

Usability testing, initial implementation, and formative evaluation of an evidence-based intervention: Lessons from a demonstration project to reduce long-term foster care

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ABSTRACT

The field of child welfare faces an undersupply of evidence-based interventions to address long-term foster care. The Permanency Innovations Initiative is a five-year federal demonstration project intended to generate evidence to reduce long stays in foster care for those youth who encounter the most substantial barriers to permanency. This article describes a systematic and staged approach to implementation and evaluation of a PII project that included usability testing as one of its key activities. Usability testing is an industry-derived practice which analyzes early implementation processes and evaluation procedures before they are finalized. This article describes the iterative selection, testing, and analysis of nine usability metrics that were designed to assess three important constructs of the project's initial implementation and evaluation: intervening early, obtaining consent, and engaging parents. Results showed that seven of nine metrics met a predetermined target. This study demonstrates how findings from usability testing influenced the initial implementation and formative evaluation of an evidence-supported intervention. Implications are discussed for usability testing as a quality improvement cycle that may contribute to better operationalized interventions and more reliable, valid, and replicable evidence.

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1. Introduction

Permanency is a primary goal of public child welfare services; however, many children do not attain permanency in a timely manner. One in five children in foster care has been in care three years or longer (U.S. Department of Health and Human Services, 2012). Prior research reveals a number of risk factors that inhibit permanency (Akin, 2011; Barth, 1997; Connell, Katz, Saunders, & Tebes, 2006; Courtney, 1994; Courtney & Wong, 1996). But while a good deal is known about what delays permanency, little is known about what promotes it.

Despite the growing emphasis placed on evidence-based practice (EBP) in child welfare, the field faces an undersupply of

evidence-based interventions (EBIs) to promote permanency, particularly for children who experience the longest stays in foster care. Among the 281 programs listed on the California Evidence-Based Clearinghouse for Child Welfare, only 57 (20%) demonstrate empirical support (i.e., at least one rigorous randomized controlled trial (RCT) in a usual care setting which shows the intervention to be superior to an appropriate comparator). Of these 57 interventions, only seven specifically targeted improvements in family permanence (California Evidence-Based Clearinghouse for Child Welfare, 2012).¹

In 2010, the Administration for Children and Families (Department of Health and Human Services) launched the Permanency Innovations Initiative (PII). One of the single largest federal investments in child welfare innovations to date, the goals of PII are to: (1) enhance or build the implementation and evaluation capacity of public child welfare systems and (2) strengthen the

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¹ Information updated as of March 1, 2013.

child welfare evidence base for reducing long-term foster care. PII is a five-year, multi-site demonstration project designed to improve permanency outcomes by targeting *specific groups* of children in foster care that are the most likely to experience long stays. PII is a cooperative agreement between the ACF and five grantees, each with a unique service approach to reduce foster care stays.

As a cooperative agreement, PII is distinguished by its substantial federal involvement in local sites, including leadership provided by two divisions of the ACF: the Children’s Bureau (CB) and the Office of Planning, Research and Evaluation (OPRE). These divisions collaborate with one another and with two teams of technical assistance providers (the PII Training and Technical Assistance team and the PII Evaluation team) to support PII grantees in selecting, developing, implementing, and evaluating site-specific innovations to reduce long-term foster care for specific target populations of children.

Another distinctive feature of PII is a purposeful design to support systematic implementation and rigorous evaluation. As such, PII acknowledges the dual importance of implementation integrity and intervention validity for improving outcomes (Testa & White, 2013). Failure of an innovation to achieve its intended purposes may reflect a problem with the integrity of the implementation, or a problem with the validity of the intervention, or both (Klein & Sorra, 1996). PII is designed to minimize both types of threats to innovation success by providing grantees with technical assistance in utilizing implementation science and establishing rigorous evaluations.

