

# **Policy Research Brief: Implementation Opportunities and Challenges for Prevention and Promotion Initiatives**

**Rosalyn Bertram, PhD  
Karen Blase, PhD  
David Shern, PhD  
Pat Shea, MSW, MA  
Dean Fixsen, PhD**

2011

**Support for the production of this document was provided by the Substance Abuse and Mental Health Services Administration, Center for Mental Health Services (SAMHSA/CMHS). The opinions expressed in this report are those of the authors and do not necessarily reflect the views of SAMHSA/CMHS or any other Federal entity.**

**Suggested Citation:**

**Bertram, R., Blase, K., Shern, D., Shea, P., and Fixsen, D. (2011). *Policy Research Brief: Implementation Opportunities and Challenges for Prevention and Promotion Initiatives*. Alexandria, VA: National Association of State Mental Health Program Directors (NASMHPD).**

## Contents

<b>Authors</b> .....	4
<b>Background and Purpose of Document</b> .....	6
<b>Introduction</b> .....	6
<b>Implementation Frameworks for Success and Sustainability</b> .....	8
<i>Implementation Science</i> .....	8
<b>Stages and Drivers of Implementation: A Brief Overview</b> .....	10
<b>Implications of Stage-Based Implementation and Implementation Drivers</b> .....	14
<i>Exploration</i> .....	14
<i>Installation</i> .....	17
<i>Initial Implementation</i> .....	18
<i>Full Implementation</i> .....	19
<i>What About Innovation?</i> .....	21
<i>What About Sustainability?</i> .....	22
<b>Establishing and Maintaining Implementation Infrastructure</b> .....	23
<i>Competency Drivers of Implementation: Some Big Ideas</i> .....	24
<i>Leadership Drivers of Implementation: Some Big Ideas</i> .....	31
<i>Organization Drivers of Implementation: Some Big Ideas</i> .....	32
<b>Implications for Prevention and Health Promotion Initiatives</b> .....	36
<b>Summary and Recommendations</b> .....	42
<b>Appendix 1: Principles of Implementation</b> .....	43
<b>Appendix 2: Stage Activities of Competency Drivers</b> .....	44
<b>Appendix 3: Stage Activities of Organization Drivers</b> .....	45
<b>Appendix 4: Cascading Frameworks of Implementation</b> .....	46
<b>References</b> .....	47

## Authors

**Rosalyn. M. Bertram, PhD** is an Associate Professor at the University of Missouri-Kansas City School of Social Work. Rosalyn's doctoral research in the University of South Florida's unique Child and Family Policy Program produced well-cited articles on wraparound's theory base. With the National Wraparound Initiative, she initiated analysis of two decades of wraparound literature using implementation frameworks to identify knowledge gaps and suggest a future wraparound research agenda. That study serves as cornerstone for an edition of *The Journal of Child and Family Studies* addressing wraparound implementation. Dr. Bertram currently conducts consultation and research on competency and organization implementation drivers to improve outcomes more efficiently and with fidelity, in diverse system settings that are applying different intervention models.

**Karen A. Blase, PhD** is a Senior Scientist at the Frank Porter Graham Child Development Institute at the University of North Carolina and with Dean Fixsen PhD directs the National Implementation Research Network (NIRN) <http://nirn.fpg.unc.edu/>. Karen received her doctorate in Developmental and Child Psychology from the University of Kansas with a focus on school-based and community-based interventions for children and youth. Her current focus is the development, implementation, and quality improvement of evidence-based programs and practices, as well as strategies for effective implementation, scale-up, and systems change. As part of a research team, Dr. Blase was involved in completing a major review and synthesis of the implementation literature.  
<http://www.fpg.unc.edu/~nirn/resources/publications/Monograph/>

**David Shern, PhD** currently directs the nation's oldest and largest mental health advocacy organization, Mental Health America (MHA). Prior to joining MHA, Dr. Shern served as dean of the Louis de la Parte Florida Mental Health Institute (FMHI) at the University of South Florida, one of the largest research and training institutes in behavioral health services in the United States. He also founded and directed the National Center for the Study of Issues in Public Mental Health-a National Institute of Mental Health-funded services research center located in the New York State Office of Mental Health (OMH). His work has spanned a variety of mental health services research topics including epidemiological studies of the need for community services; the effects of differing organizational, financing and service delivery strategies on continuity of care and client outcome and the use of alternative service delivery strategies such as peer counseling and self help on the outcomes of care for adults with severe mental illnesses.

**Pat Shea, MSW, MA** is the Deputy Director of the Office of Technical Assistance at the National Association of State Mental Health Program Directors (NASMHPD) where she is responsible for coordinating a wide range of training and consultation services to states and communities on policies, programs, and activities that support improved service delivery and outcomes for persons served via the public mental health and related social service systems. Previously, Ms. Shea worked at the Center for Mental Health Services where she participated in the development and oversight of Federal initiatives designed to: support healthy youth development; prevent youth violence and suicide; and improve state systems for serving persons with or at risk of mental health problems.

**Dean L. Fixsen, PhD** is a Senior Scientist at the Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill where with Karen Blase PhD he directs the National Implementation Research Network (<http://nirn.fpg.unc.edu>). Dean also co-directs with Karen Blase, Rob Horner, and George Sugai, the State Implementation and Scaling up of Evidence-based Practices (SISEP) Center ([www.scalingup.org](http://www.scalingup.org)), and with Bianca Albers and Jennifer Schroeder, co-chairs the Global Implementation Conference ([www.implementationconference.org](http://www.implementationconference.org)). He has advised federal, state, and local governments, has co-authored over 100 publications including the highly regarded monograph, *Implementation research: A synthesis of the literature*, and has served on numerous editorial boards, including *Implementation Science* <http://www.implementationscience.com>.

## Background and Purpose of the Document

The Center for Mental Health Services (CMHS) in the Substance Abuse and Mental Health Services Administration (SAMHSA) has initiated a project in partnership with the National Association of State Mental Health Program Directors (NASMHPD), Mental Health America (MHA), and Vanguard Communications to advance its on-going efforts in preventing behavioral health problems and promoting positive health for the American people. To that end, the Project Team conducted an environmental scan to explore and document the compelling rationale for a targeted expansion of prevention and promotion-based activities, as well as the considerable evidence base that exists for programs, practices, and policies that have been shown to have a positive impact on fostering well-being at different developmental stages and across diverse settings (Shern, et al, 2011).

As a logical next-step in supporting the successful planning and execution of broad-based promotion/prevention efforts, SAMHSA is currently seeking through this project to hone those elements that are specifically pertinent to the ***process of implementing*** such activities and strategies within states and communities. To facilitate that endeavor, the Project Team enlisted the support of the National Implementation Research Network (NIRN) to produce a research brief that would outline key findings that have emerged from the implementation science that would be applicable to--and instructive for-- federally-funded, state-led promotion/prevention efforts. The emphasis of this report is primarily focused upon the implementation of evidence-based programmatic interventions, and is especially apt for skill-based interventions. This document is thus designed for federal and state representatives as an informational resource that illuminates critical issues for consideration when structuring this type of initiative.

## Introduction

In 2009 the Institute of Medicine (IOM) released a report summarizing the research supporting the benefits of a broad scale application of evidence-based programs and practices to promote wellbeing and prevent mental, emotional and behavioral (MEB) disorders among young people

(*National Research Council and Institute of Medicine, 2009*). Their analysis underscored the importance of systematic efforts to bring these practices to scale, as well as the need for national leadership in that regard. Partially in response to the IOM report, and in alignment with dominant themes guiding recent health care reform activities that recognize the importance of prevention, SAMHSA has identified the Prevention of Substance Abuse and Mental Illness as its top strategic priority (*SAMHSA, 2011*). It is clear that the time to systematically disseminate and implement behavioral health-related prevention and promotion activities is now.

The 2009 IOM report underscored the need for dramatically expanded efforts in understanding the processes of effective implementation in national, state and community settings. Expanded knowledge regarding effective implementation strategies is critically important. Fortunately, a science of implementation exists that, while generally not well-applied in behavioral health programming, has great relevance to behavioral health applications.

This research brief outlines key components to be considered for effective implementation of prevention/promotion initiatives, particularly for skills-based programmatic interventions, and offers structural and procedural frameworks to guide this work. While implementation science has been informed in part by the implementation of evidence-based *treatment practices*, many of the structural considerations are relevant and applicable to prevention-based interventions, as well. Knowledge gained from the research literature and from demonstration grants can be transformed into successful, sustainable prevention and health promotion initiatives through the use of these structural components and frameworks anchored in implementation science. This brief posits that--to efficiently and effectively apply federal, state and local resources toward sustainable improved population outcomes--federal agencies should design funding requirements that support the establishment of an appropriate infrastructure guided by implementation-informed frameworks, 1) between the federal and state level, and 2) between the state and local community level.

## Implementation Frameworks for Success and Sustainability

When target populations for prevention/promotion initiatives are developmentally and/or demographically diverse, working through common implementation frameworks and implementation-informed infrastructures will improve and sustain initiatives and better support integration of lessons across federal, state and community prevention efforts. As an initial step, we suggest that federal agencies should shape funding requirements to support establishment and use of mutually re-enforcing implementation-informed frameworks, 1) between the federal and state level, and 2) between the state and local community level. This could be accomplished through related federal and state RFA processes specifically informed by implementation science.

Similarly structured implementation frameworks will establish mutually accountable processes in which data can serve as the voice of communities - guiding decision-makers and funding sources to make better-informed policy, program, and funding choices to support new prevention programs and health promotion practices. In subsequent sections of this brief, informed by implementation science, we review the activities and components that should comprise each stage of implementing frameworks for these initiatives and their selected programs and practices, then conclude with guiding principles for such efforts.

