Dissemination and Implementation of Evidence-Based Practices for Child and Adolescent Mental Health: A Systematic Review

Douglas K. Novins, M.D., Amy E. Green, Ph.D., Rupinder K. Legha, M.D., Gregory A. Aarons, M.D.

Objective: Although there has been a dramatic increase in the number of evidence-based practices (EBPs) to improve child and adolescent mental health, the poor uptake of these EBPs has led to investigations of factors related to their successful dissemination and implementation. The purpose of this systematic review was to identify key findings from empirical studies examining the dissemination and implementation of EBPs for child and adolescent mental health. **Method:** Of 14,247 citations initially identified, 73 articles drawn from 44 studies met inclusion criteria. The articles were classified by implementation phase (exploration, preparation, implementation, and sustainment) and specific implementation factors examined. These factors were divided into outer (i.e., system level) and inner (i.e., organizational level) contexts. **Results:** Few studies used true experimental designs; most were observational. Of the many inner context factors that were examined in these studies (e.g., provider characteristics, organizational resources, leadership), fidelity monitoring and supervision had the strongest empirical evidence. Albeit the focus of fewer studies, implementation interventions focused on improving organizational climate and culture were associated with better intervention sustainment as well as child and adolescent outcomes. Outer contextual factors such as training and use of specific technologies to support intervention use were also important in facilitating the implementation process. **Conclusions:** The further development and testing of dissemination and implementation strategies is needed to more efficiently move EBPs into usual care. J. Am. Acad. Child Adolesc. Psychiatry, 2013;52(10):1009–1025. **Key Words:** children, dissemination and implementation research, evidence-based practice, mental health substance abuse

Although the last several decades have been marked by the development of a number of important preventive and clinical evidence-based practices (EBPs) for mental health problems among children and adolescents, the science of disseminating and implementing these practices into community and clinical settings has received considerably less attention.[1] Indeed, the poor uptake of EBPs in usual care settings remains one of the major barriers to providing safe, effective, and efficient mental health care.[1,2] The improvement of this process is the focus of dissemination and implementation research.

Supplemental material cited in this article is available online.

For the purposes of this review, we define dissemination as the "targeted distribution of information and intervention materials to a specific public health or clinical practice audience. The intent is to spread knowledge and the associated evidence-based interventions."[3] We define implementation as "the use of strategies to introduce or change evidence-based health interventions within specific settings."[3,4] Both dissemination and implementation are considered "active" strategies, standing in contrast to processes described as "diffusion," which refer to the natural uptake of innovations.[5,6] Implementation research falls under the broad rubric of "translational science" and is considered "T3," where T1 is the translation of basic science discovery to a clinical intervention (e.g., translating a basic biological process into a

medication, or a behavioral process to a psychosocial intervention), T2 expands basic findings to clinical practice, and T3 is the dissemination and/or implementation of a new intervention.[7]

We define EBPs as those health interventions that are supported by rigorous scientific research, allow for clinical judgment and expertise in their application, and provide for consumer choice, preference, and culture.[8,9] Although the extent to which EBPs are being provided in usual care for children and adolescents is not clear, it is clear that there are critical gaps in the quality and effectiveness of mental health care currently being delivered to children.[1] Indeed, the ability to adopt, implement, and sustain EBPs is becoming increasingly important for mental health, school, and other human service organizations and providers[10] as well as for integration into primary health care settings.

Implementation research is informed by a range of theories including seminal work on the diffusion of innovation in agriculture.[6,11] This work generalized to diffusion of innovations in general and in social service settings in particular.[5] In the 1970s, work being developed in the United Kingdom addressed understanding intervention effectiveness in health care settings through systematic reviews of scientific literature[12] and systematically applying relevant research to practice,[13] leading to clearinghouses to support dissemination of information regarding EBPs.[14] In the 1980s to 1990s there was developing interest in the study of the implementation of innovations in business[15,16] and an increasing impetus for quality improvement in health care that culminated in the Health Care Quality Improvement Act (1986)[17] and later the Institute of Medicine's Crossing the Quality Chasm report (2001).[18] Specific calls from the National Institutes of Health (NIH) to support implementation research began in 1999,[3] and Centers for Disease Control and Prevention funding began in 2009.[19] NIH-sponsored conferences[20] and training programs[21] focused on dissemination and implementation research have also helped to advance the field.

Moving from the development of interventions to implementation in usual care is often a lengthy process, and that time lag compromises the well-being of children with mental health needs.[22] A number of mechanisms have been developed to accelerate this process through support for research and practice in implementation science. For example, NIH supports active research and training programs focused squarely on the dissemination and implementation of EBPs.[3] The W.T. Grant Foundation is funding studies to better understand how research evidence is accessed, shared, and interpreted by policymakers and practitioners,[4,23] and the Centers for Disease Control and Prevention also funds studies to examine translation of EBPs into usual care.[24]

There are a number of published dissemination and implementation frameworks; most approach implementation as a complex, multiphasic process that involves multiple stakeholders in service systems, organizations, and practices.[11,25,26] One such framework developed specifically for public mental health and social service settings is the EPIS model. It divides the dissemination and implementation process into the following 4 phases: Exploration (consideration of new approaches to providing services); Preparation (planning for providing a new service); Implementation (provision of this new service); and Sustainment (maintaining this new service over time; EPIS).[10] The EPIS model also emphasizes the importance of contextual factors, both inside the unit providing services (i.e., service organization, individuals providers) as well as those in the larger environment in which the service unit operates (e.g., policy and funding, relationships with intervention developers and technical assistance providers, certification and regulatory environment). Figure 1 shows the multiple phases and levels of the EPIS framework. Note that some factors (e.g., fidelity, provider attitudes, interorganizational networks) are relevant to multiple EPIS phases. To illuminate this complexity, we provide the following hypothetical example.

In the exploration phase, a service system, organization (e.g., hospital, clinic, community-based provider, etc.) or an individual considers what factors might be important in regard to implementing a practice. For a new medication, these might include regulatory and reimbursement issues (e.g., Food and Drug Administration [FDA] approval, health plan formularies) and the need for training and support for physicians and pharmacists in regard to appropriate prescribing practices and potential drug interactions. In the preparation phase, changes in formularies would be made, and electronic medical records would need to be amended to allow for documenting indications and prescribing the new medication. Plans would need to be made for physician/pharmacist training, including scheduling,