measurement and feedback monitoring systems; the goals are to effect population-level system improvements (Chorpita & Daleiden, 2014; Hoagwood et al., 2014;

Nakamura et al., 2013; Starin et al., 2014). In fact, the *Journal of Clinical Child and Adolescent Psychology* (Volume 43, Number 2, 2014; Chorpita & Daleiden, 2014) devoted an entire special issue to systemwide experiments.

Our scientific roots as psychologists further underscore a commitment to systematic measurement and evidence-based assessment. This is one component of evidence-based practice that can be used across the range of routine practice settings. Measuring key outcomes that are important to children and families from the first session to the last session provides a feasible and informative strategy for tracking client response to treatment and modifying treatment plans as needed to respond to changes in client outcomes (Asarnow, Berk, Hughes, & Anderson, 2014). Notably, if clients are not benefiting from treatment, treatment plans can and should be reconsidered and modified as needed. Alternatively, if clients are benefiting and have shown stable improvement, "continuation" treatment strategies can be considered, with the goal of decreasing treatment intensity/dose and shifting to a monitoring/follow-up strategy perhaps through primary care and guidance regarding how to respond should symptoms, distress, or stress levels increase. Evidence-based patient care pathways, algorithms, and stepped care strategies have potential for improving care and outcomes.

Training and supervision models will need to attend to strategies for ensuring effective adherence to such evidence-based care strategies. The current emphasis on disseminating and implementing evidence-based practice has led to increased attention to developing and evaluating training, supervision/consultation, technology-enhanced, and other models to support evidence-based care. Dissemination research has indicated that with adequate training, ongoing performance feedback during supervision, and organizational support a variety of providers can effectively implement many behavioral health interventions (Beidas, Edmunds, Marcus, & Kendall, 2012; Lochman et al., 2009; Lochman et al., 2015)

Training and Workforce Development

We emphasize training and workforce development needs from the perspective of psychologists in this report. However, we recognize that other behavioral health specialists will be needed to meet the needs of our health and behavioral health systems (e.g., psychiatry, social work, counseling, nursing, care managers).

Although many psychologists work in medical settings, training in integrated primary care and medical settings is often limited. To meet the challenges and opportunities of our evolving health care systems, training programs will need to strengthen skills for working in integrated health care environments and coordinating care among the different disciplines caring for youths. The elevated risk of adverse health outcomes, disease complications, and excess healthcare utilization among youths with behavioral health problems underscore the important role of psychologists in caring for children and adolescents.

Recent statistics from the U.S. Census Bureau and other federal and professional organizations highlight the shortage of pediatric subspecialists, including child and adolescent psychologists and psychiatrists, as well as an identified shortage of prescribing and nonprescribing mental health providers in rural areas (Thomas, Ellis, Konrad, Holzer, &

Morrissey, 2009). There are an estimated 74.5 million children in the United States (Federal Interagency Forum on Child and Family Statistics, 2014). Recognizing that estimates vary by year and source, available estimates indicate that there are slightly less than 300,000 primary care providers (including physicians, nurse practitioners, and physician assistants; Agency for Healthcare Research and Quality, 2014; U.S. Department of Health and Human Services, Health Resources and Services Administration, 2013), a little more than 300,000 licensed social workers (Center for Health Workforce Studies, 2006), 188,300 practicing psychologists (USDHS, HRSA, 2015a), 44,200 psychiatrists (USDHS, HRSA, 2014b), about 8,300 practicing child and adolescent psychiatrists (American Academy of Child and Adolescent Psychiatry, 2013), and only about 2,350 child clinical and/or pediatric psychologists (APA, 2015). Moreover, a declining number of newly trained child and adolescent psychologists and psychiatrists are not matching population growth or health care trends (Thomas et al., 2009). In fact, a recent National Center for Health Workforce Analysis sponsored by HRSA (USDHS, HRSA, 2015a) predicts that between 2012 and 2025, the demand for psychologists overall is projected to grow by 10%. These data underscore the critical need for expanded specialty training in child and adolescent/pediatric psychology, a need that a new Training Council on Clinical Child and Adolescent and Pediatric Psychology is designed to address.