### ***Implementation Science***

A decade ago it would have been virtually impossible to establish related implementation frameworks under dissimilar conditions in diverse behavioral health settings, let alone agree upon their necessary activities and components. However, based upon extensive review of implementation literature across diverse fields (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005), the National Implementation Research Network (NIRN) developed two overarching frameworks that inform infrastructure development: ***Stages of Implementation*** and ***Implementation Drivers***.



With respect to stages, NIRN identifies four stages of implementation and their structural components and activities. With regard to implementation drivers, they describe implementation informed processes and strategies that support high quality and sustainable use of evidence-based programs and practices. NIRN differentiates these implementation drivers into those that promote development of practitioners' confidence and competence (*Competency Drivers*) and those that are essential for developing organization and systems components to support new practice (*Organization Drivers*). Subsequent to the publication of their 2005 monograph, NIRN incorporated into the implementation drivers the necessity of addressing complex implementation challenges through appropriate leadership strategies (*Leadership Drivers*). NIRN's meta-review of evaluation and research literature provides practical guidance for establishing these implementation-informed structures and processes to install, support, and sustain initiatives between the federal-state levels and between the state-local community levels (Fixsen, et al, 2005; Heifetz & Laurie, 1997; Heifetz & Linsky, 2002).

Given current economic constraints and social challenges, to achieve productive and lasting returns on investment, federal agencies must do more than fund the selection, provision, and evaluation of direct service elements of evidence-based interventions. Successful implementation and sustainability of new prevention practices and continued improvement in population outcomes require careful consideration and application of implementation science to develop the infrastructure that can support and sustain effective programs and practices.

This emerging science of implementation suggests that successful implementation of initiatives, programs and practices is a **two to four year process**. Purposeful development of key components and activities throughout this stage-based process will help federal and state governments, behavioral health and related service organizations, and communities to more efficiently anticipate and recognize problems, make adjustments, and fully implement effective and sustainable prevention/promotion initiatives (Fixsen, et al, 2005). When such implementation is achieved, sustainability and further innovation will be more likely than would occur without systematic attention to the implementation process. In short, sustainable, positive outcomes depend upon selection of effective interventions **and** their effective

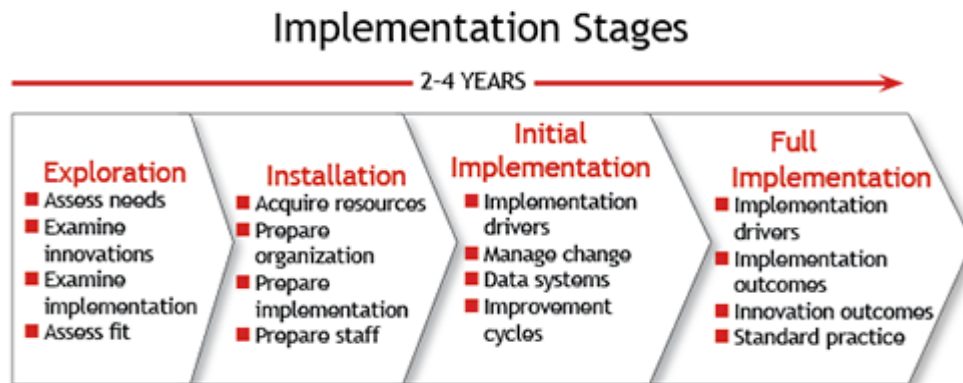
implementation. If either element is missing from the formula, the desired outcomes will not be achieved (Figure 1).

Figure 1



We next provide a brief overview of the two overarching frameworks, *Stages of Implementation*, (Figure 2) and *Implementation Drivers* (Figure 3, page 13), followed by a more detailed discussion of their dynamic interaction. We then conclude with implications for federal-state and state-local planning, execution, and sustainability of prevention and health promotion initiatives.

Figure 2



### Stages and Drivers of Implementation: A Brief Overview

Implementation of an evidence-based practice does not happen instantaneously. It is a process that can take two to four years to complete in a provider organization at the local level (Fixsen, Blase, Timbers, & Wolf, 2001; Hicks, Larson, Nelson, Olds, & Johnson, 2008; Randolph, et al., 2002). In the promotion of mental and prevention of behavioral health problems, it is a recursive process with activities that focus upon achieving improved population outcomes by

changing the structures and conditions through which provider organizations, human service systems, and communities support promotion/prevention initiatives.

There are four functional stages of implementation: exploration, installation, initial implementation, and full implementation. Sustainability, while often considered a final stage, in fact, must be integrated into each of the four stages if it is to be achieved. Though we will describe these stages in linear fashion, they are not linear. The focus and activities of each stage impact the others in dynamic and complex ways. For example, regardless of an initiative's current stage, as new agency leaders or as new administrations assume command, exploration stage activities such as securing "buy-in" must be readdressed. As another example, due to unusually high staff turnover, an organization may move from full implementation back to initial implementation as experienced staff are replaced by staff unfamiliar with the program or practices. While Figure 2 presents a linear graphic of the stages of implementation, the dynamic nature of implementation activities might better be visualized as a series of overlapping circles with two-headed arrows from each stage to every other stage. The following section briefly introduces each of the four stages and the three classes of implementation drivers.

### ***Stages of Implementation***

#### **Exploration**

In this initial stage of implementation, the potential match between community needs and resources and the new practice or initiative requirements must be carefully assessed before a decision is made to proceed or not to proceed. Potential barriers to implementation must be examined. These may include funding, staffing, referrals, system changes and other factors. The outcomes of this exploration should be a decision regarding the appropriateness of the program or practice to be implemented and a clear implementation plan with tasks and timelines to facilitate its installation and initial implementation.

#### **Installation**

After a decision is made to begin a new prevention initiative, there are key tasks to accomplish before end-users experience a change in practice. These activities define the installation stage

of implementation. Resources will be consumed as structural supports necessary to initiate the new project are organized. These activities could include ensuring availability of funding streams, acquiring necessary equipment (e.g. cell phones, computers), developing criteria for and engaging in staff recruitment and selection processes, arranging initial training, developing necessary policy or procedures, as well as creating referral mechanisms, developing data systems, and articulating outcome expectations. These activities and their associated start up costs are necessary first steps to begin any new endeavor.

### Initial Implementation

During the stage of initial implementation, amidst the inherently difficult, complex work of implementing something that requires new understanding and activities, the excitement and anticipation of new practice meets compelling forces of 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 or initiatives survive and thrive if they learn from mistakes and address challenges both systematically and systemically rather than allowing problems to re-emerge and re-occur.

### Full Implementation

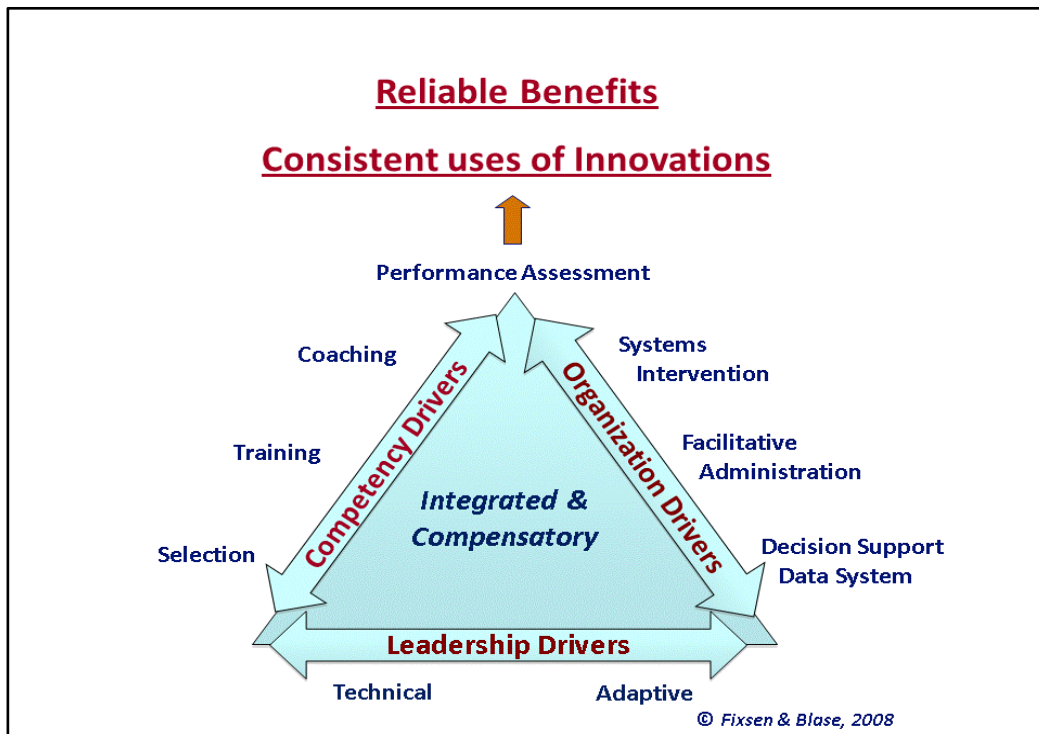
Full implementation of an initiative can occur once the new program components are well supported, integrating at all levels (federal, state, local) infrastructure, policies, and procedures that facilitate implementation and sustainability so the new practice is well-established in practitioner competencies. Over time, the program or initiative becomes the new norm for “business as usual” (Faggin, 1985).

