

Improving Programs and Outcomes:

Implementation Frameworks 2013

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Abstract

This paper presents recent refinements to implementation constructs and frameworks. It updates and clarifies the initial, frequently cited study of the National Implementation Research Network that introduced these frameworks for application in diverse endeavors. As such it may serve as a historical marker in the rapidly developing science and language of implementation. Within this explication, two studies alternate as examples of how these frameworks can be used as a practical guide for more effective implementation of human service programs.

Keywords: Implementation • Outcomes • Program Evaluation • Model Fidelity • Quality Improvement

Introduction

No one could have imagined that six years after the publication of the National Implementation Research Network's (NIRN) seminal study (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005), over 800 people from diverse systems and settings, from every continent except Antarctica, would converge in the late summer heat of Washington DC for the first biennial Global Implementation Conference. There, researchers, policy makers, administrators, practitioners and purveyors engaged each other in homogenous and mixed work groups, establishing goals and objectives to further advance implementation science. Such a gathering was implausible prior to the dissemination of NIRN's synthesis of over three decades of empirical implementation studies from a wide range of endeavors. That monograph suggested the initial language and frameworks from which a science of implementation could be systematically applied, examined, and refined in diverse settings (Fixsen, et al, 2005).

As that conference convened, NIRN, Mental Health America, and the National Association of State Mental Health Program Directors (NASMHPD) produced a consensus national policy paper on opportunities and challenges in the implementation of prevention and health promotion initiatives (Bertram, Blase, Shern, Shea, & Fixsen, 2011). These efforts emerged at the same time as the publication of a unique literature review that used the initial iteration of implementation frameworks (Fixsen, et al, 2005) to identify gaps in research on wraparound implementation (Bertram, Suter, Bruns, & O'Rourke, 2011).

The concurrence of these publications and the activities emerging from the initial Global Implementation Conference highlighted the need to present the most current iteration of implementation constructs and frameworks in a well accessed juried publication. This paper marks refinements in the evolving language and frameworks of implementation while also offering examples of how the frameworks can be used to support more effective, sustainable human service programs.

Implementation Frameworks 2013: Intervention Components

In the midst of change it is wise to begin with what remains stable. Intervention components identified in the NIRN 2005 monograph still provide a sound foundation for exploration, purposeful selection, clarification, improvement, and systematic implementation of a program model. These intervention components include: (a) *Model definition* (who should be engaged and how in what activities and phases of service delivery); (b) *Theory base(s)* supporting those elements and activities; (c) The

practice model's *theory of change* (how those elements and activities create improved outcomes for the target population); (d) *Target population characteristics* (behavioral, cultural, socio-economic, and other factors that suggest a good match with the practice model); and (e) *Alternative models* (a rationale for why the program therefore rejects using other practice models).

Ideally, consideration of these intervention components should occur during the exploration and adoption stage of program implementation. To effectively implement a purposefully selected practice model with fidelity, a service organization must adjust its infrastructure beginning in the installation stage of program implementation. Then, through the use of model-pertinent data, the service organization should make practice-informed adjustments during the stage of initial program implementation until it achieves targeted fidelity and population outcome benchmarks that characterize the stage of full program implementation (Bertram, Blase, et al, 2011).

These intervention components should be systematically and thoroughly considered, drawing lessons and examples from peer-reviewed literature before adjusting organization infrastructure to support careful selection of a well-defined practice model. However, an organization can benefit from re-considering their program model(s) through this framework of intervention components (Bertram, King, Geary, & Nutt, *in press*). For example, even if a tested, evidence-based practice model is not in use, an organization can clarify service delivery by defining who should be engaged in what key activities and phases of treatment or care. Recording this in a program manual can guide future administrators, supervisors and staff to deliver that program's key elements, activities and phases of service with fidelity. Empirically developed practice models like Multi-systemic Therapy (MST) have for many years provided detailed program manuals (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009). Others, like wraparound, have only recently articulated key elements, activities, and phases (Bertram, Suter, et al. 2011; Walker, Bruns, et al, 2004). Despite such clarification by collaborative practice models, for many services broadly described under the generic umbrella of counseling or psychotherapy, service providers often view manuals as constraining their creativity (Addis, Wade, & Hatgis, 1999).

Nevertheless, in any program there is a rationale for key elements, activities and phases of service delivery. In human services, implicitly or explicitly, this rationale is most often based in theories of what shapes human behavior and/or in stage theories of individual or family development. A program may have

multiple theory bases supporting service delivery, but when this is so, it is important that they complement or are congruent with each other. For example, MST embraces ecological systems theory (Bronfenbrenner, 1979) as a unifying theory base. Who is engaged, how they assess, as well as how interventions are selected and designed all focus through or must be congruent with this theory base (Henggeler, et al, 2009). Pecora, Reed-Ashcroft, and Kirk (2001) noted a significant need in family-centered services for rigor and consistency in specifying program model, and integrating model definition with staff selection, training, and quality control to avert model drift. A few years later, NIRN's systematic review of empirical implementation studies identified the need for clarity and congruence between key elements, activities, phases and their theory base(s) to ensure effective program implementation with fidelity (Fixsen, et al, 2005).