With some exceptions, clinical child and adolescent psychology has emphasized clinical populations and pediatric psychologists have focused more on tertiary care and chronic illness than on primary care. Consequently, most child and family psychologists have had limited training or may be unsure about the skills and expertise necessary to function effectively in a primary care context (Stancin & Perrin, 2014). Moreover, a general consensus on the competencies psychologists need to work in primary care medical settings, whether adult or child focused, does not exist. We do know that the traditional mental health service model with 50-min sessions, inflexible schedules, lengthy and comprehensive diagnostic assessments, small caseloads with many sessions, multiple long-term treatment goals, extensive documentation, extreme confidentiality, and cases closed at termination does not fit well within an integrated primary medical-behavioral health care model. Alternatively, integrated care requires an interprofessional team-based model, brief evaluation and intervention models, identification of community resources, facilitated referrals to specialty care when needed, liason to schools, and flexibility in schedules to support the needs of primary care practice settings.

Healthcare changes along with the acknowledged workforce shortages are also incentivizing new workforce development models. These include training, support and team models that incorporate paraprofessionals, peers, family support specialists, and case managers in frontline service delivery. Increasingly psychologists' role is shifting toward providing supervision and team leadership while frontline delivery is focusing on identification of core competencies, teamwork, and integrated planning (Herschell, Kolko, Baumann, & Davis, 2010; Schoenwald, Hoagwood, Atkins, Evans, & Ringeisen, 2010).

To address the needs stemming from the changes in our health and behavioral health care systems, APA and the child- and adolescent-focused divisions within APA have formed workgroups and developed a number of documents to guide the field during this time of

transition. Three new competency documents have been developed to guide training and practice: (a) “Competencies for Psychology Practice in Primary Care” (McDaniel et al., 2014), (b) “Proposed Competency Model for Pediatric Psychology Education and Training” (Palermo et al., 2014), and (c) “Inter-Organizational Work Group on Competencies for Primary Care Psychology Practice” (McDaniel et al., 2014).

The Inter-Organizational Work Group adopted the framework of the Competency Benchmarks Work Group (Hatcher et al., 2013), which drafted essential components and behavioral anchors for broader competency cluster areas. The final document (McDaniel et al., 2014) outlines six broad competency clusters: science, systems, professionalism, relationships, application, and education. Within each cluster, essential knowledge, skills, and attitudes needed for practicing in primary care settings (Essential Components) are provided, as well as behavioral examples (Behavioral Anchors). The Work Group endeavored to supplement existing benchmarks for clinical practice by including components that were unique to primary care (as opposed to general competencies).

Another initiative aimed at strengthening the workforce of clinical/pediatric psychologists in this new health care environment is a Task Force on Integrated Care, chaired by Lynne Sturm and Terry Stancin (Stancin, Perrin, & Ramirez, 2009). A major goal of this task force is to integrate goals, objectives, and strategies from these different documents to describe the unique body of knowledge and skills, grounded in behavioral anchors, needed to practice in pediatric primary care. Priorities of this task force include developing a competent workforce of psychologists to provide services, supervise trainees, and serve in leadership roles in primary care health settings serving pediatric populations, as well as advocacy to support psychologist compensation for their efforts.

RECOMMENDATIONS

Based on our work we offer the following recommendations.

1. Consistent with the adult literature, our review of the existing literature with children and adolescents supports the value of integrated care models where behavioral health care is available through primary care services, with particularly strong results for collaborative care models that deliver team-based care (Asarnow et al., 2015). The limited number of studies and models evaluated for youths, however, underscores the need for additional research and demonstration.
2. Cost and cost–benefit analyses are needed to clarify the impact of mental health problems on medical costs for youths as well as the cost-effectiveness of integrated care.
3. Current payment systems continue to incentivize quantity versus quality of care. The current emphasis on improving patient care and outcomes while containing costs calls for new payment models that incentivize value versus volume of care.
4. Innovative payment models and incentives for collaborative team-based care are needed. Such team-based care requires time for collaboration and

communication among care providers, as well as face-to-face patient care. Payment models need to include incentives for collaborative team time. From the perspective of psychology, it will be important for psychologists to be included in this reformed payment system.