### ***Implementation Drivers***

Implementation drivers are core components that establish the capacity to create practice, program, and systems level changes necessary for program success. They are the infrastructure elements required for effective implementation. Implementation drivers (see Figure 3) must be analyzed and operationalized within each stage of implementation. Each of the three classes of

drivers and their structural components and activities collectively contribute to effective, sustainable implementation (Fixsen, et al, 2005).

Figure 3



Collectively, implementation drivers ensure high quality and sustainable programs or initiatives. **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, and policy environment to ensure that the competency drivers are accessible and effective, and to ensure continuous quality monitoring and improvement. **Leadership drivers** discriminate adaptive challenges from technical challenges (Heifetz & Laurie, 1997) in order to apply the appropriate leadership strategies to maintain a focus on quality while establishing, repurposing, adjusting, and monitoring the competency drivers and organization drivers throughout implementation stages.

These drivers of implementation must be integrated and compensatory. That is, they must be purposefully aligned to promote high fidelity and positive outcomes. They are compensatory because weakness in one component can be mitigated by strengths in others. For example, if

training is under-funded or not well utilized, coaching can compensate to build competence and confidence. 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 chosen program or practice.

## Implications of Stage-Based Implementation and Implementation Drivers

We next explore implications for implementing and sustaining evidence-based prevention and health promotion initiatives that are anchored in implementation science. We describe key activities and considerations related to the stages of implementation and each implementation driver, their components and activities, as well as broader issues related to federal–state and state-local community relationships.

### *Exploration*

The manner in which an initiative is launched shapes its success and sustainability. Proactive, small adjustments in this early stage reap great benefits, while not making time and effort to fully explore the possible adoption of a new program or practice will amplify future challenges as attempts are made to install the program and bring it to scale. In the exploration stage, the assessment of community resources and population needs and their potential match with a specific new program or practice should focus upon both population outcomes and implementation outcomes. Population outcomes refer to the prevention or health promotion outcomes sought for specified populations (e.g., reduced use of alcohol by children and teenagers, reduced dating violence, increased pro-social youth behaviors, etc.). Implementation outcomes refer to the fidelity and sustainability of the program or practice so that desired population outcomes are more likely to occur. As previously illustrated in Figure 1, without effective implementation, population outcomes are not likely to occur.

In this stage, questions should be explored regarding the prevalence of the problem, needs and characteristics of the target population, community defined needs, and the match with a potential prevention program or practice selection. For example: Given target population

needs and characteristics and community readiness and perceived priorities, what program model or prevention practices are best fitted to this setting? Is there evidence that they have previously been applied successfully in similar circumstances? If the new program or practices were effectively applied, what changes would need to occur at the practice, organization, and systems levels to produce what population outcomes? What is the theory base of the new program model or prevention practice, and how will fidelity be measured? How much and what kinds of help can purveyors or other prevention program experts provide? Has the potential new program or practice been sufficiently tested and used so it is ready for application in this community? These questions systematically examine the fit between community needs, the core components of the possible new intervention, and the core components of the implementation process (Fixsen, et al, 2005).

Answers to these questions will help shape critical decisions regarding each of the implementation drivers. Guided by this systematic examination of the chosen evidence-based model, prevention initiatives can then better consider criteria for selection of staff, trainers, and consultants, as well as the repurposing of resources to support training, coaching, and data systems. While it would be simpler if change only needed to occur at the practice level, successful, sustainable implementation requires change at the practice, organization, *and* systems levels (Bertram, Suter, Bruns, & ORourke, *in press*; Fixsen et al, 2005).<sup>1</sup>

The Strategic Prevention Framework State Incentive Grant (SPF SIG) initiative funded by the SAMHSA/Center for Substance Abuse Prevention includes required processes that nicely map many of the components of the exploration process. Through a collaborative, data-informed needs assessment and strategic planning process, participating states established prevention priorities; and through a similar process, each community selected intervention models based upon target population, community capacity, and costs. This acquisition and sharing of information that supports the decision to adopt a specified intervention model has been well studied (Fitzgerald, Ferlie, & Hawkins, 2003; Rogers, 1995; Westphal et al., 1997).

---

<sup>1</sup> Furthermore, when the target population is developmentally diverse, this assessment of population needs, evidence-based models, and system or community resources will be complex. This complexity will be amplified in states with mixed frontier, rural, ex-urban, suburban, and urban populations from varying demographic groups.

However, implementation science suggests that, though necessary, the strategic assessment and sound selection of prevention programs and practices in the exploration stage is an insufficient set of activities for subsequent successful implementation. Communities, agencies, and states must consider and plan to utilize implementation frameworks that will support practice and organizational changes to effectively install and sustain the new program or initiative. This means developing or repurposing structural components of each implementation driver. For example, for skills-based intervention programs, who will select, train, coach, and evaluate staff? Who will align policy, procedures and data systems? How will this occur? Which persons with what expertise in the new practice, or in its implementation, will help negotiate technical and adaptive leadership challenges? These issues must be addressed in the exploration phase.

Whether between the federal and state level or between a state and its communities, these exploration stage activities should include identification of mitigating and facilitating contextual factors, as well as the capacity of the host organization's infrastructure and any adaptations that may be necessary. For example, are there competing prevention agendas? What is the cultural and linguistic fit for the new approach? How will the initiative impact current service providers and mobilize either resistance or support? How likely is it that current funding streams will be reallocated or that new funding will come on line to support the work? These complex environmental and structural considerations explore the context within which effective implementation and sustainable population outcomes can be achieved.

Funder Requests for Applications (RFA) processes that require and fund the establishment of statewide and local community infrastructures that are informed by implementation science will be more likely to move initiatives beyond demonstration or service grant cycles into sustainable, effective, efficient prevention and health promotion activities. These RFA processes should encourage federal-state, and state-local community exploration and planning, including how each set of implementation drivers will be operationalized and supported by knowledgeable purveyors of the proposed evidence-based practice. Purveyors are individuals or teams of people who have both content knowledge of the new program/practice **and**



implementation knowledge about how to successfully install, sustain, and expand that program or practice. Purveyors of implementation can support, guide, learn from, and help adjust organizational and competency drivers. They use measures of fidelity, population outcomes, and organizational outcomes to inform and enhance the effectiveness, efficiency and sustainability of initiatives, programs and practices (Arthur & Blitz, 2000; Fixsen & Blase, 1993; Winter & Szulanski, 2001).

In summary, at each level of activity (federal, state and local), systematic examination of implementation infrastructure must occur in the stage of exploration. Without such systematic examination in this stage, even the most thorough, collaborative assessment and intervention selection cannot ensure an effective, efficient, sustainable effort across diverse settings. At the end of the exploration stage, a decision will be made to proceed (or not) with implementation of a new evidence-based prevention program or practice in a given state or community (Blase et al., 1984; Khatri & Frieden, 2002; Schoenwald & Hoagwood, 2001), and a comprehensive implementation plan will have been developed to move the initiative through ensuing stages of implementation.

### ***Installation***

After the decision is made to implement an evidence-based initiative, many activities must still occur before participants are exposed to the new practice. These activities comprise the installation stage of implementation and include practical efforts to successfully launch it, such as establishing flow of funds, developing referral processes, finding physical space or purchasing equipment, etc.

However, in addition to these instrumental concerns, competency and organizational drivers that will support high fidelity implementation and improved population outcomes must be repurposed or established by the host organization and its systems partners. Installation requires moving beyond consideration and planning to systematically addressing each of the structural components of these implementation drivers. For example, model pertinent criteria for staff selection and training should be developed, coaching requirements should be articulated, and protocols developed for measuring fidelity, etc. Policy at a systems level or

within the organization(s) that will disseminate or deliver the new practice may need to be developed, carefully reconsidered, or reshaped. Existing data reporting systems must be similarly examined and perhaps repurposed.

These and related installation activities and their associated costs take time but will be critical steps in moving toward the stage of initial implementation when participants will first be exposed to the new program or practice. By focusing program installation on tackling instrumental issues *and* the development or repurposing of implementation driver components, the prevention initiative will be less likely to suffer the all too common error of inserting the new program or practice into existing infrastructure and then expecting implementation to occur with fidelity, often with disappointing results.

### ***Initial Implementation***

Successful implementation of new prevention/promotion initiative will require changes in organization culture and capacity as well as changes in staff competencies. At both the federal-state and state-local community levels these changes will not likely occur simultaneously or smoothly.

During the stage of initial implementation, as the new program is being implemented with participants for the first time, many constraining factors will emerge. People, organizations, and systems tend to be comfortable with the status quo. Fear or 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 the changes that will be necessary to effectively implement a new prevention program or practice.

During the stage of initial implementation, these natural tendencies to resist change often combine with the complexities of implementing something new to test confidence in the decision to adopt the initiative, program or practice. Initial implementation stage activities begin the process of systematically establishing implementation expertise and using improvement cycles. It is easier to do this in a limited area before taking the initiative, program

or practice to scale. During initial implementation it may be useful to consider the use of **transformation zones** like those used in the State Implementation and Scaling Up of Evidence-based Practices (SISEP) [www.scalingup.org](http://www.scalingup.org). A transformation zone is a select segment of the larger system within which an evidence-based practice and its associated infrastructure (implementation drivers) are initially applied and refined before scaling up the initiative, program, or practice to other settings (Nord & Tucker, 1987). A transformation zone differs from a pilot project in its conscious application of implementation science and in the systematic use of improvement cycles to remove barriers and prepare for broader scale use.