However, programs or service providers all too often assert that they use an eclectic approach based upon each client's needs. When this occurs, *model definition* and *theory base(s)* are often neither clear nor congruent, creating many unnecessary and costly challenges to effectively deliver and sustain such service, particularly following staff turnover. For example, in a study of program implementation at 34 MSW student field placement sites in Kansas City, many organizations identified case management as their program model. In purposeful, stratified samples of staff, semi-structured interviews focused through NIRN frameworks. In these organizations, administrators, supervisors and service providers indicated that ecological constructs such as "person-in-environment" grounded in a value-based "strengths perspective" shaped collaborative assessment and planning with clients. However, they also indicated that projection and transference (constructs from expert practice models using psychodynamic theory) shaped their assessment and planning. Respondents within each organization also could not similarly define key elements, activities or phases of their program model. Invariably, when there was incongruent or unclear *model definition* and *theory bases*, these organizations tended to select, train and coach staff in a highly bureaucratic manner that could not support fidelity to their ill-defined service model (Bertram, King, et al, *in press*).

Within NIRN's framework of intervention components, *target population characteristics* similarly require careful consideration by the service agency. Gender, age, race, ethnicity, socio-economic and cultural factors, behavioral concerns and multi-system involvement or other characteristics of the program's target population should shape an organization's selection, rejection, or refinement of a practice

model. In so doing, the organization addresses another NIRN intervention component, *alternative models (and why they were rejected)*. For example, individual counseling or psychotherapy is not a productive practice with lower income gang affiliating youth whose anti-social aggressive or substance using behaviors are shaped by interactions between and within the community, family, school, and youth peer groups (Henggeler, et al, 2009). Interviewees within most community-based organizations examined in the study of program implementation in Kansas City, all too often were both very broad and not consistent in their attempts to describe specific client population characteristics in light of the program's service model. When this occurred, the program model was broadly described as counseling and/or case management (Bertram, King, et al, *in press*).

Target population characteristics should also be considered in examination of the final NIRN intervention component, *theory of change*. How do key elements, activities and phases of the program, align with or impact desired improvements in the context or behaviors of concern of the *target population*? Is there logic to the program logic model? How will the program's participants and activities diminish or eliminate the behaviors of concern or their contributing circumstances to produce improved client outcomes? Careful consideration of *model definition*, *theory base*, and *target population characteristics* should characterize the logic and critical thought defining a program's *theory of change*.

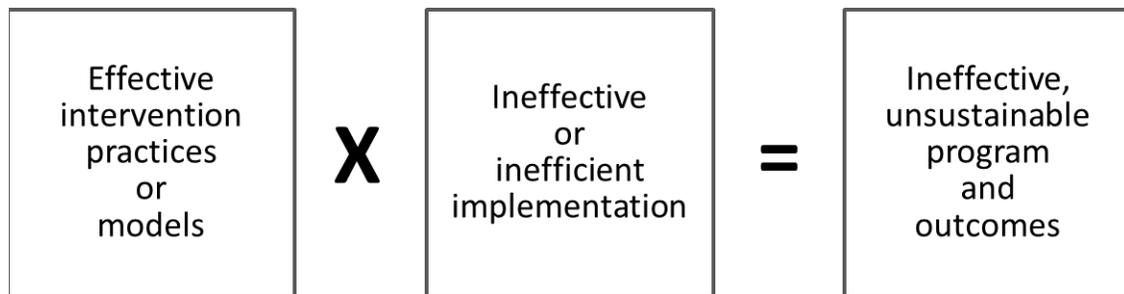
In the Kansas City study of program implementation, *theory of change* was not well understood. Even when questions were simplified to "How does what you do in this program help clients", respondents within community-based programs gave differing or incomplete answers. For example, counselors highlighted development of client insight or emotional support. Case managers in the same program highlighted meeting basic needs of clients, while both of their supervisors or the administrator described clients as having multiple problems that were impossible to address by their less than well-funded agency. Respondents seldom described how counseling with case management could establish a basis for the clients to begin to address other problematic aspects of their lives (Bertram, King, et al, *in press*).

However, a participatory evaluation of wraparound implementation in a very well-endowed SAMHSA Children's Mental Health Initiative grant site in Houston, TX, also identified confusion about *model definition*, *theory base* and *theory of change* for wraparound (Bertram, Schaffer, & Charnin, *in press*). Consumers, administrators, supervisors and direct service providers often interpreted the value-

based philosophy of wraparound incongruently, emphasizing a differing two or three of the ten wraparound principles. We will return to this study as we present the NIRN framework of implementation drivers.

Although the entire framework of intervention components should be examined whenever a program considers adopting or adapting a practice model, this will not ensure the organization's ability to achieve and sustain improved population outcomes. Selecting or clarifying a program model is but the first step. Then, organizations must change to support the program model (Bertram, Blase, et al, 2011; Bertram, Suter, et al, 2011; Fixsen, et al, 2005). Without these adjustments, implementation may lack fidelity and prove ineffective, inefficient and unsustainable (see Figure 1).

Figure 1



We next describe two related and overarching frameworks, *Stages of Implementation* (Figure 2) and *Implementation Drivers* (Figure 3). Each has been clarified and refined since publication of NIRN's 2005 study.