5. Payment systems for preventive care need attention and development, including payment models for preventive interventions such as parenting and skills training. Prevention is beyond screening. Indeed, the evidence on benefits of screening without effective treatment remains inconclusive for some behavioral health conditions, such as depression and suicide risk (O'Connor, Gaynes, Burda, Williams, & Whitlock, 2013; U.S. Preventive Services Task Force, 2009, 2014). Implementing and paying for preventive care will likely involve collaboration across care sectors, such as school, primary care, mental health, and substance use service sectors.

6. Because most behavioral health problems and behavioral patterns associated with health risk have their roots in childhood, a greater focus on establishing healthy behavior patterns and wellness in childhood is needed. Interventions earlier in development have potential to prevent more severe and chronic problems as youths mature and progress through adulthood.

7. Federal agencies should consider how to strengthen federal coordination of health and mental health services for children and adolescents by centralizing what are now disparate federal efforts. This could include creating a coordinating entity or office to clarify the intervention and health services research agendas, coordinate and sponsor the development of quality measures for children and families, coordinate the oversight for the various children's entitlement programs, and promote research and services on integrated medical-behavioral care for children and adolescents. Demonstration projects are needed to evaluate the feasibility and effectiveness of different programs for training and implementing integrated care.

8. Transition points are high-risk periods and offer important opportunities to improve care and youth outcomes. For example, programs are needed for youths transitioning out of foster care, juvenile justice systems, and after hospitalizations, as well as for youths transitioning into adulthood, as this developmental period is characterized by increased risk for a number of severe mental health and health outcomes, such as suicide and psychosis.

9. Data collection is essential to evidence-based and evidence-informed care. Data collection to guide treatment and preventive services needs to be incentivized.

10. We continue to have racial and ethnic disparities in care and a workforce with insufficient minority representation. To address these disparities, we must increase diversity in our workforce and train psychologists to work with racially and culturally diverse patient groups.

11. Given the shortage of psychologists with specialty training in child and adolescent clinical psychology and/or pediatric psychology, more specialty

training is needed in these areas. To address needs in our current health care environment, this specialty training should include training to work in integrated medical-behavioral health care settings, as well as traditional behavioral health settings.

12. Linking research and practice change will strengthen our ability to learn from the current transformation of health and behavioral health care and improve outcomes for kids, families, providers, health care organizations, and our nation. Alignment of our national health improvement and research agendas to provide funding to evaluate the outcomes of changes in our health care systems and innovative demonstration projects is critical.

CONCLUSIONS

The major changes occurring in the U.S. health and behavioral health care systems offer expanded opportunities for psychologists. With our roots in science, the increased emphasis on accountable care and outcomes of care offer numerous opportunities for psychologists to integrate science and practice for the benefit of children, families, and the nation. The dramatic changes that are occurring in the structure of psychological and behavioral health care services and payment systems require an evolution of our practice and training models. This article is intended to stimulate and support efforts through APA and other professional groups and organizations to improve the health and well-being of children, adolescents, and their families.

Acknowledgments

We are grateful to the following individuals who contributed to this report through participation in the forum and other activities of the cross-division team: Trina Menden Anglin, M.D., Ph.D.; Francisca Azocar, Ph.D.; Joanna Brown, M.D.; Gregory Fritz, M.D.; Ellen Garrison, Ph.D.; Bonnie Green, Ph.D.; Larke Nahme Huang, Ph.D.; David Janike, Ph.D.; Nadine Kaslow, Ph.D.; Paul Kettlewell, Ph.D.; Cheryl King, Ph.D.; Thomas McInerny, M.D.; Richard McKeon, Ph.D.; Sherry Peters, M.S.W., Adriana Serrano; ACSW; Joel Sherrill, Ph.D.; Ashley Trudnak, MSPH; Michael Wilkes, M.D., M.P.H., Ph.D. The content is solely the responsibility of the authors and does not necessarily represent the official views of funding and contributing organizations and individuals. Supplemental materials from forum are available at effectivechildtherapy.org, see section on “Health Care Reform & Mental Health.”

