



Dissemination and implementation science in program evaluation: A telemental health clinical consultation case example



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ABSTRACT

Increased attention has been placed on evaluating the extent to which clinical programs that support the behavioral health needs of youth have effective processes and result in improved patient outcomes. Several theoretical frameworks from dissemination and implementation (D&I) science have been put forth to guide the evaluation of behavioral health program implemented in the context of real-world settings. Although a strong rationale for the integration of D&I science in program evaluation exists, few examples exist available to guide the evaluator in integrating D&I science in the planning and execution of evaluation activities.

This paper seeks to inform program evaluation efforts by outlining two D&I frameworks and describing their integration in program evaluation design. Specifically, this paper seeks to support evaluation efforts by illustrating the use of these frameworks via a case example of a telemental health consultation program in pediatric primary care designed to improve access to behavioral health care for children and adolescents in rural settings. Lessons learned from this effort, as well as recommendations regarding the future evaluation of programs using D&I science to support behavioral health care in community-based settings are discussed.

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1. Introduction

Comprehensive program evaluation design has been increasingly emphasized as a key component to maximize the successful dissemination and implementation (D&I) of behavioral health care programs provided to youth and families in many service sectors (Bull, Gillette, Glasgow, & Estabrook, 2003; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Several methodological frameworks guiding the evaluation of behavioral health programs in the context of real-world settings exist (Fixsen, Blase, Naoom, & Wallace, 2009). Evaluators have been urged to consider using these frameworks in order to systematically integrate D&I science and consider contextual variables during program evaluation design (see Chambers, 2014). However, these efforts are just beginning

and few examples are available to guide the evaluator in utilizing D&I science in the design of evaluation studies.

The goal of this paper is to inform the thoughtful integration of D&I frameworks into program evaluation efforts for behavioral health programs delivered in real-world settings. Following a brief review of program evaluation and D&I science, including several relevant frameworks, a case example illustrating the use of D&I frameworks in an evaluation of a telemental health (TMH) consultation program in rural, pediatric primary care settings is presented. Specifically, with the goal of supporting future program evaluation efforts, we discuss the program evaluation plan, informed by current best practices in D&I science (Damschroder et al., 2009; Glasgow, Vogt, & Boles, 1999), as well as lessons learned throughout the process. Recommendations for future program evaluation efforts using D&I science related to behavioral health care in community-settings are provided.

2. Program evaluation

Program evaluation, defined as “systematic investigation to determine the success of a specific program” (Barker, 2003, p. 149),

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has been differentiated from empirical research, which seeks to produce generalizable knowledge (Blome, 2009). Despite the importance of the former in informing and improving clinical programs and services, program evaluation studies have historically been undertaken and published less frequently in comparison to empirical studies (Rosen, Proctor, & Staudt, 1999). This discrepancy has been attributed to the traditional presumption that program evaluation results do not generalize beyond the unique program studied (Rosen et al., 1999). However, given the growing emphasis on accountability within the behavioral health care field (Berenson, Pronovost, & Krumholz, 2013), evaluation has become a routine aspect of delivering care and has, in recent years, been undertaken and published with much greater frequency. Moreover, the scope and rigor of evaluation methodology has proliferated in recent years and the field of program evaluation has matured significantly (Madaus, Scriven, & Stufflebeam, 2012).

Although the inclusion of process or implementation measures have long been emphasized in program evaluation theory (e.g., Scriven, 1972; distinguished formative from summative measures and Suchman, 1967; highlighted the role of intervening processes), program evaluation studies have historically focused on outcomes, mostly commonly program effectiveness (Fixsen et al., 2005). Further, while the benefit of examining implementation, or process outcomes, in the context of evaluation efforts has previously been discussed (Posavac, 2011; Royse, Thyer, & Padgett, 2010), such efforts have lacked the inclusion of theories to guide the assessment of implementation processes (Saunders, Evans, & Joshi, 2005). Yet, this trend is changing, as federal funding mechanisms now regularly require cross-site and local evaluations of service system grants to include process, outcome and impact measures (Substance Abuse & Mental Health Services Administration, 2012), mirroring previous calls and subsequent shifts in clinical science research (Westfall, Mold, & Fagnan, 2007). More recently, the importance of intentionally integrating D&I science in program evaluation design and methods been noted (Fixsen et al., 2005), and the actual application of D&I frameworks to guide such efforts to achieve the goals of evaluating both implementation processes and program outcomes been promoted (Harris et al., 2012; McDonald, 2013).