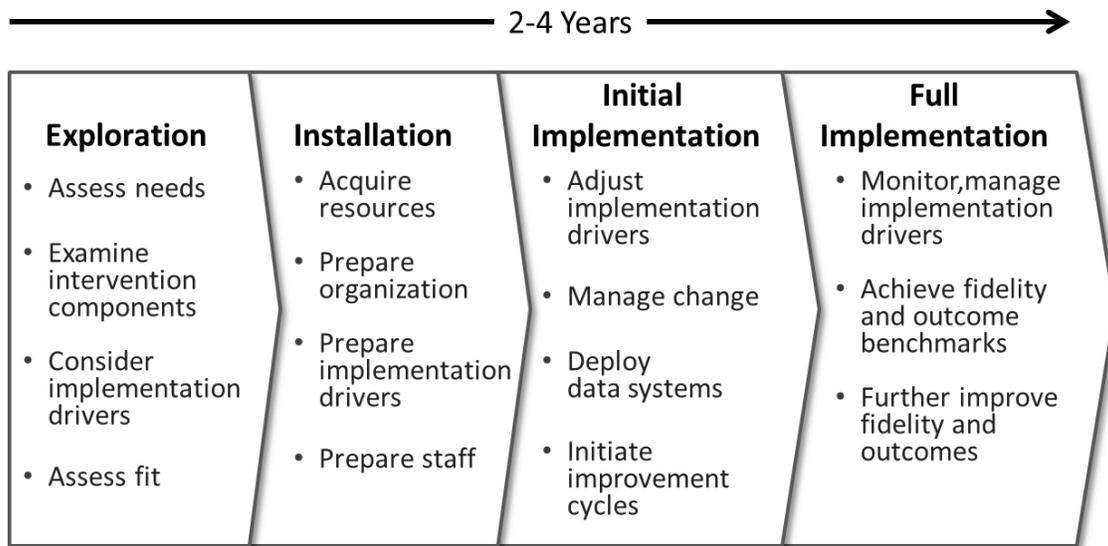
Implementation Frameworks 2013: Stages of Implementation

Implementation is not an event but a process of carefully considered organizational adjustments that unfold over the course of two to four years (Bertram, Blase, et al, 2011; Fixsen, Blase, Naoom, & Wallace, 2009). In 2005, NIRN's seminal monograph discussed program implementation as a process influenced by changing socio-economic and political contexts that unfolded through six stages (Fixsen, et al, 2005). Since then, the stages of implementation have been integrated and refined (See Figure 2). Program innovation is no longer described as a separate stage and should only be considered after achieving targeted benchmarks of fidelity and population outcomes (Winter & Szulanski, 2001). Then, as innovations are considered, the service organization must re-address exploration, installation, and initial implementation stage activities.

Another key conceptual refinement to NIRN’s initial identification of implementation stages is the understanding that sustainability is not an end stage of implementation. It is instead a critically necessary concern and focus of activities in each stage of implementation. Though Figure 2 visually appears to imply a linear progression through stages of implementation, it’s important to remember that at any point, significant changes in socio-economic conditions, funding, leadership, staff turnover, or other events may require the organization to readdress activities of earlier stages of implementation.

Figure 2

Implementation Stages



Exploration

This stage is sometimes also called “exploration and adoption”. In this initial stage of implementation, the organization should consider the potential match between *target population characteristics*, organization and community resources, and the program model’s key elements, activities, and phases (*model definition*), *theory base(s)*, and *theory of change*. Careful consideration of these intervention components should guide the service organization’s decision to proceed or not to proceed with implementation of a new program. However this same exploratory process can and should guide reconsideration and refinement of an existing program’s implementation. Potential barriers must be examined such as funding streams and requirements, staffing patterns, sources of referrals, as well as organization and systems changes that may be needed to support implementing the program with fidelity to

achieve improved population outcomes. This exploration process should produce a decision regarding the appropriateness and potential benefits of the new or refined program and a clear implementation plan with tasks and timelines to facilitate effective and efficient installation and implementation. Proactive, small adjustments in this exploratory stage reap great benefits, while not making time and effort to fully explore adoption or adaptation of a program model will amplify future challenges as attempts are made to install and bring it to scale (Bertram, Blase, et al, 2011).

In the exploration stage, the assessment of community and organization resources, population characteristics and needs, and their match with the program model should focus upon both population outcomes and implementation outcomes. Population outcomes refer to behavioral or structural outcomes sought for the target population (e.g., reduced school suspensions, improved social supports, increased pro-social youth behaviors, etc.). Implementation outcomes refer to organizational adjustments to support fidelity and sustainability of the program so that desired population outcomes are more likely to occur. At this point in the development of evidence-based or evidence-informed programs, most attention has been paid to describing and measuring population outcomes. A review of over two decades of wraparound literature that focused through the initial NIRN frameworks (Bertram, Suter, et al, 2011), noted that most publications reporting wraparound outcomes described intervention (population) outcomes ($n=48$), while fewer publications discussed implementation outcomes ($n=15$). However, improved population outcomes depend upon changes made within the service organization to support the program model. Therefore it is also essential to examine, and when possible, to measure the effects of these organizational adjustments.

Installation

After a decision is made to begin a new program or to refine current services, there are key tasks to accomplish before consumers and other participants experience a change in practice. These activities define the installation stage when resources are consumed as structural supports necessary to initiate the new or refined practice model are organized. These instrumental concerns require methodical examination and adjustment of what NIRN describes as a framework of “core implementation components”. Since 2005, these components have been clarified and organized into three classes of *implementation drivers* (*competency, organization, and leadership*). These drivers are described and comparative examples provide greater detail in the next major section of this paper (See Figure 3).

In the installation stage, the competency and organizational drivers necessary for high fidelity implementation and improved population outcomes must be repurposed or established by the service organization with knowledgeable purveyors or program experts, and systems partners. Installation requires moving beyond consideration and planning to systematically addressing each implementation driver. Thus, to enhance staff competence and confidence, model pertinent criteria for staff selection and training, and for the frequency, formats and focus of coaching should be determined. Data systems, policy and procedural protocols should be developed for measuring program fidelity. When actions of multiple systems engaged with the target population may compromise effective program implementation, explicit cross-systems protocols may need to be created by administrators through purposeful systems intervention. For example, a cross-systems protocol is frequently necessary in multi-disciplinary team response to reports of child sexual abuse (Bertram, 2008; Sternberg, Lamb, Orbach, Esplin, & Mitchell, 2001).