### ***Full Implementation***

Initiatives fail, are inefficient, poorly executed, or are not sustained when the new program or practice attempts to move to full implementation without developing and working through a well-considered and tested framework of implementation drivers. When model-pertinent implementation drivers are established, tested, and adjusted in transformation zones during installation and initial implementation stages, full implementation that achieves improved population outcomes with fidelity in a sustainable manner is more likely to occur.

Full implementation occurs when most of the practitioners are routinely providing the evidence-based program or practice with good fidelity and are therefore likely to achieve 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.

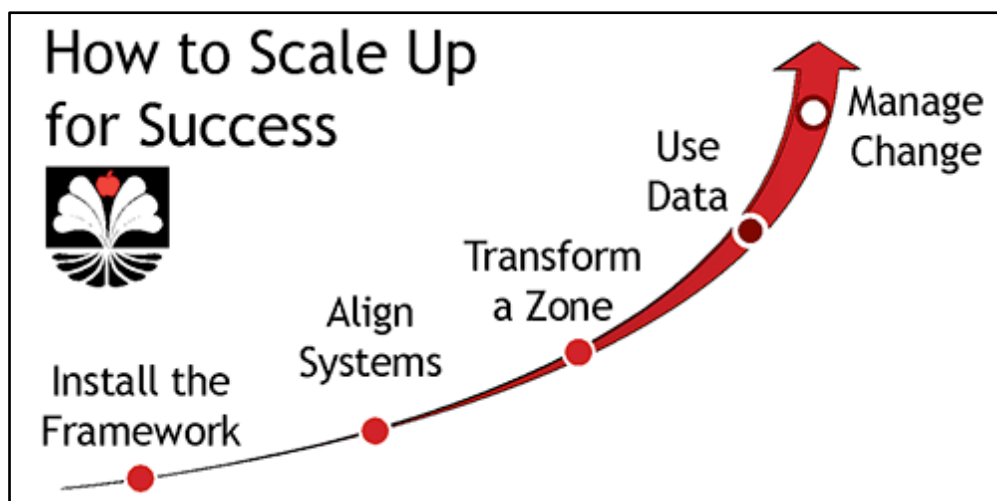
While process and outcome data must be collected, analyzed, and used to inform decision-making from initial implementation onward, the summative judgment about the value or worth of the prevention program should not be made until full implementation is achieved. Federal and state partners should consider establishing implementation benchmarks during the exploration stage that will signal achievement of full implementation for a given program or initiative (e.g., 80% of practitioners have been trained; 60% have received competent coaching

for at least a year; fidelity is at X%). Proactively setting such process benchmarks during the exploration stage will establish conditions under which summative evaluation results should be judged for overall effectiveness and for making decisions about continuing or revamping the new program or initiative.

As the target population encounters a well-implemented new program or practice, anticipated prevention or health promotion outcomes will be realized. When fidelity measures meet or exceed criterion levels most of the time, the effectiveness of the fully operational initiative should approximate the effectiveness that the selected evidence-based program demonstrated during research trials.

Expansion from transformation zones should be guided by program and population pertinent information from decision support data systems and facilitated by administrators who actively integrate policies and procedures within and between systems and organizations to support the new ways of work. Expansion from a transformation zone is most likely to be effective and warranted when the new program or practice demonstrates sufficient fidelity and desired population outcomes. Consistent, model pertinent training, coaching and performance evaluation will develop staff expertise and practitioner proficiency. (Blase & Fixsen, 2009; Faggin, 1985). SISEP presents the process of scaling up to full implementation from transformation zones as follows (Figure 4):

Figure 4



### ***What about Innovation?***

Too often “innovation” of new programs and practices occurs before they have been fully implemented with fidelity. Then if results are not as expected it is difficult to diagnose the problem. “Did we get poor results because we innovated our way out of effectiveness? Or is this the wrong program for this population and we need to choose differently?”

When full implementation has occurred with reasonably high fidelity, then questions regarding further innovation and sustainability can be addressed with information from the decision support data systems. The goal of an innovation should be to improve outcomes, or to make the program more acceptable to the community (e.g., culturally and linguistically appropriate) without diminishing its effectiveness, or to reduce the burdens of implementation without adversely impacting population outcomes.

A successful innovation presents its own implementation challenges. Once the innovation is operationally defined and demonstrated to be of benefit, then each of the implementation drivers must be analyzed to determine how the innovation can be reliably implemented over time and across settings. For example, if a new and better way of delivering a youth aggression prevention program is identified, then what changes will be required in the competency drivers? Should staff selection, training, coaching, and evaluation be altered to better support the practice innovations in a systematic and reliable manner? Will adjustments to agency administrative practices or systems supports be required to accommodate the innovation? What leadership challenges will emerge as program changes are made and which leadership strategies will be required to install and implement the innovation?

Certainly different conditions and community cultures or preferences can present opportunities to adapt and refine prevention and health promotion programs and practices in order to increase acceptability while maintaining effectiveness. Some of these adaptations will not be desirable because they reduce impact and the outcome data will define them as program drift and a threat to fidelity (Adams, 1994; Mowbray et al., 2003; Yeaton & Sechrest, 1981). Others

will be desirable adaptations and will be defined as useful innovations that might be included in a revision to or an expansion of the initiative, program or practice (Winter & Szulanski, 2001).

Working closely with purveyors and the implementation team, the compass for navigating questions of innovation must be guided by understanding and maintaining the underlying theory base and theory of change of the selected program or practice. With similarly focused decision support data systems between the federal-state and state-local levels, implementation teams will be better informed as they consider whether an innovation in one setting would be helpful in other settings. However, regardless of the level of decision-making activity, innovation must always be based upon skillful, effective application of the new program or practice. There is some evidence from business and commerce that innovations made after a model is implemented with fidelity are more successful and useful than modifications made before full implementation benchmarks have been achieved (Winter & Szulanski, 2001).

### ***What about Sustainability?***

There are two types of sustainability, programmatic sustainability and financial sustainability. Obviously, they interact with one another. Consistent use of the implementation drivers and close attention to implementation stages can help ensure programmatic sustainability as staff and leaders come and go. Well-trained and coached practitioners, proficient leaders, collaborators and other staff will naturally move onto other endeavors. With continued skillful use of model-pertinent staff selection, training and coaching, new leaders and staff can be consistently developed and supported to more efficiently continue to achieve population outcomes and program objectives.

At a systems level, financial sustainability is always an issue. Funding streams, priorities, and requirements will change as different social, political, or economic influences come into play, and as previous problems diminish or worsen. From a data-informed implementation framework, this shifting ecology can be better evaluated and adjustments made without losing functional elements of an initiative, program or practice. Thus, sustainability of effective federal-state and state-local community prevention and health promotion efforts would be

better supported if implementation science guides establishment of implementation drivers at both the federal-state and the state-local community levels.

### ***Summary of Implementation Stages***

In this descriptive review we discussed the overarching framework of implementation stages, the activities and foci within each stage, and some considerations regarding installing, repurposing, and sustaining the implementation drivers within each stage. Through an implementation-informed RFA process, common implementation frameworks at both the federal-state and at the state-local community levels would ground interactions with stakeholders and program participants in a data rich discussion that informs and improves policy and practice. If specifically considered, established, and integrated, these evidence-informed implementation frameworks would maximize influence of policy and more effectively and efficiently support the uptake of new programs and practices. To better inform potential RFA processes and guide interactions between and among federal, state, and local partners, a more detailed examination of the structural components of implementation drivers follows.

### **Establishing and Maintaining Implementation Infrastructure**

Whether at the federal-state or at the state-community level, frameworks for implementation should include attention to the **implementation drivers** (Figure 3, page 13), including: (a) the **competency drivers** of staff selection, training, coaching and performance assessment, as well as; (b) the **organization drivers**, which include facilitative administration and systems level interventions to create a more hospitable environment, and decision support data systems to guide program and system improvement. Based upon their experience with and knowledge of the selected program or practice, an implementation team and purveyors or program experts should systematically attend to the development of these components. In addition, because this is a dynamic process with many legitimate but competing interests, the **leadership driver** will play a significant role at all levels in managing change and resolving complex challenges. In the final section of this brief, we more specifically describe these implementation drivers as the structural functions and core components of an implementation framework for successfully implementing and sustaining prevention and health promotion initiatives.

### ***Competency Drivers of Implementation: Some Big Ideas***

The overall function of the competency drivers (see Figure 3) is to promote competence and confidence of those engaged in implementing the initiative so that high fidelity to the new program or practice is more likely. Staff selection, training, and coaching should be congruent with and supportive of the new program or practice, ensuring it will be implemented as intended and thus reflected in the performance assessment's fidelity measures. Fidelity measures should be selected or designed to provide model-pertinent feedback regarding the alignment, integration and functionality of the staff selection, training, and coaching components.

The focus and activities of these competency drivers must be *integrated* and can be *compensatory*. They are *integrated* because the content and processes for staff selection, training, and coaching are all focused through the lens of the new practice so that knowledge, skills, and abilities are developed to implement with fidelity, making improved population outcomes more likely. Competency drivers are also *compensatory*, because no single component is expected to fully produce competence and confidence. For example, not every candidate hired or reassigned will be “perfect for the position,” nor will they be expected to have all the knowledge and skills necessary to implement the new practice. Model-pertinent training may *compensate* for skills and abilities absent at entry, but everyone will not develop knowledge and skills to the same degree as a result of participating in training. Staff knowledge and skills post-training may be fragile and will vary across practitioners. Coaching, that is *integrated with training and decision support data systems* can then *compensate* for post-training deficits as well as help to develop professional judgment and the ability to generalize from a training setting to the real world. All three of these competency drivers should target the knowledge, skills, and abilities needed to implement well with the near-term outcome being high fidelity (performance assessment) and the more distal outcomes being prevention/promotion outcomes. Thus, the performance assessment driver will function as both near term outcome and barometer for measuring how well the implementation infrastructure is functioning to promote competence and confidence.



