

## VIEWPOINT

# User-Centered Redesign of Evidence-Based Psychosocial Interventions to Enhance Implementation—Hospitable Soil or Better Seeds?

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**After decades** of research and policy initiatives, the advice to use evidence-based practices has become a mantra for improving clinical care. In behavioral health, most evidence-based practices are psychosocial interventions: interpersonal or informational strategies to reduce symptoms and improve functioning. Hundreds of evidence-based psychosocial interventions now exist, and research shows that their use in real-world systems can confer demonstrable effects on community-level outcomes.<sup>1</sup> Nevertheless, research also indicates that these interventions are used infrequently and inconsistently and that most efforts to implement them are unsuccessful,<sup>2</sup> dramatically limiting their potential for promoting well-being.

## Hospitable Soil or Better Seeds?

The research-to-practice gap has spurred the rapid growth of implementation science, which aims to facilitate the use of evidence-based interventions in routine practice. A major focus of implementation science has been to identify barriers and facilitators of successful implementation, so they can be systematically addressed for the benefit of practitioners and patients alike. Such implementation determinants have been well documented at the system level (where supportive policies and funding greatly affect intervention uptake), as well as at the organizational level (where climate, morale, and supervision structures do the same). Much attention has also been focused on the individuals involved, including the attitudes, motivation, and knowledge of clinicians.<sup>2</sup>

Unfortunately, characteristics of the interventions themselves, such as their flexibility, learnability, and intuitive appeal to clinicians, have been less well examined during implementation. A recent systematic review of implementation assessment instruments<sup>3</sup> found only 19 tools that addressed the intervention level (compared with 90 organizational instruments and 98 tools for individual factors). Similarly, a review of specific strategies for implementing health care interventions (Alex R. Dopp, PhD, written communication, August 3, 2018) revealed that 3 of 73 strategies (4%) primarily targeted interventions. This is problematic, given that intervention-level determinants commonly interfere with the acceptability and feasibility of psychosocial interventions and in turn adoption and sustainment.<sup>2,4</sup> For the behavioral health services field, attending primarily to the hospitable of systems and individuals and not attending to issues inherent to the interventions that interface with those systems is much akin to a farmer solely focusing on the

characteristics of the soil and not the quality or germination potential of the seeds.

## User-Centered Design

User-centered design is an approach to product development that grounds the process in information about the individuals and settings with which products will ultimately be used.<sup>4,5</sup> The approach may be used to address common psychosocial intervention implementation failures in behavioral health by attending to known intervention-level determinants, such as protocol flexibility and complexity, and generating contextually appropriate redesign solutions in which interventions are adapted with early and meaningful user input, such as simplified and appealing protocols and trainings. In recent years, a design orientation has expanded in health care to address digital devices, electronic health records, and patient experience<sup>6</sup> but has been slow to influence psychosocial intervention research and practice.

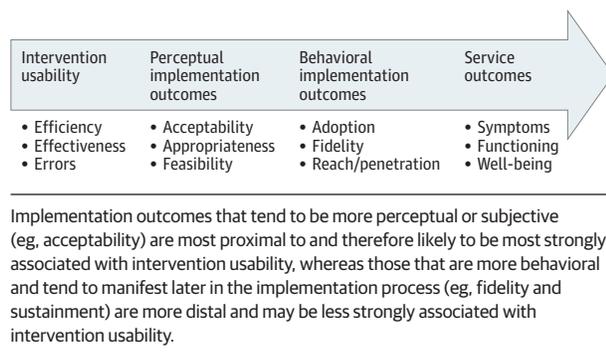
Usability, a primary objective of user-centered design, is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction.<sup>4</sup> Intervention usability is a key upstream determinant of implementation and service outcomes (Figure) because lower-burden innovations are much more likely to be feasible for clinicians and patients, leading to adoption and sustained use.<sup>2,4</sup> The literature is rife with studies documenting clinician dissatisfaction with traditional psychosocial intervention protocols and findings that 1-time train-and-hope models (in which initial training is provided without follow-up supports) fail to produce clinician behavior change. Attention to usability holds promise for making protocols easier to train and learn and more accessible for clinicians and patients.

## Intervention Redesign to Enhance Intervention Implementation

Systematic intervention redesign is rarely pursued in behavioral health, despite years of implementation research showing that there is no implementation without adaptation and that adaptation to context can increase effectiveness and sustained use across implementation phases.<sup>7</sup> The most important questions to ask are therefore not “Should we adapt?” but rather “How, and with whose input, can we adapt to ensure patients have consistent access to effective, patient-centered care?” User-centered design has a wealth of techniques to address this question,<sup>4,5</sup> many of which are applicable to psychosocial intervention redesign, includ-

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**Figure. Association of Intervention Usability With Implementation and Service Outcomes**



ing (1) identifying and engaging target users early, (2) conducting user testing, and (3) simplifying existing interventions.

Despite the diversity of the behavioral health workforce, intervention developers often implicitly assume that their interventions (eg, cognitive behavioral therapy) can be used by any clinician and with any individual experiencing a specific problem (eg, major depression). However, evidence suggests that product developers routinely underestimate user diversity and universally applicable design solutions are rare.<sup>4,5</sup> Before launching any implementation effort, (eg, representatives of the state health and/or behavioral health authority), purchasers of care (eg, state Medicaid officials and insurers), and health care organizations should consider convening intervention developers and primary users (eg, repre-

sentative practitioners and patients) into collaborative redesign teams that tailor interventions to new contexts while retaining the core components<sup>2</sup> responsible for their effectiveness.

User testing, in which clinicians and patients are observed interacting directly with intervention components while completing specific tasks, is foundational for user-centered design.<sup>5</sup> Testing can be used by developers or purchasers to assess usability (eg, errors) and determine which intervention components may most benefit from redesign.

Although it is relatively easy to add layer upon layer of intervention practices in pursuit of larger effects in laboratory-based efficacy studies, the creation of parsimonious and graceful designs for use in the real world is more difficult. To simplify interventions, redesign teams may streamline tasks by selecting and implementing key competencies or practices (eg, measurement-based care or exposure techniques for anxiety) rather than full intervention packages. In addition, they may keep tasks unchanged, but incorporate new infrastructure, such as decision support tools (eg, well-visualized intervention algorithms). Regardless, redesigned interventions should be continuously evaluated in their target context for comparable or improved<sup>7</sup> patient impact.

Currently, some of the best examples of psychosocial intervention redesign come from global mental health. Internationally, low literacy rates and a primarily lay workforce have necessitated simplifying handouts and replacing written intervention manuals with locally relevant imagery to guide delivery.<sup>4</sup> Intervention developers and users should join together to undertake such efforts to improve services at home, as well develop more useable, compelling, and implementable innovations in behavioral health.

#### ARTICLE INFORMATION

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