These and related installation stage activities and their associated costs require both time and resources. In the examination of program implementation in Kansas City, administrators often cited constraints of time and cost when queried about more methodical, thorough program implementation (Bertram, King, et al, *in press*). But increasingly and regardless of funding, use of technological resources and organizational improvement are expected and essential (Chorpita, Bernstein, & Daleiden, 2008). By focusing program installation on tackling instrumental resource issues and the development or repurposing of the framework of *implementation drivers* (see Figure 3), an organization will be less likely to suffer the common, costly error of inserting a new or refined program model into an existing infrastructure, only to achieve disappointing program fidelity and population outcomes (Bertram, Blase, et al, 2011). A recent study of wraparound implementation in Houston, TX provides an excellent example of this error. The grant sought to initiate implementation of wraparound, a collaborative team based, family driven practice model. However, it was installed within the organizational structures, data support systems, policies and procedures of the host child welfare system. Failure to evaluate and repurpose organizational structures previously developed to support legally mandated child welfare investigation and services resulted in a confusing, less effective or efficient wraparound implementation that did not meet fidelity expectations (Bertram, Schaffer, & Charnin, *in press*).

Initial Implementation

Initial implementation of any program requires new understanding and activities. Here, the excitement and anticipation of new ways of providing service meets human inertia, fear of change, and investment in the status quo. This is an awkward period of high expectations, challenges and frustrations. In this stage, new programs survive and thrive if they learn from mistakes and address challenges systematically and systemically rather than seeking technical solutions to each challenge in isolation from others. (Bertram, Blase, et al, 2011).

Successful program implementation requires examination and alteration of organizational culture and capacity as well as development of new staff competencies. During the stage of initial implementation, unanticipated constraining factors may emerge. People, organizations, and systems tend to become comfortable with or accustomed to the status quo. In the stage of initial implementation, concerns and uncertainty about changes in roles, responsibilities and practices should be expected. Though there may be much outward enthusiasm during the exploration and installation stages, many staff at all levels will not fully embrace organizational changes necessary to effectively implement the program model. These dynamics were evident in the Houston SAMHSA Children's Mental Health Initiative grant site following a participatory evaluation and revision to wraparound implementation that included consumers, administrators and supervisors. Although supervisors understood and expressed excitement about revisions made to caseload, training, coaching and data systems, these organizational adjustments met with their resistance as their staff expressed uncertainties or confusion (Bertram, Schaffer, & Charnin, *in press*).

During initial implementation, these natural tendencies to resist change often combine with the complexities of implementing something new to test confidence in the decision to provide a better defined or new program model and its practices. What is required during this stage is steady leadership that normalizes challenges, that provides increased coaching and support for practitioners, and that employs rapid data informed problem solving. At the Houston site, administrators maintained their commitment to revised wraparound implementation, insisting that the site continue with regularly scheduled, model pertinent data informed coaching and technical assistance improvement cycles. Despite the site's focus upon a highly diverse, poor population with severe behaviors, within eighteen months, the revised implementation improved fidelity scores and client outcomes to well above the national mean for similar grant sites (Bertram, Schaffer, & Charnin, *in press*).

Full Implementation

Program services are inefficient, poorly executed, ineffective, or are not sustained when the host organization attempts to move to full implementation without developing or re-purposing and working through the framework of *implementation drivers* (see Figure 3). When model-pertinent *implementation drivers* are established, tested, and adjusted during installation and initial implementation stages, full implementation that achieves improved population outcomes with fidelity in a sustainable manner is more likely to occur (Bertram, Blase, et al, 2011).

Full implementation occurs when most of the practitioners are routinely providing the new or refined program model with good fidelity. They are therefore more likely to achieve population outcomes that approximate those achieved through research or through similar efforts in other service settings. This means that *implementation drivers* are fully installed, accessible, are functioning to support fidelity, and are regularly reviewed with an eye toward improvement. The time required to pass through the ‘awkward stage’ of initial implementation to full implementation will vary from setting to setting and practice to practice (Bertram, Blase, et al, 2011).

Implementation Frameworks 2013: Implementation Drivers

This framework has also been called “core implementation components” (Bertram, Suter, et al, 2011; Fixsen, Blase, et al, 2009). Differentiation of these components into three classes of integrated and compensatory *implementation drivers* is a significant refinement made since the original presentation of this framework (Fixsen, Naoom, et al., 2005).

Implementation drivers (see Figure 3) establish the capacity to create practice, program, and systems level changes needed to achieve improved population outcomes. They are the infrastructure elements required for effective implementation that supports high fidelity, effective, sustainable programs (Bertram, Blase, et al, 2011; Blase, Van Dyke, Fixsen & Bailey, 2012). *Competency Drivers* develop the competence and confidence of practitioners by attending to staff selection, training, coaching, and performance assessment (fidelity). *Organization Drivers* create a more hospitable administrative, funding, policy and procedure environments to ensure that *Competency Drivers* are accessible and effective, as well as to ensure continuous quality monitoring and improvement with attention to population outcomes. *Leadership Drivers* discriminate adaptive challenges from technical challenges to implementation (Heifetz

& Laurie, 1997). Appropriate leadership strategies and expertise must be selected to establish, repurpose, adjust, and monitor the *Competency Drivers* and *Organization Drivers* throughout implementation stages (Bertram, Blase, et al, 2011).