FUNDING

This study was supported by a grant from the American Psychological Association (APA) Committee on Division/APA Relations with contributions from the Society of Clinical Child & Adolescent Psychology (Division 53), Society of Child & Family Policy & Practice (Division 37), and Society of Pediatric Psychology (Division 54).

References

Agency for Healthcare Research and Quality. Primary care workforce facts and stats: Overview. 2014. Retrieved from http://www.ahrq.gov/research/findings/factsheets/primary/pcworkforce/index.html

American Academy of Child and Adolescent Psychiatry. Child and adolescent psychiatry workforce crisis: Solutions to improve early intervention and access to care. Washington, DC: Author; 2013. Retrieved from https://www.aacap.org/App_Themes/AACAP/docs/Advocacy/policy_resources/cap_workforce_crisis_201305.pdf

American Psychological Association. 2005 Presidential Task Force on Evidence-Based Practice. Report of the 2005 Presidential Task Force on Evidence-Based Practice. 2005. Retrieved from https://www.apa.org/practice/resources/evidence/evidence-based-report.pdf

American Psychological Association. Health disparities initiative. 2011. Retrieved from http://www.apa.org/topics/health-disparities/initiative.aspxAmerican

American Psychological Association, APA Center for Workforce Studies. APA member profiles. 2015. Retrieved from http://www.apa.org/workforce/publications/14-member/index.aspx

Asarnow JR, Berk M, Hughes JL, Anderson NL. The SAFETY program: A treatment-development trial of a cognitive-behavioral family treatment for adolescent suicide attempters. Journal of Clinical Child & Adolescent Psychology. 2014; 44:194–203. DOI: 10.1080/15374416.2014.940624 [PubMed: 25255931]

Asarnow JR, Jaycox LH, Duan N, LaBorde AP, Rea MM, Murray P, Wells KB. Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics: A randomized controlled trial. Journal of the American Medical Association. 2005; 293:311–319. DOI: 10.1001/jama.293.3.311 [PubMed: 15657324]

Asarnow JR, Miranda J. Improving care for depression and suicide risk in adolescents: Innovative strategies for bringing treatments to community settings. Annual Review of Clinical Psychology. 2014; 10:275–303. DOI: 10.1146/annurev-clinpsy-032813-153742

Asarnow, JR., Rozenman, M., Wiblin, J., Zeltzer, L. Journal of the American Medical Association Pediatrics. 2015. Improving child and adolescent behavioral health with integrated medical-behavioral care compared to usual primary care: A meta-analysis. Advance online publication

Beidas RS, Edmunds JM, Marcus SC, Kendall PC. Training and consultation to promote implementation of an empirically supported treatment: A randomized trial. Psychiatric Services. 2012; 63:660–665. DOI: 10.1176/appi.ps.201100401 [PubMed: 22549401]

Berwick DM, Nolan TW, Whittington J. The triple aim: Care, health, and cost. Health Affairs. 2008; 27:759–769. DOI: 10.1377/hlthaff.27.3.759 [PubMed: 18474969]

Centers for Disease Control. Health, United States, 2010: With special feature on death and dying. Hyattsville, MD: National Center for Health Statistics; 2011.

Center for Health Workforce Studies. Licensed social workers in the United States, 2004. Washington, DC: School of Public Health and University at Albany; 2006 Mar. Report for the National Association of Social Workers Center for Workforce StudiesRensselaer, NY. Retrieved from http://workforce.socialworkers.org/studies/fullStudy0806.pdf

Chevarley, F. Statistical brief #12: Children's access to necessary health care. Rockville, MD: Agency for Health Care Quality and Research; 2001.

