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Is implementation fidelity associated with improved access to care in a School-based Child and Family Team model?

Elizabeth J. Gifford [a,*], Rebecca S. Wells [b,1], Yu Bai [a,2], Patrick S. Malone [c,3]

[a] Center for Child and Family Policy, Duke University, Box 90545, Durham, NC 27708, USA
[b] Health Policy & Management, Texas A & M, 1266 TAMU, College Station, TX 77843, USA
[c] Department of Psychology, Barnwell College, 533 Barnwell, University of South Carolina, Columbia, SC 29208, USA

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ABSTRACT

Effective child and family centered service planning is crucial to addressing vulnerable children's needs. However, there is limited evidence about what facets of these processes improve service use and outcomes. The current study used a Poisson random effects hazard model to test correlations between fidelity to NC's Child and Family Support Team model and time to service receipt, using case management data for 3396 children served by that program during the 2008–2009 school year. Students were more likely to receive recommended services more quickly when caregivers and the students attended planning meetings, when their plans included services for caregivers, and when child and family team leaders followed up after meetings to verify service receipt. Contrary to the Child and Family Support Team theory of change, match between student needs and the lead agency of the meeting was not associated with the odds of quicker service receipt, nor was attendance by natural supports. Findings from this study demonstrate the potential effectiveness of using case management systems to measure service planning process fidelity, as well as how results thereof can both inform process improvement and potential refinements to models' theories of change.

1. Introduction

In the United States, public schools are tasked with providing all students a free and appropriate education. A range of factors, often co-occurring, can undermine academic achievement, including poverty and unmet physical and mental health needs (Greenberg et al., 2003). For schools, finding and implementing cost effective strategies to address these needs is challenging, and potentially entails marshaling community health and human services as well as school-based services. Although many studies of school-based programs focus on the programs' effectiveness at altering specific outcomes, little research has been devoted to developing fidelity measures that explain the quality of program implementation (Domitrovich & Greenberg, 2000). Programs, when implemented at large scale, are notorious for not achieving their intended impact (Fixsen, Naoom, Blase, & Friedman, 2005). This study aims to inform program evaluation by examining specific aspects of program implementation that predict positive outcomes for service delivery.

Several widely used mechanisms to coordinate services for children and families include child and family teams used in child welfare, Multisystemic Therapy (Henggeler, 1999), Systems of Care for mental health (Stroul & Blau, 2010), and Wraparound services (Bruns & Walker, 2010). Common principles of these programs include the family's central role in planning and decision-making and a focus on coordinating services from multiple agencies. Several studies have examined the connection between the Wraparound process and students' academic outcomes. While not all studies have found that these models have improved academic outcomes (e.g. Strompolis et al., 2012), some have found positive results. For example, 70 youth with serious emotional disturbances who received intensive Wraparound services showed improvements in behavior and academic outcomes six months later (Eber, Hyde, & Suter, 2010). Similarly, a meta-analysis found that Wraparound was generally associated with improved student functioning in school (Suter & Bruns, 2009).

For these programs to reliably improve youth outcomes, a solid understanding of which program components drive results is

Abbreviations: CFST, Child and Family Support Team.

* Corresponding author. Tel.: +1 919 613 9294.
E-mail addresses: beth.gifford@duke.edu (E.J. Gifford), wells@srph.tamhsc.edu (R.S. Wells), yu.bai@duke.edu (Y. Bai), malone@sc.edu (P.S. Malone).
[1] Tel.: +1 979 458 2246.
[2] Tel.: +1 919 613 6408.
[3] Tel.: +1 803 777 2700.

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needed (Dane & Schneider, 1998). Building this evidence base depends on measuring fidelity to the program's model, ideally in ways that are feasible to replicate across settings. Only a few studies have focused on developing fidelity measures based on the underlying program principles (Bruns, Suter, Force, & Burchard, 2005; Cox, Baker, & Wong, 2010; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997).

The current study examines the North Carolina School-based Child and Family Support Teams (CFST) initiative (Gifford et al., 2010), which shares key principles with models such as Wraparound and Multisystemic Therapy. The CFST program aims to help students with unmet needs that are preventing them from exceling in school, including unstable family situations, by connecting them to supports and services. CFST's underlying theory of change is that the coordinated effort of providers who are focused on the family's needs and strengths will facilitate access to appropriate services. This paper operationalizes program principles into fidelity measures and assesses their importance for achieving one intermediate outcome—timely receipt of services. This measure is commonly used in health services research to assess quality of care coordination and access to services (e.g. (Gulliford et al., 2002; Strickland et al., 2004; Wang, Berglund, & Olfson, 2005). Delays and potentially foregone service receipt can have detrimental effects on children and their caregivers (Fairbrother, Stuber, Galea, Pfefferbaum, & Fleischman, 2004; Kilmer & Gil-Rivas, 2010; Lave, 1998). For example, delays in treating health or mental health conditions may lead to the need for more costly services (Hadley, 2003; Savage, Lee, Kotch, & Vann 2004). Children suffering with untreated conditions may be less able to attend to their schoolwork (Fröjd et al., 2008; Jyoti, Frongillo, & Jones, 2005; Williams, 2005). A school year is relatively short—typically 180 days of class time (Patall, Cooper, & Allen, 2010). Students' progress in one year carries forward to their placement in classes and even whether or not they are promoted to the next grade (Glied & Pine, 2002). Therefore, delaying access to services could negatively affect both their immediate and longer-term academic attainment (Glied & Pine, 2002).