These drivers of implementation must be purposefully integrated to promote high fidelity and improved population outcomes. The extent to which they are well considered and integrated will reshape organizational culture and climate (Fixsen, Blase, et al, 2009). They are compensatory because weakness in one component can be mitigated by strengths in others. For example, if model-pertinent training is underfunded or not readily available, model-pertinent, data-informed coaching may compensate to build staff competence and confidence. It's essential to remember that while many of the components of each of these drivers may currently exist in organizations and systems, they must be consciously repurposed and integrated to promote effective implementation of the organization's chosen model with fidelity.

Figure 3



Implementation Frameworks 2013: Competency Drivers

The overall function of the *Competency Drivers* (see Figure 3) is to promote competence and confidence of those engaged in implementing the program model so that high fidelity and improved population outcomes are both more likely to occur and to be sustainable. By focusing the *Competency Drivers* of *staff selection, training, coaching, and performance assessment* on what is required to implement the key elements, activities and phases of the program model, these drivers can be established or repurposed in an integrated and compensatory manner with other implementation drivers to achieve improved population outcomes and implementation (organization) outcomes.

For example, not every candidate hired or reassigned will have a complete or fully developed set of model-pertinent knowledge and skills. Pre-service training may compensate for less developed abilities at the point of hire, but everyone will not develop knowledge and skills to the same degree from participation in training. Coaching, that is integrated with training and informed by case specific, model-pertinent data can compensate for post-training deficits and further develop professional judgment and the ability to generalize from a training setting to the real world (Bertram, Blase, et al., 2011; Bertram, Bruns, et al, 2011). All *competency drivers* should target selection for and enhancement of the knowledge, skills, and aptitude needed to implement the program model effectively, efficiently and with fidelity (*performance assessment*). Thus, the *performance assessment* driver also functions as a barometer for measuring how well the implementation infrastructure is functioning to promote competence and confidence (Bertram, Blase, et al, 2011).

Staff Selection

Staff selection is infrequently discussed and less frequently evaluated in the literature (Fixsen, et al, 2005). In a review of program implementation at 34 service sites in or near Kansas City, the most common criteria used by programs in selecting staff was educational background and/or licensure. Only a handful of sites sought staff with knowledge of, or aptitude for, engaging the target population (Bertram, King, et al, *in press*). In a recent review of over two decades of wraparound literature that focused through the original NIRN implementation framework (Fixsen, et al, 2005), no publications were found that described or studied staff selection (Bertram, Suter, et al, 2011). While it may be necessary to select licensed staff for purposes of insurance or other funding source requirements, it is both possible and

necessary to establish *staff selection* criteria that also seek model pertinent or target population specific knowledge, skills or aptitude.

Some model pertinent attributes are not easily trained or coached, and therefore must be part of pre-determined selection criteria. For example, being able to compassionately and comfortably work with women from diverse backgrounds with multiple needs might be a pre-requisite for *staff selection* at a domestic violence shelter. Comfort with diverse and sometimes conflicting professional perspectives might be criteria for a team facilitation role in the multi-disciplinary investigation of child sexual abuse at a children's advocacy center. The ability to engender trust or to elicit and work with differing perspectives in a non-judgmental manner are personal attributes that are best selected for since they would likely be extremely difficult to impact through training and coaching. In a similar vein, implementing evidence-based practices requires the capability and willingness to review literature, to seek data and accept feedback, and then to act upon on it. If prospective employees are difficult to coach or have difficulty implementing clear feedback, it will be very challenging for them to achieve model fidelity. Therefore an assessment of 'coach-ability' during the interview process can be helpful. Like other *implementation drivers*, guidelines for *staff selection* should be proactively considered in the exploration stage, then established and refined during installation and initial implementation stages.

While moving a new program or practice model from installation through initial implementation to full implementation, *staff selection* must be considered in the context of socio-economic conditions, program funding, staff compensation and workforce development, as well as the demands of the program model. Here *organizational drivers* of implementation interface with *competency drivers* through facilitative administrative practices (Bertram, Blase, et al, 2011).

For example, participatory evaluation of wraparound implementation at the Houston SAMHSA grant site identified the size of caseload as a contributing factor to less than expected fidelity scores. The grant's program model, wraparound, had been overlaid upon policy and procedures developed for case management services in the host child protective service organization. While a caseload of 20 families was appropriate for case management that required one or two home visits per month, that same caseload constrained staff ability to develop family driven wraparound teams. Therefore, the site administrator

negotiated a 50% reduction in caseload to enable selected staff to enact wraparound's key elements and activities (Bertram, Schaffer, & Charnin, *in press*).

Training

Successful, efficient, sustainable implementation of any practice model requires behavior change in service providers, their supervisors or coaches, and in the administration of the host organization. *Training* and *coaching* are the primary *competency drivers* through which this behavior change is developed in carefully selected staff (Bertram, Blase, et al, 2011). Pre-service training during the installation stage and in-service training during subsequent implementation stages should help develop a shared knowledge of population characteristics, the rationale for choosing the program model, *model definition*, including its key elements, activities and phases, philosophy, values, and the *theory base(s)* supporting them, as well as the program model's *theory of change*. There should be opportunities to practice model-pertinent skills and to receive supportive, constructive feedback in a safe environment. Implementation outcomes related to this *competency driver* are measurable. An organization can establish data systems to evaluate pre-and post training changes in model pertinent staff knowledge and skills. These data can provide baseline information for subsequent coaching toward further development of staff confidence and competence. By integrating such data with fidelity performance assessments, administrators can evaluate effectiveness of the *training* and *coaching drivers* (Bertram, Schaffer, & Charnin, *in press*; Bertram, Bruns, et al, 2011). Sadly, in the review of program implementation in Kansas City, none of the 34 organizations employed pre and post training measures of model pertinent knowledge and skills. In poorly defined program models, training focused primarily on client privacy and employee rights. Some organizations indicated they allowed staff to individually select externally provided training to meet licensure requirements and did not monitor if that training supported the program's model. None of the organizations measured model fidelity (Bertram, King, et al, *in press*).