Chorpita BF, Daleiden EL. Doing more with what we know: Introduction to the special issue. Journal of Clinical Child & Adolescent Psychology. 2014; 43:143–144. DOI: 10.1080/15374416.2013.869751 [PubMed: 24527945]

Clarke GN, Hornbrook M, Lynch F, Polen M, Gale J, Beardslee W, Seeley J. A randomized trial of a group cognitive intervention for preventing depression in adolescent offspring of depressed parents. Archives of General Psychiatry. 2001; 58:1127–1134. DOI: 10.1001/archpsyc.58.12.1127 [PubMed: 11735841]

Cook BL, McGuire T, Miranda J. Measuring trends in mental health care disparities, 2000 2004. Psychiatric Services. 2007; 58:1533–1540. DOI: 10.1176/appi.ps.58.12.1533 [PubMed: 18048553]

Davis, K., Stremikis, K., Squires, D., Schoen, C. Mirror, mirror on the wall, 2014 update: How the U.S. health care system compares internationally. New York, NY: The Commonwealth Fund; 2014. Retrieved from http://www.commonwealthfund.org/publications/fund-reports/2014/jun/mirror-mirror

Dodge KA, Bierman KL, Coie JD, Greenberg MT, Lochman JE, McMahon RJ, for the Conduct Problems Prevention Research Group. Impact of early intervention on psychopathology, crime, and well-being at age 25. American Journal of Psychiatry. 2014; 172:59–70. DOI: 10.1176/appi.ajp.2014.13060786 [PubMed: 25219348]

Dodge KA, Pettit GS. A biopsychosocial model of the development of chronic conduct problems in adolescence. Developmental Psychology. 2003; 39:349–371. DOI: 10.1037/0012-1649.39.2.349 [PubMed: 12661890]

Farmer JE, Clark MJ, Drewel EH, Swenson TM, Ge B. Consultative care coordination through the medical home for CSHCN: A randomized controlled trial. Maternal and Child Health Journal. 2011; 15:1110–1118. DOI: 10.1007/s10995-010-0658-8 [PubMed: 20721612]

Federal Interagency Forum on Child & Family Statistics. Pop1 child population: Number of children (in millions) ages 0–17 in the United States by age, 1950–2013 and projected 2014–2050 [Table]. 2014. Retrieved from http://www.childstats.gov/americaschildren/tables/pop1.asp

Garber J, Clarke GN, Weersing VR, Beardslee WR, Brent DA, Gladstone TR, Iyengar S. Prevention of depression in at-risk adolescents: A randomized controlled trial. Journal of the American Medical Association. 2009; 301:2215–2224. DOI: 10.1001/jama.2009.788 [PubMed: 19491183]

Hatcher RL, Fouad NA, Grus CL, Campbell LF, McCutcheon SR, Leahy KL. Competency benchmarks: Practical steps toward a culture of competence. Training and Education in Professional Psychology. 2013; 72:84–91. DOI: 10.1037/a0029401

Herschell AD, Kolko DJ, Baumann BL, Davis AC. The role of therapist training in the implementation of psychosocial treatments: A review and critique with recommendations. Clinical Psychology Review. 2010; 30:448–466. DOI: 10.1016/j.cpr.2010.02.005 [PubMed: 20304542]

Hoagwood KE, Olin SS, Horwitz S, Nadeem E, Gleacher A, Chor KH, Finnerty M. Scaling up evidence-based practices in New York State: Through the looking glass. Journal of Clinical Child and Adolescent Psychology. 2014; 43:145–157. [PubMed: 24460518]

Janicke D, Davis AM. Introduction to the special section: Rural health issues in pediatric psychology. Journal of Pediatric Psychology. 2011; 36:647–651. DOI: 10.1093/jpepsy/jsr037 [PubMed: 21680555]

Kataoka SH, Zhang L, Wells KB. Unmet need for mental health care among U.S. children: Variation by ethnicity and insurance status. The American Journal of Psychiatry. 2002; 159:1548–1555. DOI: 10.1176/appi.ajp.159.9.1548 [PubMed: 12202276]

Kazdin AE. Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. The American Psychologist. 2008; 63:146–159. DOI: 10.1037/0003-066x.63.3.146 [PubMed: 18377105]

Kazdin AE. Evidence-based treatment research: Advances, limitations, and next steps. The American Psychologist. 2011; 66:685–698. DOI: 10.1037/a0024975 [PubMed: 22082384]

Kolko DJ, Campo J, Kilbourne AM, Hart J, Sakolsky D, Wisniewski S. Collaborative care outcomes for pediatric behavioral health problems: A cluster randomized trial. Pediatrics. 2014; 133:e981–e992. DOI: 10.1542/peds.2013-2516 [PubMed: 24664093]