The precision and care with which the competency drivers are effectively applied will be influenced by the degree to which the model pertinent knowledge, skills, and abilities are new or quite different from usual practice, as well as by the degree to which a misstep in service is likely to be problematic for participants. For example, the SMART program for tutoring reading was designed to accept any adult volunteer who could read and was willing to spend 2 days a week tutoring a child (Baker, Gersten, & Keating, 2000). SMART program protocol relied heavily on the staff selection driver with less attention to training and coaching. However, more complex programs or practice models for high risk populations, such as youth who are engaged in the juvenile justice or child welfare systems, may have more specific and rigorous requirements for staff selection, training, coaching, and fidelity measurement (Chamberlain, 2003; Reiter-Lavery, 2004; Schoenwald, Brown, & Henggeler, 2000).

The final big idea is that these competency drivers can be analyzed and applied to everyone involved in the process of implementation. For example, at the federal level one can consider how grant and proposal reviewers are selected, trained, coached, and evaluated for adherence to the review process and criteria. At the state level, thinking should occur regarding how members of a state coordinating team for prevention initiatives might best be selected, oriented to their roles and responsibilities, provided with feedback (coaching) about their work, and how the group might assess whether they are staying “on mission” (performance assessment) and generating the outcomes they expected. Similarly at every level of a federal-state or state-local community effort, the competency drivers can and should be applied to administrators, local partnership members, as well as trainers, coaches and evaluators charged with bringing the prevention initiative to life.

With these big ideas in mind related to the overall purpose of the competency drivers, their integrated and compensatory functioning and the iterative use of the competency drivers across various community, agency, and systems, we next discuss some best practices that will support implementation as intended.

## Staff Selection

Staff selection is infrequently discussed and less frequently evaluated in the literature (Fixsen et al, 2005). Fully understood, it is a significant competency driver of implementation that should be well-considered and addressed in efforts at both the federal-state and the state-community levels. Like other implementation drivers, staff selection should be proactively considered in the exploration stage, then established and improved during installation and initial implementation stages. However, these activities include far more than reassigning or hiring effective front-line service providers.

Depending upon the chosen prevention program, staff selection will involve more than academic qualifications, and personal or professional experience. Model pertinent attributes, characteristics, or predilections often cannot be trained or coached, and therefore must be part of pre-determined selection criteria. For example, being able to comfortably work with women from diverse backgrounds with multiple needs in a highly supportive and compassionate manner might be a pre-requisite for a professional in a nurse home visiting program. The ability to engender trust and help others 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 accept feedback and to act on it. If prospective employees are difficult to coach or have difficulty implementing clear feedback, it will be very challenging for them to reach fidelity. Therefore an assessment of 'coach-ability' during the interview process can be helpful.

A common sense principle of staff selection is that no one person is suited to every role in an initiative, program or practice. However, from an implementation-informed framework, recruitment strategies, interview protocols, and staff selection or reassignment criteria should all be informed by program model elements, theory base, and theory of change, as well as descriptions of staff roles, responsibilities, and activities. For example, people who tend to be outgoing and decisive may make good practitioners or purveyors. People who tend to be methodical, who enjoy making decisions based on specified criteria may make better

evaluators, though in very well specified intervention models, they also might be a good practitioner or coach. People who enjoy and are skillful at engaging and inspiring others may make good practitioners, coaches, or trainers. With respect to a given evidence-based prevention program or practice, the extent of knowledge and direct experience in that program or practice might be more critical for some positions than others.

While moving an initiative from installation through initial implementation to full implementation and then scaling up at multiple sites, staff selection must be considered in the context of factors such as socio-economic conditions, program funding, staff compensation and workforce development, as well as the differing demands of the selected practice. Here organizational drivers of implementation may interface with competency drivers through facilitative administrative practices (e.g., targeted recruitment, incentives for performance and longevity, etc.) or systems level adjustments to support direct practice (e.g., changes in licensure or staffing requirements) to compensate for potential constraining effects of some of these factors, but so too will strategic application of other competency drivers.

### Training

Successful, efficient, sustainable implementation of new prevention or health promotion programs and practices will require behavior change in practitioners, their supervisors or coaches, and in administration of the organization. In the beginning stages of implementation and throughout the life of evidence-based programs and practices, training and coaching will be the primary means through which behavior change is encouraged in carefully selected staff. Model pertinent pre-service training during the installation stage and in-service training during subsequent implementation stages should serve as efficient means to develop a shared knowledge of population characteristics, the rationale for model selection, and the philosophy, values, theory base and theory of change of the selected program or practice. In a sound implementation framework, training will provide more than introduction of model definition and its key elements. It also will provide the opportunity to practice new skills and receive feedback in a safe environment. Training sets the stage for coaching and its integration with fidelity assessments.

Training is perhaps the most commonly utilized component when a new initiative is installed and implemented. Of course, the content of training will depend upon the evidence-based program or practice that will be implemented and tailored to the roles and responsibilities needed to effectively implement it. Nevertheless, effective methods of training practitioners are common across diverse interventions to impart knowledge and develop skills, often including lecture, demonstrations, behavior rehearsals, practice to criterion, etc. (Bedlington, Booth, Fixsen, & Leavitt, 1996; Joyce & Showers, 2002; Schoenwald et al, 2000). The literature also suggests that similar training methods are used in training trainers (Braukmann & Blase, 1979; Ogden, et al., 2005), as well as coaches (Joyce & Showers, 2002; Smart, Blase, et al., 1979), fidelity evaluators (Davis, Warfel, Maloney, Blase, & Fixsen, 1979; Wineman & Fixsen, 1979), and administrators (Baron, Watson, Coughlin, Fixsen, & Phillips, 1979; Atherton, Mbekem, & Nyalusi, 1999). Best practices that facilitate quality training should include trainers knowledgeable about the practice with pre/post tests of participant knowledge and skills, thus establishing baseline results that inform subsequent coaching agendas.

Before training practitioners, implementation-informed evidence-based models like Multi-Systemic Therapy provide orientation and training for agency administrators and systems partners (Henggeler et al., 2009). So too do mental health evidence-based treatment programs such as Trauma-Focused Cognitive Behavioral Therapy or Parent Child Interaction Therapy that use adaptations of the Institute of Healthcare Improvement's Breakthrough Series Collaborative (Ebert, Amaya-Jackson, Markiewicz, & Fairbank, 2011). While these are treatment-based examples, the same principle would apply for various prevention-based models in that such efforts develop an understanding of the requirements for successful implementation, as well as the changes that will be required in administrative practices and infrastructure.

### Coaching

Training assists in improving buy-in and understanding, and promotes basic knowledge and skill development. However, increasingly competent and confident use of the new practices in typical service settings are most effectively developed through skillful on-the-job coaching.

(Denton, Vaughn, & Fletcher, 2003; Joyce & Showers, 2002; Schoenwald, Brown, & Henggeler, 2000).

After decades of research on training teachers, Joyce & Showers (2002) conceptualized training and coaching as a continuous pattern of operations designed to change classroom behavior of teachers. Providing training without coaching is not effective because behavior change is not most immediately influenced by cognitive processes, but rather by behavior and contingencies in “real world settings”. For example, people hire personal coaches or engage partners in running or cycling to encourage repetition of more effective, efficient exercise to achieve weight reduction and personal fitness or to change smoking behaviors. Necessary knowledge and skills are attained through reinforcement by immediate coaching that promotes new behaviors while simultaneously motivating persistence through the awkward and uncomfortable initial implementation stage. The benefits of coaching similarly accrue in human service settings.

Abilities of newly trained staff will be comparatively less developed than those of a well-qualified trainer or coach. Newly acquired model pertinent behavior will be somewhat tentative, perhaps even fragile during initial implementation. The coaching component supports staff in trying out new skills and abilities, ensuring that they have support during the “awkward stage” of initial implementation, and that they persist in developing new capabilities rather than reverting to previous approaches that are more comfortable but not as effective. A well-designed coaching component should as immediately as possible reinforce model pertinent abilities as participants or others react and respond to the services they are receiving (Bertram, Bruns, et al, 2011; Ager & O’May, 2001).

In an initiative or program in which a facilitative administration has developed a model pertinent decision support data system, an implementation team or purveyor will be better able to systematically coach each level of the initiative toward greater role proficiency. At Houston’s SAMHSA Children’s Mental Health Initiative grant site, in a manner similar to implementation of Multi-Systemic Therapy, a purveyor reviews biweekly model pertinent case data with supervisors and the grant administrator, and then coaches them through SKYPE

consultations. Within case and between case activities of each staff member are examined to determine the focus, format, content, and method to be used by supervisors as they themselves coach greater staff proficiency to achieve improved population outcomes efficiently with fidelity (Bertram, Bruns, et al, 2011; Henggeler et al, 2009).

Best practices in coaching include developing and adhering to a coaching service delivery plan and ensuring that coaches are well selected, trained, coached and held accountable for delivering coaching as intended. 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, feedback, plan, re-observe) and always includes some form of direct observation (e.g. in-person, audio, video) to accurately assess and develop skills and judgment.