This article describes the usability testing phase of initial implementation and formative evaluation as operationalized by one PII grantee, the Kansas Intensive Permanency Project (KIPP). In a business setting, usability testing is a technique used to test a product with potential users so that early problems can be spotted and corrected before the product moves into full production. In the evaluation context, usability testing’s core functions include: (1) quickly assessing the adequacy of key implementation and evaluation processes, and (2) detecting challenges and obstacles that require correction in initial implementation (Nielsen & Landauer, 1993). Usability testing

involves iterative plan-do-study-act (PDSA) cycles to refine processes and procedures (Deming, 2000; Varkey, Reller, & Resar, 2007). Modifications are integrated into the intervention to build a better operationalized model. The enhanced version of the model can be reexamined through additional usability testing or further validated through formative evaluation with a larger sample to test expected patterns of statistical association with program outputs and proximal outcomes.

While usability testing is a common business practice, it has received scant attention in the human service literature. Little information exists on the application of usability testing to examine and improve implementation and evaluation processes. This study contributes to the evaluation field by describing the critical role of usability testing in a large-scale demonstration project. We begin with an overview of the project’s approach, placing usability testing into the larger framework of PII implementation and evaluation, and describing key activities that come before and after it. We then provide an overview of usability testing and describe our particular study’s methods and major findings. This article demonstrates how usability testing influenced the initial implementation and formative evaluation of an adapted EBI and explores implications of usability testing as a sequence of iterative PDSA cycles aimed at ensuring stable implementation and rigorous evaluation.

1.1. Project approach

Before describing details of the specific demonstration project’s usability testing, this section of the article elaborates the conceptual principles of its implementation and evaluation. The project’s approach to implementation and evaluation integrates three distinct but overlapping literatures: (1) program evaluation (Testa & Poertner, 2010); (2) intervention research (Fraser et al., 2009); and (3) implementation science (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Fig. 1 illustrates the approach, which is conceived as a sequence of stages that progresses from (1) exploration and installation to (2) implementation and evaluation to (3) replication and adaptation.

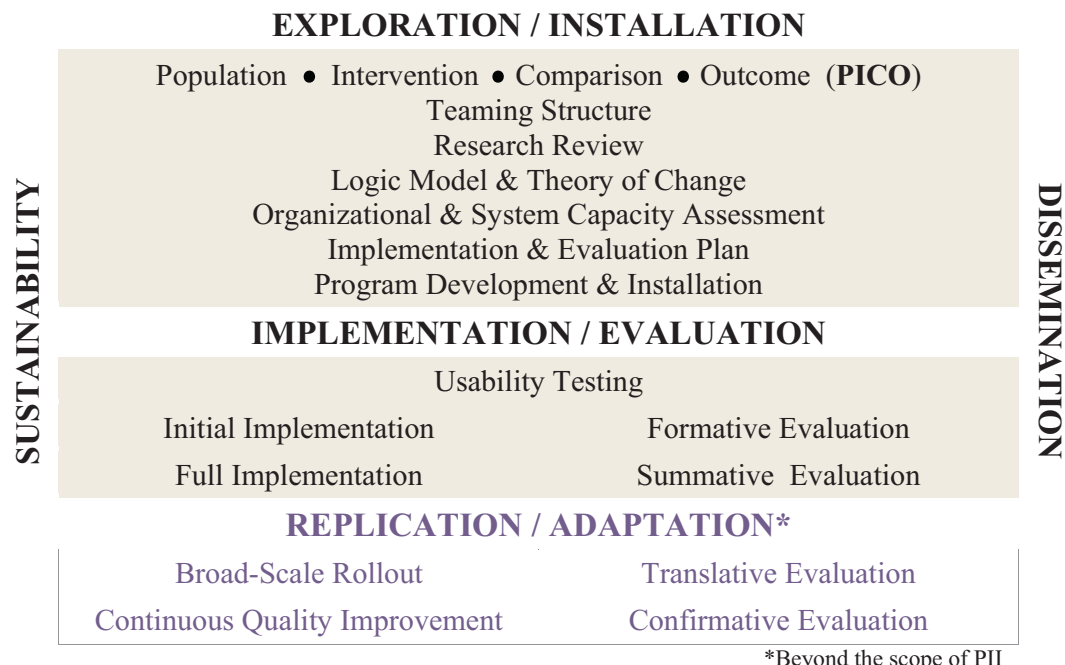


Fig. 1. Project approach.

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