Kolko DJ, Campo JV, Kilbourne AM, Kelleher K. Doctor-office collaborative care for pediatric behavioral problems: A preliminary clinical trial. Archives of Pediatrics and Adolescent Medicine. 2012; 166(3):224–231. DOI: 10.1001/archpediatrics.2011.201 [PubMed: 22064876]

Kolko DJ, Perrin E. The integration of behavioral health interventions in children's health care: Services, science, and suggestions. Journal of Clinical Child and Adolescent Psychology. 2014; 43:216–228. DOI: 10.1080/15374416.2013.862804 [PubMed: 24588366]

Lochman JE, Boxmeyer C, Powell N, Qu L, Wells K, Windle M. Dissemination of the coping power program: Importance of intensity of counselor training. Journal of Consulting & Clinical Psychology. 2009; 77:397–409. DOI: 10.1037/a0014514 [PubMed: 19485582]

Lochman JE, Powell NP, Boxmeyer CL, Qu L, Sallee M, Wells KC, Windle M. Counselor-level predictors of sustained use of an indicated preventive intervention for aggressive children. Prevention Science. 2015; Advance online publication. doi: 10.1007/s11121-014-0511-1

McDaniel S, Grus CL, Cubic BA, Hunter CL, Kearney LK, Schuman CC, Johnson S. Competencies for psychology practice in primary care. American Psychologist. 2014; 69:409–429. DOI: 10.1037/a0036072 [PubMed: 24820690]

Merikangas KR, He J, Broday D, Fisher PW, Bourdon K, Koretz DS. Prevalence and treatment of mental disorders among US children in the 2001–2004 NHANES. Pediatrics. 2010; 125:75–81. DOI: 10.1542/peds.2008-2598 [PubMed: 20008426]

Mosquera RA, Avritscher EBC, Samuels CL, Harris TS, Pedroza C, Evans P, Tyson J. Effect of an enhanced medical home on serious illness and cost of care among high-risk children with chronic illness: A randomized trial. The Journal of the American Medical Association. 2014; 312:2640–2648. DOI: 10.1001/jama.2014.16419

Nakamura BJ, Mueller CW, Higa-McMillan C, Okamura KH, Chang JP, Slavin L, Shimabukuro S. Engineering youth service system infrastructure: Hawaii's continued efforts at large-scale implementation through knowledge management strategies. Journal of Clinical Child and

Adolescent Psychology. 2013; 43:179–189. DOI: 10.1080/15374416.2013.812039 [PubMed: 23819869]

National Center for Quality Assurance. HEDIS depression measures specified for electronic clinical data systems. 2015. Retrieved from http://www.ncqa.org/HEDISQualityMeasurement/HEDISLearningCollaborative/HEDISDepressionMeasures.aspx

O'Connor, E., Gaynes, B., Burda, BU., Williams, C., Whitlock, EP. Screening for suicide risk in primary care a systematic evidence review for the U.S. preventive services task force. Rockville, MD: Agency for Healthcare Research and Quality; 2013.

Palermo TM, Janicke DM, McQuaid EL, Mullins LL, Robins PM, Wu YP. *Proposed competency model for pediatric psychology education and training* (Report developed by the Task Force on Competencies and Best Training Practices in Pediatric Psychology). Journal of Pediatric Psychology. 2014; 39(9):965–984. [PubMed: 24719239]

Patient-Centered Primary Care Collaborative. The patient-centered medical home's impact on cost and quality. 2014. Retrieved from https://www.pcpcc.org/resource/patient-centered-medical-homes-impact-cost-and-quality

Richardson LP, Ludman E, McCauley E, Lindenbaum J, Larison C, Zhou C, Katon W. Collaborative care for adolescents with depression in primary care. The Journal of the American Medical Association. 2014; 312:809.doi: 10.1001/jama.2014.9259 [PubMed: 25157724]

Rotheram-Borus MJ, Swendeman D, Chorpita BF. Disruptive innovations for designing and diffusing evidence-based interventions. American Psychologist. 2012; 67:463–476. DOI: 10.1037/a0028180 [PubMed: 22545596]