### Performance Evaluation

The final competency driver of sound implementation is performance evaluation. Performance evaluation examines forms of fidelity. The first form is related to practitioner performance. Practitioner performance is the responsibility of the overall system. It is a reflection of how well the competency drivers of staff selection, training, and coaching are operating, as well as how “hospitable” the environment is in ensuring that conditions are conducive to high fidelity practice. The second type of fidelity is related organizational performance as evidenced in each of the implementation drivers. For example, is training provided as planned and intended? Is coaching occurring as scheduled, and is it iterative and recursive to training content, observations of practice, etc.?

If during installation and initial implementation stages, decision support data systems were well-designed to provide information related to fidelity, then performance evaluation data will provide supervisors, administrators and purveyors with relevant data about implementation progress. Implementation progress includes the assessment of the effectiveness of staff selection, training and coaching, and may also suggest facilitative administrative issues and systems level factors that need to be addressed because they impact performance (fidelity) or population outcomes. Thus performance evaluation informs continuous quality improvement

of both organization drivers and competency drivers of implementation, as purveyors, agency administrators, and practitioners use the implementation data to guide practice, program, and initiative development.

### ***Leadership Drivers of Implementation: Some Big Ideas***

Leadership is probably the most frequently mentioned factor in various lists of facilitators and barriers to effective use of evidence-based programs in typical service settings (Bradley, Webster, Baker, Schlesinger, & Inouye, 2005; Rowan, Barnes, & Camburn, 2004). Leadership is often credited for success, while the lack of leadership and changes in leadership are cited as reasons for failure or lack of sustainability.

In implementation science, the leadership drivers attend to both technical and adaptive leadership strategies. These strategies should be anchored in the knowledge base for effective implementation, organization and systems change. Heifetz and Laurie (1997), Kaiser, Hogan, and Craig (2008), and Stacey (1996) provided a theoretical overview of leadership drivers. Panzano and colleagues provided data on the functions of leadership across stages of implementation when implementing evidence-based mental health initiatives (Panzano et al., 2004; Panzano & Roth, 2006), while Rhim, Kowal, Hassel, and Hassel (2007) described in great detail leadership behavior under various conditions.

Federal, state, and local leaders will find it particularly useful to discriminate between adaptive and technical components of leadership to understand which conditions call for which leadership strategies (Heifetz & Laurie, 1997). Briefly, 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, clear methods and processes that produce fairly reliable outcomes. For example, once established, good staff selection processes and decision support data systems rely on routine and clear procedures. Resolving problems related to these implementation components would call for technical forms of leadership.

Adaptive leadership is required when values, philosophies, and current ways of work are challenged or at odds within the group, agency, or community. In general, adaptive leadership is needed when there is less certainty and less agreement about both the definition of the problems and the solutions. This can be the uncomfortable position that federal, state, and local communities, as well as purveyors, experience when there are funding constraints and legitimate but competing agendas on any level. What is the most pressing problem? Would we agree on it? What is the prevention or health promotion solution? What evidence-based programs or practices should we use to address the population challenges and needs? Answers to these questions are often neither simple nor clear.

Adaptive leadership is often called for under complex conditions when leaders must identify the challenge, convene groups that work to understand that challenge, and then develop consensus based on group learning. Among the implementation drivers, coaching, facilitative administration, and systems interventions are more likely to require more adaptive forms of leadership to determine what the problems are, what learning will be required to come to consensus about a possible solution, and to then pay attention to the results of attempting to solve the problem. Heifetz and Laurie (1997) state that a common leadership error is applying technical leadership skills under conditions that call for adaptive leadership skills. Not all leaders are willing or able to easily recognize or transition smoothly from technical or adaptive leadership strategies and styles and back again. However, both are required for successful implementation and sustainability of outcomes.

### ***Organization Drivers of Implementation: Some Big Ideas***

In a sound implementation framework, organization drivers should constantly attend to creating increasingly hospitable environments for the new initiative, program or practice. This can be accomplished through establishing and consistently monitoring responsive and transparent feedback loops, supporting and sustaining the effective use of the competency drivers, and regular use of performance assessment and population outcome data for continuous quality improvement.



## Facilitative Administration

In prevention and health promotion initiatives, every administrative decision is also a prevention and health promotion decision. Administrators should consider how each decision and the ensuing course of action facilitates high fidelity implementation of the new program or practice and improved population outcomes. Facilitative administration must be proactive. It 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 a relevant program or practice are assessed. Activities of facilitative administration then become more specifically focused on what is administratively required to implement the selected new program or practice well and to maintain implementation over time and across practitioners and administrations.

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 selected program or practice? 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 and population outcomes.

As full implementation is successfully achieved, administrators continue to facilitate and learn from the flow of information that emerges in practice-to-policy and policy-to-practice feedback loops. They track fidelity and outcome data to identify and correct model drift, and to identify and facilitate useful innovations as they emerge. Each implementation driver must be consistently monitored for quality and fidelity, for when data demonstrate drift in quality or fidelity of drivers, the likelihood of practice fidelity and improved outcomes will diminish.

Administrators at each level of federal-state or state-local community prevention initiatives must diligently and continuously identify and reduce organizational barriers to successful implementation. Organizational culture and climate must be reshaped to focus upon and actively support the achievement and sustainability of improved population and implementation outcomes. Working with implementation-informed frameworks, the goal of facilitative administration should be to adjust work conditions to accommodate new functions.

Factors such as workload, remuneration, documentation, clear communication and feedback must be proactively and continuously considered and addressed by administrators to the satisfaction of staff and ultimately to the benefit of program participants (Blase & Fixsen, 2009).

Thus, facilitative administration requires monitoring and program improvement functions for all the competency drivers. Data reflecting the quality of a given implementation driver must be fed back to those responsible for it, who should then make appropriate adjustments (e.g., staff retention, skill gains during training, improvement based on coaching). Transparent and responsive feedback loops demonstrate a commitment to quality improvement in continuous cycles of planning, doing, studying, acting, and evaluating.

### Systems Interventions

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 exploring and selecting even the most effective evidence-based program or practice, installation and implementation efforts can be overwhelmed by changing environments that may constrain achieving expectations or fulfilling requirements of the chosen program or practice.

Practice fidelity, population outcomes, and initiative or program sustainability may directly or indirectly be influenced by the alignment of federal, state, organization and community systems. Vigilant evaluation of interventions with constraining or supporting system elements are the responsibility of facilitative administration at all levels of federal-state and state-local community initiatives, and these activities must continue through each stage of implementation. Initiative champions and influential persons at each level must be engaged to create, facilitate, and sustain necessary organizational culture and climate, policies, regulatory practices, and funding mechanisms so that the new programs and practices thrive and achieve desired population outcomes.

Leadership and responsibility for systems alignment within and between federal-state and state- community initiatives must be identified and will be more readily informed if there are similarly organized implementation frameworks across these levels of activity that support sharing population and organizational outcomes data within and among various prevention and health promotion initiatives. Within each level or context, systems intervention activities will vary. However, linking communication protocols from federal to state to local levels and back again (e.g. policy-to-practice-to-policy feedback processes) will more efficiently and functionally shape adjustments to funding, policy and procedure, as well as social marketing themes.

### Decision Support Data Systems

Decision support data systems are a key component of the organization drivers that must be developed or repurposed in the program installation and initial implementation stages. Prevention/promotion initiatives require model pertinent data to guide decisions about organizational changes and staff performance, as well as population outcomes. These data systems must provide timely and valid measures of model fidelity for correlation with outcomes data. Data reports need to be useful, available, and accessible to federal and state staff as well as to implementation teams, administrators, supervisors, staff in the local programs and communities. Data systems truly become *decision support data systems* by creating the conditions under which data can be understood and used. Data should support evaluation and development of staff competencies as well as continual quality improvement.

Ideally, the 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 from a treatment system project, 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 the chosen wraparound intervention model. Organized to support legal requirements in child protective services, the site's existing data system provided no model pertinent case 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 each wraparound team intervention. Without timely model pertinent case data to review, the risk containment focus of supervision shaped staff behavior to most frequently seek coaching 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 were developed and used bi-weekly for review by consultant, administrator and supervisors. These reviews generated focus and formats for coaching. After one year this re-purposing and revision of their decision support data system and a related reorganization of coaching and consultation improved staff wraparound proficiency in different community settings (Bertram, Bruns, et al, 2011). While this example was drawn from a children's mental health treatment effort, the concept of designing data systems that inform sound decision-making and high-quality service delivery in adherence to model guidelines is clearly applicable to evidence-based prevention programs, as well.

## Implications for Prevention and Health Promotion Initiatives

Our explication of implementation frameworks, stages, and drivers can support federal, state, and local strategies to foster the development of prevention and health promotion initiatives. In this final section of the paper we summarize implications and make recommendations that can support more efficient and effective program or practice implementation and sustainability.

### ***Get It Right from the Start***

What might it mean to attend to stages of implementation? A truism with respect to stages of implementation is that you do not get to skip any. Failing to attend to exploration and installation related activities and diving into initial implementation contributes to false starts, crises that require time and resources to negotiate, and derailed projects that do not survive.

Federal and state initiatives often begin with a funding opportunity announcement (e.g., RFA ). Increasingly, federal departments (e.g., Department of Education, Office of Special Education Programs; Administration for Children, Youth, and Families, Children's Bureau; Centers for

Disease Control and Prevention, Injury and Violence Prevention Branch) and state departments (Kentucky's Department of Mental Health) are recognizing the importance of exploration and installation stage activities. They are building guidance and requirements into cooperative agreements and other funding opportunities for a planning and installation year to engage in activities of each of these two stages. They are also providing guidance to grantees regarding the stage-related activities for that year, as well as requiring documentation of these activities that culminate in a plan that is implementation-informed, able to be evaluated, and that in some cases is the basis for determining continued funding.