Coaching

Model pertinent *training* improves staff buy-in and understanding, and promotes basic knowledge and skill development. However, increasingly competent and confident use of any service model is most effectively developed through skillful on-the-job *coaching* (Agar & O'May, 2001; Denton, Vaughn, &

Fletcher, 2003; Schoenwald, et al., 2004). Best practices in *coaching* include developing and adhering to the formats, frequency and focus described in a written coaching plan, as well as ensuring that supervisors and coaches are themselves well selected, trained, coached and held accountable for enhancing staff development. In addition, *coaching* is most effective when it includes multiple forms of information and data used in an improvement cycle loop (e.g. observe, coach, data feedback, plan, re-observe). It always should include some form of direct observation (e.g. in-person, audio, video) to accurately assess and develop skills and judgment (Bertram, Blase, et al, 2011; Schoenwald, Brown, & Henggeler, 2000).

Coaching should support staff in trying out new skills or abilities. It is especially important to provide this support during initial implementation when they are likely to be uncomfortable and awkward as they implement the new practice. Staff at every level must be encouraged to persist in developing new capabilities rather than reverting to previous approaches that are more comfortable but not as effective. In a review of program implementation at 34 services sites in or near Kansas City, most programs indicated that *coaching* was not systematically data-informed nor focused upon enhancement of model-pertinent knowledge and skills. Instead, it occurred on an ad hoc, as needed basis that focused upon risk containment or harm reduction in the most problematic cases, and also addressed bureaucratic administrative concerns. These same organizations offered external training for continuing education credits to maintain licensure rather than to further the development of model pertinent knowledge and skills (Bertram, King, et al, *in press*).

These inefficient and ineffective approaches to staff development contradict lessons in the literature that training alone is insufficient to develop model-pertinent staff confidence and competence (Fixsen, Blase et al, 2009; Schoenwald, Sheidow, & Letourneau, 2004). Prior to making revisions to wraparound implementation in Houston, that grant site provided occasional, sometimes repetitive *training* in wraparound by outside experts (purveyors), then supported staff with the same ad hoc, risk containment *coaching* procedures use by the host child welfare organization. This structure contributed to fidelity scores below the national mean and poorer than anticipated client outcomes. However, when training and data support systems were integrated with a revised, regularly scheduled, model pertinent data informed coaching of direct service staff and with regularly scheduled, model pertinent data informed technical

assistance for administrators and supervisors, in eighteen months fidelity scores and client outcomes improved above the national mean (Bertram, Schaffer, Charnin, *in press*).

Performance Assessment

The final *competency driver* is *performance assessment*. Most of the 34 sites examined in the greater Kansas City area understood this driver as employee performance evaluation for job retention or promotions (Bertram, King, et al, *in press*). However, as a driver of effective, sustainable program implementation, *performance assessment* should examine forms of model fidelity. The first form is related to practitioner performance with consumers. Creating competent practitioner performance is the responsibility of the service organization. It is a reflection of how well the *competency drivers* of *staff selection, training, and coaching* are operating, as well as how hospitable and functional the environment is in promoting conditions conducive to high fidelity practice (Shoenwald, Sheidow, & Letourneau, 2004).

The second type of fidelity is related to organizational performance as evidenced in each of the *implementation drivers*. For example, is *training* provided as planned and intended? Are pre and post *training* tests integrated with an individualized plan for *coaching* further development of staff knowledge and skills? Is *coaching* occurring as scheduled, and is it recursive to training content, and informed by model pertinent case data and observations of practice? If during installation and initial implementation stages, data systems were well-designed to provide timely information related to model fidelity, then this *performance assessment* data will provide direct service staff, supervisors, administrators and purveyors with relevant data about implementation progress. The model pertinent focus and integration of revised *competency* and *organization drivers* in Houston produced significant improvements in wraparound fidelity and client outcome measures (Bertram, Schaffer, & Charnin, *in press*).

With such data the effectiveness of *staff selection, training and coaching* can be assessed. These data may suggest administrative issues or concerns as well as systems level factors that need to be addressed because they constrain achieving model fidelity or population outcomes. Thus *performance assessment* should inform continuous quality improvement of both *organization drivers* and *competency drivers* of implementation, as purveyors, agency administrators, supervisors, and practitioners use the implementation data to guide staff and program development (Bertram, Blase, et al, 2011; Bertram, Schaffer, & Charnin, *in press*; Shoenwald, Sheidow, & Letourneau, 2004).

Implementation Frameworks 2013: Leadership Drivers

Initial presentations of NIRN's framework of core implementation components discussed the critical role of leadership and of purveyors (Fixsen, et al, 2005). More recent discussions bring these roles and responsibilities forward in a more differentiated manner (see Figure 3) and are articulated as *leadership drivers* that attend to both *technical and adaptive leadership* strategies (Bertram, Blase, et al, 2011; Fixsen, Blase, et al, 2009; Heifetz & Laurie, 1997; Heifetz & Linsky, 2002).