3. Dissemination and implementation science

Dissemination has been defined as the “targeted distribution of information and intervention materials to a specific public health or clinical practice audience,” while implementation has been defined as “the use of strategies to adopt and integrate evidence-based health intervention and change practice patterns within specific settings” (National Institute of Health, Dissemination and Implementation Research in Health Program Announcement). Thus, dissemination refers to the spread or distribution of information which differs from the implementation process, in which strategies are used to support the actual adoption and use of information in a particular setting. The inconsistent adoption of evidence-based practices across multiple service settings has contributed to an increased focus on D & I science (Centers for Disease Control & Prevention, 2006; Drotar & Lemanek, 2001; Proctor et al., 2009). Specifically, the well-publicized “gap” between research and practice (Kazdin, 2008) has encouraged researchers to go beyond examining the efficacy of research interventions to investigating the process of adoption, implementation, and maintenance of evidence-based practices in varied settings (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; McDonald, 2013; Schoenwald & Hoagwood, 2001).

Within D&I science, challenges have surfaced in defining a common language and selecting measurement tools for key D&I constructs (Martinez, Lewis, & Weiner, 2014; Rabin, Brownson,

Haire-Joshu, Kreuter, & Weaver, 2008). Additionally, numerous frameworks have been proposed to guide dissemination and implementation efforts. In fact, a recent review by (Tabak, Khoong, Chambers, & Brownson, 2012) found 61 D&I models or frameworks. However, two frameworks in particular have been highlighted due to their fairly well-defined constructs (Tabak et al., 2012) and their potential application to the comprehensive evaluation of interventions, services, and programs (Chambers, 2014): the Reach, Effectiveness, Adoption, Implementation, Maintenance (RE-AIM) model (Glasgow et al., 1999) and the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009). These frameworks are complementary and their integration may be of particular benefit to a comprehensive program evaluation design which seeks to incorporate both process and outcome measures. Specifically, the RE-AIM framework offers breadth while allowing for the inclusion of other relevant frameworks or models, such as the CFIR, which offers depth. In particular, the “I,” or Implementation domain of the RE-AIM (Glasgow et al., 1999), which assesses the degree to which the program is implemented as intended, can be elaborated upon by implementation-specific frameworks such as the CFIR, which seek to assess variables that would impact implementation process (Damschroder et al., 2009). Both the RE-AIM and CFIR are described in detail below.

3.1. RE-AIM

The RE-AIM framework (Glasgow et al., 1999), developed as an evaluation framework specifically for public health and community-based interventions (Glasgow et al., 1999), can be used to assist with planning, evaluation, and reporting of research to practice efforts (Chambers, 2014). The model emphasizes five relevant factors to determining the public health impact of specific programs or interventions. Two factors, Reach and Effectiveness, relate to the degree to which the program is beneficial, while the remaining three factors, Adoption, Implementation, and Maintenance, refer to the success and sustainability of the program within the setting of interest.

The RE-AIM framework has become increasingly popular among evaluation study designs. In a systematic review of published studies between 1999 and 2010, for instance, over 70 articles were found to have used the RE-AIM framework (Gaglio, Shoup, & Glasgow, 2013). Although RE-AIM is a popular framework for use in program evaluation and research efforts, recent studies have indicated that each of the five factors are not always incorporated with full integrity (Kessler et al., 2013). Specifically, in a content review of grant applications proposing the use of the RE-AIM model, fewer than 10% of grant proposals that claimed to utilize RE-AIM incorporated all five domains (Kessler et al., 2013). Moreover, in the systematic review mentioned above, few studies incorporated the use of qualitative methods to examine the five elements of the RE-AIM framework (Gaglio et al., 2013), which has been increasingly recommended in an effort to better interpret the results of quantitative evaluation findings (Palinkas et al., 2011). Recommendations for the future use of the RE-AIM framework have thus included accurately assessing all five domains, as well as encouraging the use of mixed methods to better understand implementation concerns (Kessler et al., 2013).

3.2. CFIR

The CFIR, a synthesis of hundreds of articles and 19 published models of implementation research, is a comprehensive framework that provides guidelines for evaluating implementation processes and reasons why implementation may or may not be successful (Sorensen & Kosten, 2011). The CFIR focuses on five

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