1.1. The North Carolina Child and Family Support Teams initiative

The CFST initiative was first implemented during the 2006–2007 school year as a means of addressing the multiple factors that could impede youths' school performance or lead to out-of-home placement. The program initially placed 100 nurse–social worker pairs into elementary, middle, and high schools in 21 high needs school districts. Nurses and social workers were charged with identifying students who are at-risk for academic failure or out-of-home placement. Referrals to the program may come from any source, including school staff, family members, and outside agencies. Nurses and social workers also coordinate child and family team meetings. Similar to child and family teams used in child welfare, Systems of Care, and Wraparound (Walker & Matarese, 2011), the CFST program's underlying theory of change involves a team jointly assessing the child's and family's strengths and needs. Key provisions of the authorizing legislation included tailoring plans to children's specific individual needs, incorporating all relevant providers in a single team with a common plan, involving families in decision-making, and ongoing monitoring of service plan outcomes ("Appropriations Act," 2005).

CFST serves a wide range of developmental ages (elementary through high school) and children's needs (anything that place a child at risk for academic failure or out-of-home placement). The program is designed to be collaborative with community partners in many communities. Therefore, the assessment process is intentionally not specified by the CFST program. Professionals and other supports at the team meeting can exercise discretion regarding which tools to use for assessing the students' and families' needs.

Operationally, CFST involves the following steps. First, CFST nurses and social workers identify students who are at-risk for academic failure due to an unmet need. The CFST staff then facilitates a team meeting that includes key supports for the child and his or her family. The supports should include the student (if developmentally appropriate), the student's caregiver as well as professional (e.g., service providers, school staff members) and natural supports (e.g., friends, neighbors, coaches) that may be involved in helping the student meet his or her goals. The team then jointly discusses the student's needs and agrees on the student's primary unmet need and develops a plan for helping the student meet his/her goals. For instance, if the team identifies the child's greatest unmet need as mental health-related, they may then plan a referral to a local mental health provider. The plan may include a single service or multiple services depending on the student's needs.

1.2. The relationship between fidelity and program effectiveness

Fidelity is defined as the degree to which the program operates as intended by the program creators (Dusenbury, Brannigan, Falco, & Hansen, 2003). When programs are not implemented with fidelity, null findings do not distinguish between a poorly designed program and a poorly implemented program (Dobson & Cook, 1980). Studying specific program elements requires operationalizing and measuring program principles and linking the measures to program outcomes. Improved measurement could support dissemination and take-up of evidenced-based programs and assurance of consistently positive results (Elias, Zins, Graczyk, & Weissberg, 2003).

Fixsen, Blase, Naoom, and Wallace (2009) note that infusing science into improved performance in human services is unusually challenging because the "*intervention is the practitioner* (p. 2)." Therefore fidelity measurement needs to reflect those practitioners' daily performance. Ideally, such measures are both effective and efficient (Schoenwald et al., 2011). Effective measures have a clear purpose, focus on essential aspects of the intervention, align the timing and frequency of data collection with measurement needs, and have a scoring scheme that maps onto specific purposes. Efficient measures have utility for multiple end users (e.g. supervisors, case workers, researchers) and for multiple purposes (e.g. training, quality assurance). Such shared use of common metrics is premised on end users understanding and accepting the fidelity definitions.

There have been several attempts to develop fidelity measures for family and group decision-making programs that have principles similar to CFST. For the Wraparound process, the Wraparound Fidelity Index was developed to capture adherence to the 11 core program principles (family voice and choice, team-driven, individualized, natural supports, community-based, culturally competent, strengths-based, unconditional care, collaboration, flexible resources, outcomes) (Bruns, Burchard, Suter, Leverentz-Brady, & Force, 2004; Bruns et al., 2005). Data for this measure were collected through structured interviews with multiple informants including the caregiver, the youth, and the care coordinator. Higher caregiver ratings of fidelity were positively associated with caregivers' satisfaction with their children's progress six month after services (Bruns et al., 2005). Higher care coordinator ratings of fidelity were associated with improved behavioral and emotional ratings.

Another measure used to assess fidelity of the Wraparound process is the Wraparound Observation Form (WOF). The revised, second version—the WOF-2—is a 48 item form designed to assess eight characteristics of the Wraparound process (Epstein et al.,