Technical leadership is appropriate in circumstances characterized by greater certainty and agreement about both the nature of the challenge, and about the correct course of action. Challenges under these conditions respond well to more traditional management approaches that focus on a single point of accountability with clearly understood and well-accepted methods and processes that produce fairly reliable outcomes (Daly & Chrispeels, 2008; Waters, Marzano, & McNulty, 2003). For example, once established, *staff selection* criteria and processes or *decision support data systems* (an *organization driver*) should rely on routine and clear procedures. Resolving procedural problems related to these implementation components would call for technical forms of leadership.

Adaptive leadership is required when there is less certainty and less agreement about both the definition of the problems and their solutions. *Adaptive leadership* strategies are needed in complex conditions to identify the challenge and convene groups that work to understand that challenge, and to then develop consensus based on group learning (Daly & Chrispeels, 2008; Waters, Marzano, & McNulty, 2003). Among the implementation drivers, *coaching, facilitative administration, and systems level interventions* are more likely to require adaptive forms of leadership to determine what the problems are, what learning will be required to reach consensus about possible solutions, and to then attend to results of attempts to solve the problems. Revisions to wraparound implementation in Houston that emerged from a participatory evaluation by consumers, administrators and supervisors provide a rich example of *adaptive leadership* strategies (Bertram, Schaffer, & Charnin, *in press*). Another practical example of *adaptive leadership* emerged in the review of program implementation at 34 sites in or near Kansas City. There, the state child protective services organization determined it must convene its leadership with administrative representatives from family court and the guardian ad litem office to clarify and address problems in program implementation of family support teams in which each system's direct service staff participated.

These teams were intended to develop individualized service plans shaped by family voice. However, they consistently generated the same service recommendations for every family situation. This compromise of model fidelity had to be analyzed, understood, and resolved by addressing systems level organizational concerns (Bertram, King, et al, *in press*).

Heifetz and Laurie (1997) state that a common leadership error is applying *technical leadership* strategies under conditions that call for *adaptive leadership* strategies. If in Kansas City the state child protective services organization had instead attempted to solve the challenge to fidelity of its family support team model by retraining the other engaged systems' staff, this would be an example of a technical solution to a challenge requiring *adaptive leadership*. Not all leaders are willing or able to easily recognize or transition smoothly to and from *technical and adaptive leadership* strategies and styles. However, both are required for successful implementation and sustainability of outcomes (Bertram, Blase, et al, 2011).

Implementation Frameworks 2013: Organization Drivers

Since NIRN's initial presentation of implementation components (Fixsen, et al, 2005), *organizational drivers* (see Figure 3) are differentiated and discussed as activities or concerns in each implementation stage. Careful consideration of *organization drivers* in the exploration stage of implementation provides model pertinent assessment of agency and system readiness to implement the new or refined program model.

In our previous discussions of *competency and leadership drivers*, we provided examples in which adjustments in *facilitative administration, decision-making data support systems, and systems level interventions* were necessary during what might be considered the stage of initial implementation (Bertram, King, et al, *in press*; Bertram, Schaffer, & Charnin, *in press*). Such adjustments help establish a hospitable implementation environment in which the organization's culture and climate is shaped by well-considered model pertinent adjustments to integrated and compensatory *implementation drivers* (see Figure 3). Administrative support for and its sustained, effective use of *competency drivers, performance assessment and population outcome data* are the basis for continuous quality improvement.

Facilitative Administration

Administrators must be proactive. They should work back from desired outcomes to facilitate organizational change in each stage of implementation. This begins in the exploration stage as needs and

organizational capacity to implement the program model are assessed. Activities related to facilitative administration can then be specifically focused on what is administratively required to implement effectively, efficiently and with fidelity to sustain program implementation over time and through turnover in practitioners and administrations (Bertram, Blase, et al, 2011).

During installation and initial implementation stages existing policies and procedures as well as data support systems must receive close scrutiny. Are they appropriate for the practice model? Are there adequate human and technical resources and how might they be repurposed or reorganized to best effect? Attention to such questions impacts both implementation outcomes and population outcomes. For example, at the SAMHSA Children's Mental Health Initiative grant site in Houston Texas, a participatory evaluation of program implementation conducted with family members, supervisors, administrators and an implementation consultant identified multiple factors compromising wraparound model fidelity. Job descriptions, caseload size, *training*, *coaching*, and *decision support data systems* required model pertinent integration and refinement. Caseloads were reduced from twenty to eight or ten cases per wraparound care coordinator. Position responsibilities of the care coordinator and parent partner were differentiated. Coaching responsibilities were reorganized so care coordinators and parent partners working with the same family would receive coaching from the same supervisor. Revised *training* clarified *theory bases* beneath key elements and activities of wraparound's value-based philosophy, and case data forms were revised to re-enforce new training content while informing a more systematic approach to staff development through regularly scheduled *coaching*. Bi-weekly Skype review of these data by the consultant, supervisors, and administrators identified subsequent implementation patterns and guided further adjustments to the focus, frequency, and formats of coaching. After 18 months of these integrated organizational changes, both Wraparound Fidelity Index (WFI-4) scores and target population outcomes improved to above the national mean (Bertram, Schaffer, & Charnin, *in press*).

As implementation fidelity is more routinely and successfully achieved, administrators should continue to facilitate and learn from the flow of information that emerges in practice-to-policy and policy-to-practice feedback loops. Through these PIP (practice informed policy) and PEP (policy enabled practice) cycles of information and change, *facilitative administration* tracks fidelity and outcome data to identify and correct model drift, and to identify and facilitate development and testing of useful adaptations after

full implementation fidelity and population outcome benchmarks are achieved. *Facilitative administration* seeks and responds to feedback directly provided from the practice level regarding organizational and systems level barriers to and facilitators of both implementation outcomes and population outcomes (Bertram, Blase, et al, 2011; Bertram, Schaffer, & Charnin, *in press*; Blase, Van Dyke, Fixsen, & Bailey, 2012; Schoenwald, et al, 2004).