Rotheram-Borus MJ, Tomlinson M, Swendeman D, Lee A, Jones E. Standardized functions for smartphone applications: Examples from maternal and child health. International Journal of Telemedicine Applications. 2012; :1–16. DOI: 10.1155/2012/973237

Schoenwald SK, Hoagwood KE, Atkins MS, Evans ME, Ringeisen H. Workforce development and the organization of work: The science we need. Administration and Policy in Mental Health and Mental Health Services Research. 2010; 37:71–80. DOI: 10.1007/s10488-010-0278-z [PubMed: 20145990]

Stancin T, Perrin EC. Psychologists and pediatricians: Opportunities for collaboration in primary care. The American Psychologist. 2014; 69:332–343. DOI: 10.1037/a0036046 [PubMed: 24820683]

Stancin, T., Perrin, EC., Ramirez, L. Pediatric psychology and primary care. In: Roberts, M., Steele, R., editors. Handbook of pediatric psychology. 4th. New York, NY: Guilford Press; 2009. p. 630-648.

Starin AC, Atkins MS, Wehrmann KC, Mehta T, Hesson-McInnis MS, Marinez-Lora A, Mehlinger R. Moving science into state child and adolescent mental health systems: Illinois' evidence-informed practice initiative. Journal of Clinical Child & Adolescent Psychology. 2014; 43:169–178. DOI: 10.1080/15374416.2013.848772 [PubMed: 24175571]

Thomas KC, Ellis AR, Konrad TR, Holzer CE, Morrissey JP. County-level estimates of mental health professional shortage in the United States. Psychiatric Services. 2009; 60:1323–1328. DOI: 10.1176/ps.2009.60.10.1323 [PubMed: 19797371]

Tomlinson M, Rotheram-Borus MJ, Doherty T, Swendeman D, Tsai AC, Ijumba P, Chopra M. Value of a mobile information system to improve quality of care by community health workers. South African Journal of Information Management. 2013; 15:9.doi: 10.4102/sajim.v15i1.528

Tomlinson M, Rotheram-Borus MJ, Swartz L, Tsai AC. Scaling up mHealth: Where is the evidence? PLoS Medicine. 2013; 10:e1001382.doi: 10.1371/journal.pmed.1001382 [PubMed: 23424286]

U.S. Department of Health and Human Services. Mental health: culture, race, and ethnicity—A supplement to mental health: A report of the surgeon general. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services; 2001.

U.S. Department of Health and Human Services, Health Resources and Services Administration. Projecting the supply and demand for primary care practitioners through 2020. 2013. Retrieved from http://bhw.hrsa.gov/healthworkforce/supplydemand/usworkforce/primarycare/index.html

U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. Health workforce projections: Psychologists.

Rockville, MD: Author; 2015a. Retrieved from http://bhw.hrsa.gov/healthworkforce/supplydemand/usworkforce/projections/psychologistsapril2015.pdf

U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. National Center for Health Workforce Analysis. (2014). Projecting the supply of non-primary care specialty and subspecialty clinicians: 2010–2025. Rockville, MD: Author; 2015b. Retrieved from http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/clinicalspecialties/clinicalspecialties.pdf

U.S. Preventive Services Task Force. Recommendation summary. 2009. Retrieved from http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/suicide-risk-in-adolescents-adults-and-older-adults-screening

U.S. Preventive Services Task Force. Final recommendation statement: Suicide risk in adolescents, adults and older adults: Screening, May 2014. 2014. Retrieved from http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/suicide-risk-in-adolescents-adults-and-older-adults-screening

Weersing VR. Samples and systems: Finding the fit to improve care for adolescent depression. Administration and Policy in Mental Health and Mental Health Services Research. 2010; 37:197–200. DOI: 10.1007/s10488-010-0280-5 [PubMed: 20148302]

Weisz JR, Kuppens S, Eckshtain D, Ugueto AM, Hawley KM, Jensen-Doss A. Performance of evidence-based youth psychotherapies compared with usual clinical care: A multilevel meta-analysis. Journal of the American Medical Association Psychiatry. 2013; 70:750–761. [PubMed: 23754332]