We believe that funding sources for federal and state initiatives should specifically consider how stage-based implementation activities can be funded, supported, documented, and assessed as new prevention and health promotion efforts are initiated. They should also carefully consider what guidance and support can be provided about the types of activities, focus and considerations that should be a part of early stages of implementation.

### ***Evaluation***

If full implementation (e.g., reliable use of the evidence-based program with high fidelity) requires from 2 to 4 years of diligent effort, how might this knowledge impact evaluation requirements, efforts, and reporting? While evaluators are increasingly attentive to fidelity assessments and recognize that they are essential to interpreting outcome data, it may be helpful for evaluators of prevention/promotion initiatives to fully assess **both** the population outcomes and implementation outcomes.

For example, are the competency drivers of staff selection, training, coaching, fidelity and performance assessment installed and utilized as intended? Organization drivers also should be evaluated. Are systems issues affecting the new practice within the organization or at more macro levels being identified, analyzed, and made more hospitable by a facilitative administration? Are decision support data systems integrated with competency drivers and consistently used to improve quality, fidelity and outcomes? Leadership drivers also can be evaluated. Is leadership clear and able to engage in both technical and adaptive strategies? Are

both program or practice model content and implementation experts accessible and engaged?  
Is the appropriate stage-based work occurring?

Thus, summative judgments about the worth and impact of initiatives should consider the degree to which the initiative, program, or practice is *actually* implemented. After all, communities cannot expect to benefit from prevention and health promotion initiatives that they do not receive!

### ***Implementation Infrastructure and Hospitable Environments***

Implementation drivers detail component functions that need to occur in an integrated and compensatory manner to successfully implement, sustain, and improve the prevention or health promotion initiative. Within federal-state and state-local community implementation frameworks participants can determine *who* will be responsible for the competency drivers and for the decision support data systems, and *how* best to focus facilitative administrative efforts and systems interventions to create and sustain more hospitable funding, policy, and regulatory environments.

Questions must be answered regarding availability, expertise, and the role of purveyors in the development of each component function of the competency drivers. Are there purveyors, both model content and implementation experts, for the initiative or are we attempting to use research information or written material to implement without such help?

Program development is different than program adoption and replication. While it is exciting to be among the first to attempt to implement a new approach, this requires extra time, attention to drivers of implementation, and adjusted expectations with rigorous approaches to formative evaluation. If this is the case, how available is the needed expertise? As insistence upon evidence-based programs has increased, federal, state, and community planners may find that national demand for the purveyor services has outstripped purveyors' capacity. This may contribute to delays in implementation or necessitate a return to exploration stage activities to rethink the selection of program or practice.

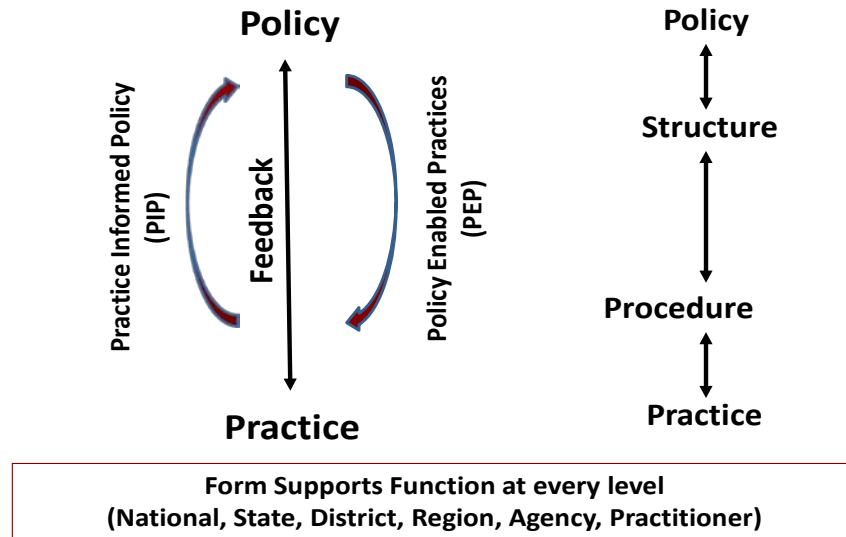
If purveyors are readily available, how will they help create state or local capacity to continue to provide training, coaching, fidelity, and data systems, or will the purveyor maintain these responsibilities? There are advantages and disadvantages to either scenario, but the implications and costs should be carefully considered in exploration stage activities. If in-state or local capacity is to be developed, then practical questions must be answered early in the process. Will existing governmental structures be repurposed to provide training, coaching, and evaluation systems (Spoth, Greenberg, Bierman, & Redmond, 2004)? Will professional development resources and entities partner differently with universities and consultants? Or will new structures and systems be created to house these important functions? Exploring and planning early will make implementation more hospitable, efficient, and sustainable.

More hospitable administrative, funding, and policy environments that support the evidence-based program or practice **and** its sound implementation must be established. Federal-state and state-local community implementation frameworks should create transparent and purposeful feedback loops to ensure that *Policy Enables Practice (PEP)* and then to ensure that *Practice Informs Policy (PIP)* (Figure 5, next page). Policies, with their attendant regulations, requirements, and funding streams, are established with the intent of improving outcomes. However, there are both intended and unintended outcomes that can be either facilitative or constraining when policies are implemented. Often these outcomes are not communicated back to those charged with creating and enacting such policies. With the establishment of PEP-PIP feedback loops the likelihood of developing hospitable environments for prevention or health promotion initiatives, programs or practices will increase. These PEP-PIP feedback loops promote the discovery of policies, regulations, and operating procedures that enhance or constrain effective implementation. This creates the opportunity to ensure that facilitative factors are identified, maintained and amplified and that constraining factors are eliminated or mitigated. These feedback loops require establishing transparent re-enforcing communication protocols within and between system levels with a known schedule for data review by known participants, and mutual agreements to listen, communicate, and respond constructively. This can be a bold endeavor but one that can create more coherent and aligned administrative and

systems environments so that systems, policy, and administrative issues do not trump program and practice efforts.

Figure 5

## Policy ↔ Practice Feedback Loops



© National Implementation Research Network

### ***Transformation Zones: Scaling-up More of a Good Thing***

It is inspiring to consider the impact that prevention and health promotion initiatives can have on whole communities and entire states. But what will it take to move from demonstrations to wide spread use of new practices and supports that effectively address population-based concerns?

Bigger does not always mean better. There are pre-requisites to scaling up. First and foremost full implementation on a more limited scale or in a transformation zone must demonstrate that the initiative, program or practice can be consistently implemented with quality and fidelity, and that population and organization outcomes are beneficial. Then and only then should a sound plan be developed that includes scaling up the implementation infrastructure and the



communication and alignment strategies with the right types of leadership and data-systems to make course corrections.

It is extremely challenging to make significant change occur simultaneously and successfully for the first time in all parts of a system, geographic area, or community. One approach to scaling-up an initiative briefly described earlier in this paper involves the use of a **transformation zones** (Nord & Tucker, 1987). A transformation zone approach that focuses implementation of the new program or practice in a representative geographic and demographic area may be helpful. For example, counties that represent frontier, rural, suburban, and urban areas with diverse demographics (e.g. communities of color, immigrants, socio-economic diversity) can be identified and if exploration stage activities result in 'buy-in', these counties can serve as a transformation zone and the focus of the first wave of implementing a state-wide prevention/promotion initiative.

Overarching goals in a transformation zone include the development of an infrastructure of implementation drivers, including identification and resolution of community, organization, and systems issues that may constrain efficient, effective, and sustainable use of the new program or practice. By negotiating these tasks on a smaller, but representative, scale, the transformation zone facilitates capacity development and organizational transformation while limiting unintended negative outcomes. This process is very different from pilot projects, demonstrations, or exhortations to use new programs or practices. It is not a time-limited or grant-bound effort that disappears at the end of a funding cycle. Transformation zones are instead purposefully selected forerunners for negotiating implementation stages and structures before bringing the new initiative, program or practice to scale in larger areas.

Though limited in scope or size, a transformation zone is nevertheless sufficiently large to 'disturb the system'. Attention to what is working and what is not working helps limit harm and focuses on developing implementation drivers to assure fidelity and intended outcomes. This process unfolds through implementation stages with an eye on de-fragmenting the organization or system, repurposing and aligning implementation drivers, removing barriers to high quality, efficient implementation, and thereby creating the capacity to fully implement the

new program or practice with improved outcomes. When a decision is made to scale up, select participants from the transformation zone can then potentially serve as part of an implementation team or advisors for subsequent expansion to other areas.

## Summary and Recommendations

For federal, state, and local community promotion/prevention initiatives to succeed in producing improved population outcomes, implementation science should guide each level of activity. To sustain these efforts, SAMHSA and each state should focus upon utilizing frameworks informed by implementation science that go beyond program or practice selection and population outcome evaluation. These frameworks can be defined and shaped through RFA processes that guide program and practice exploration, as well as installation and initial implementation in prevention or health promotion transformation zones. Guided by attention to developing, refining, and aligning implementation drivers through a stage-based process, these implementation frameworks can establish feedback cycles (policy-to-practice-to-policy) within and across federal-state and state-local initiatives. Related data about implementation, fidelity, and outcomes can then guide purveyors as well as state and local implementation teams in their efforts to make full, effective, and sustained use of new prevention and health promotion programs and practices.