Each *implementation driver* (see Figure 3) must be consistently monitored for quality and fidelity. When data demonstrate drift in quality or model pertinent fidelity of drivers, the likelihood of practice fidelity and improved outcomes will diminish. Thus, *facilitative administration* ensures monitoring and improvement in all the *competency drivers*. Data reflecting the quality of a given *implementation driver* must be provided to those responsible to make appropriate adjustments (e.g., staff retention; expected knowledge and skill gains from training; improved model pertinent abilities achieved through data informed coaching, etc.). Transparent and responsive PIP and PEP feedback loops demonstrate a commitment to quality improvement in continuous cycles of planning, doing, studying, acting, and engaging in new plans to make further improvements (Bertram, Blase, et al, 2011).

In so doing, *facilitative administration* reshapes organizational culture and climate to focus on and actively support the achievement and sustainability of improved implementation and target population outcomes. Working within and through implementation frameworks, the goal of *facilitative administration* should be to adjust work conditions to accommodate and support new functions needed to implement the program model effectively, efficiently, and with fidelity. For example, although caseloads were reduced by 50% in the Houston grant site, the integrated and compensatory nature of revisions to many other *implementation drivers* resulted in more families being served while scores on fidelity and outcome measures advanced above the national mean (Bertram, Schaffer, & Charnin, *in press*).

Systems Level Intervention

Stages of implementation unfold in an ever-changing context of federal, state, organizational, and community factors that are themselves influenced by shifting socio-economic, political, and cultural concerns. After exploration activities, installation and implementation stage efforts can be overwhelmed by changing environments that may constrain achieving expectations for model fidelity or outcomes for the program's target population.

Practice fidelity, population outcomes, and program sustainability may directly or indirectly be influenced by the alignment of federal, state, organization and community systems. An excellent example of the *systems level intervention driver* in action was reported in Kansas City where administrators and supervisors from multiple systems engaged by the child protective services' family support team model jointly examined contributing factors to its diminished fidelity (Bertram, King, et al, *in press*). A vigilant *facilitative administration* analyzes constraining or supporting systems level factors influencing model fidelity and the outcomes for the program's target population. These responsibilities characterize each stage of implementation. Influential persons from each system must be engaged to create, facilitate, and sustain necessary policies, practices, or funding mechanisms so that a service organization's program model can be implemented with fidelity and achieve desired population outcomes (Bertram, Blase, et al, 2011).

Decision Support Data System

In current implementation frameworks, *decision support data systems* are explicitly presented as a key infrastructure component of the *organization drivers* that must be developed or repurposed in the program installation and initial implementation stages. NIRN's original presentation of implementation frameworks did not explicitly define and discuss this as a separate component (Fixsen, Naoom, et al., 2005).

Model pertinent data to guide administrative decisions about organizational change and fidelity of staff performance are essential for quality improvement and program sustainability. These data systems should provide timely, valid information related to model fidelity for correlation with population outcomes data. Data reports should be useful and accessible to implementation teams that may include purveyors, administrators, supervisors, and staff. Data systems truly become *decision support data systems* by creating the conditions under which data can be understood and used to make timely decisions in order to improve implementation outcomes and target population outcomes (Bertram, Blase, et al, 2011).

Ideally, decision support data systems should be established or repurposed during stages of program installation and initial implementation. However, there is never a wrong time to do the right thing. To highlight an interesting example, in year four of a six-year systems of care effort, Systems of Hope (the Children's Mental Health Initiative grant site in Houston Texas) engaged administrators, supervisors, and family members with an implementation consultant. Together they determined that their existing data

system did not support or inform wraparound implementation. Organized to support legal requirements in child protective services, the site's data system provided no model pertinent information about wraparound team composition and structure, about the thoroughness of multi-systemic strengths and needs assessment, nor about the design, efficiency, or effectiveness of wraparound team interventions. Without timely model pertinent case data to review, a risk containment supervisory focus had shaped staff to seek coaching primarily during case crises. This contributed to a long lag time before administrators or supervisors might discover lack of model fidelity or effectiveness and was deemed to be a disservice to the consumer and an ineffective and inefficient means to develop staff knowledge and skills. Therefore, model pertinent data forms that re-enforced revised *training* content that focused through wraparound's *theory bases* were developed and used in bi-weekly review by the consultant, administrator and supervisors. These implementation reviews generated the focus and formats for regularly scheduled, case-by-case *coaching*. After 18 months this re-purposing and revision of the Systems of Hope *decision support data system* and a related reorganization of training, coaching and leadership improved staff wraparound proficiency, model fidelity, and population outcomes (Bertram, Schaffer, & Charnin, *in press*).

Conclusion

This paper provides a historical marker of changes in NIRN implementation frameworks since 2005, examples of their successful application, and examples of the inefficiency and confusion that may ensue when they are not considered. If an organization carefully considers the *intervention components* of its program model(s), then thinks through the activities of each *stage of implementation* and the model pertinent organizational adjustments that must be made to *implementation drivers*, then benchmarks for model fidelity, implementation outcomes, and outcomes for the program's target population will more likely be achieved. As the first biennial Global Implementation Conference of 2011 transforms into a multi-disciplinary, multi-tasked Global Implementation Initiative that reconvenes in 2013, the use of these implementation frameworks will accelerate emergence of new knowledge and guidance for effective, implementation informed services.

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