The 2009 IOM report that summarized the considerable science base on the prevention of mental, emotional and behavioral disorders--and the promotion of mental health--noted that the lack of large scale implementation remains a significant barrier to fully realizing the value of this science. The implementation framework outline here, if adopted into procurement and administrative practices, could help to alleviate these concerns. It is essential that processes of procurement and administration at the federal, state and local levels be informed by implementation science and supportive of one another in ensuring successful implementation. The convergence of the IOM work with the developing application of implementation science in behavioral health may address the IOM's concerns if both bodies of scientific knowledge are embraced as we move forward.

## Appendix 1: Guiding Principles of Implementation Frameworks

Derived from implementation science, the recommendations in this brief are grounded in the following basic implementation principles:

1. Establishing implementation-informed frameworks within and across levels of activity can move federal funders from demonstration grant cycles into sustainable and effective prevention/promotion practices.
2. Practice quality and initiative sustainability require implementation capacity development through organizational change.
3. Implementation-informed infrastructures will produce sustainable prevention and health promotion initiatives and improved target population outcomes.
4. At every level, implementation drivers shape model-pertinent capacity development.
5. At every level, model pertinence and proficiency serve as both an organizational focus and goal as existing infrastructure is examined, repurposed, and applied.
6. At every level, data will serve as the voice of communities and of new practices.
7. At every level, we must be accountable for the quality of practice and its population outcomes.
8. At every level, it will take time to develop implementation knowledge and resources.
9. At every level, implementation teams and purveyors should catalogue resources as they are considered, repurposed, and applied.
10. Implementation driven Practice Informs Policy (PIP) and Policy Enables Practice (PEP) information cycles can shape social marketing within and across activity levels in implementation-informed initiatives.

## Appendix 2: Stage-Based Implementation Activities: Competency Drivers

	Business as Usual	Exploration	Installation	Initial Implementation	Full Implementation
	Current programs or practices	Active consideration of the new initiative, program, or practice	Preparing to implement the new initiative, program, or practice	Learning how to best implement new initiative, program or practice as the target population is engaged in transformation zones	Fidelity criteria are met; full use of new program or practice. Scaling up from transformation zone may be considered when fidelity criteria and desired outcomes are achieved
Staff Selection	Human resource department business as usual in staff recruitment and selection	Develop model pertinent position roles/responsibilities, job descriptions, and pay scales	Develop new interview protocols with hiring criteria specific to the selected model. Interviews conducted by individuals with expertise in the new program or practice using new interview protocols and hiring criteria. Assign/hire staff responsible for each implementation driver and direct service provision.	Working from baseline of knowledge, skills, and using decision support data systems, facilitative administration, coaches, & implementation team track initial model fidelity, efficiency, & performance data. Based on these data some staff may need to be reassigned.	Facilitative administration, coaches, & implementation team compare baseline staff criteria and initial implementation performance data. Results of hiring, training & coaching data are used to analyze data on staff performance & longevity. These data inform adjustments to staff selection criteria & interview methods.
Training	In-service training for traditional programs and practices that is often linked to earning CEU credits for professional licensure and that often focuses upon an eclectic expansion of practitioner knowledge and technique.	Identify content specific to the core components of the new program or practice & who may provide training. Determine if goal is to develop local capacity to train.	Develop role & model pertinent training content, prepare pre-service training schedule, secure trainers, space, & materials. Baseline knowledge, skills, abilities of program staff. Provide pre-service training. Assess staff knowledge, skills & abilities after pre-service training	Model & role pertinent pre-service training conducted by individuals with expertise in the new program or practice. Training includes knowledge & skills behavior rehearsal to criterion performance level as measured by post-training data In-service training as needed based upon performance assessment data.	Facilitative administration, coaches, implementation team continue to review performance assessment data to refine in-service training. Results of pre-post tests of knowledge and skills used to analyze data on trainer & staff performance and longevity to improve specific parts of training or to select other trainers.
Coaching	Current employees with specific experience and credentials provide supervision which typically focuses upon administrative concerns, risk and cost containment, and general staff morale.	Active search for coaching expertise & knowledge of core components of new program or practice. Consider frequency, format, focus & data needed to support development of staff knowledge/skills so new program or practice achieves improved population outcomes efficiently, with fidelity.	Adjust staff-client caseload & coach-staff workload to best support new program or practice. Install decision support data systems & protocol to inform focus, frequency, & formats for coaching. Assign/hire new coaches	Staff development plan established for each staff member in each level of program effort. Model pertinent coaching conducted at least weekly with staff. Coaches analyze model fidelity data & select focus/formats to best support achieving improved outcomes in staff development plans. Formats should include direct observation, behavior rehearsal, group & individual data reviews	Regularly scheduled, model pertinent formal feedback on the use of decision support data, as well as helpfulness of formats, frequency, & focus of coaching. Coaches & facilitative administration analyze these data with staff performance & longevity. Based on this data analysis, adjustments are made to improve coaching.
Performance Assessment	Supervisors provide opinions or assessments of employee role performance	Review core components of new program or practice & desired population outcomes to determine how they should best be assessed as new program or practice is implemented.	Align content/criteria used in staff selection interviews & pre-service training with areas to be assessed in practice at each level of role/responsibility. Facilitative administration ensures decision support data systems are designed & functioning to enable such assessment	Role performance is assessed at least quarterly until performance criteria and fidelity are consistently achieved. Assessment methods include direct observation (live or recorded), data reviews, consumer queries and initial population outcomes	At least semi-annually, new program/ practice providers evaluate helpfulness & promptness of performance assessments. Analyze staff selection, training, & coaching, & improve performance assessment methods as implementation process data are correlated with population outcome data.

### Appendix 3: Stage-Based Implementation Activities: Organization Drivers

	Business as Usual	Exploration	Installation	Initial Implementation	Full Implementation
	<b>Current programs or practices</b>	<b>Active consideration of new initiative, program or practice</b>	<b>Preparing to implement the new initiative, program or practice</b>	<b>Learning how to best implement new initiative, program or practice as the target population is engaged in transformation zones</b>	<b>Fidelity criteria are met; full use of new program or practice. Scaling up from transformation zone may be considered when fidelity criteria and desired outcomes are achieved</b>
<b>Decision Support Data Systems</b>	Business as usual: Information is typically collected regarding funding, regulations, and compliance.	Identify content & process data needed to support high quality implementation of organization & competency drivers.  Identify placement of data systems & <i>who will evaluate</i> implementation processes and population outcomes.	Develop/secure needed measures of implementation and population outcomes.  Organize staffing, policy, procedures to support model pertinent frequency of data collection & sharing for continuous quality improvement.	As the new program or practice is initially implemented, revised organizational process (implementation outcomes) and population outcomes begin to be examined.  These data are provided on regularly scheduled basis to practitioners, coaches, facilitative administration, and implementation team.	Quarterly reports present implementation outcomes & population outcomes to each level of the host organization & initiative.  At least semi-annually staff in each role should evaluate helpfulness and promptness of data sharing.  Staff at each level routinely make decisions based on the reported outcomes  When fidelity criteria are met, facilitative administration & implementation team decide on expansion from transformation zones.
<b>Facilitative Administration</b>	Business as usual: Administration has established organization structure, policy & procedure to support compliance to funding streams and regulatory bodies, as well as to ensure cost & risk containment	Examine structures, policies, procedures that may require adjustment to best support new initiative, program or practice.	Specific administrative adjustments are planned and begin, often initially around staff selection and decision support data systems.  Each organization driver & competency driver should be examined & repurposed so that structures & functions, finances, policies & procedures are adjusted to fully support the new program or practice.	Based upon decision support data system reports, structures, policies, procedures & functions, staff roles & functions, & financial allocations are adjusted in transformation zones to best support the new initiative, program or practice.  Each organization driver & competency driver is monitored so that structures & functions, policies & procedures provide a hospitable environment for the new program or practice.	Facilitative administration and implementation team continue to use decision support data system reports & outcome data to assure integration of, or to make adjustments to, organization drivers & competency drivers of the new program or practice until fidelity criteria are met.  Decision to expand transformation zone should be based on these implementation and population outcome data.  With fidelity criteria met, decisions to incorporate true innovations may occur as sustainability of initiative, program or practice is determined.
<b>Systems Interventions</b>	Business as usual: Meetings or discussions typically occur with officials outside the organization for purposes of contracting and reporting	Examine fit between the new initiative, program or practice & its interface with other organizations or systems to consider how the environment may or may not be hospitable.	Initiative and host organization's facilitative administration and implementation team share installation plans with officials in external agencies or systems  Questions are posed and suggestions are made to these officials to better align organizations & systems to support the new initiative program or practice.	Facilitative administration and implementation team work with leaders from the external organizations & systems to adjust structures & functions to best support the new initiative, program or practice.  Initial implementation data from decision support data systems should inform these discussions & adjustments.	Facilitative administration and implementation team make full use of regular reports from decision support data systems and outcome data to further enhance relationships and guide discussions/decisions with leaders from external organizations/systems.  This leadership continues to monitor and adjust the interface between these organizations or systems and the new initiative, program or practice.  Special attention to this organization driver of implementation should occur as the transformation zone is expanded.

## Appendix 4: Cascading Frameworks for Sustainable Implementation and Population Outcomes

Target Population	New Program or Practice Intervention Strategies	New Program or Practice Population Outcomes
Ages 0-25 in high risk communities	Evidence-based practices for prevention & health promotion	Behavioral outcomes in target population
New Program or Practice Implementation Population	New Program or Practice Implementation Strategies	New Program or Practice Implementation Outcomes
People in community organizations or existing structures of host organization for new program or practice	<p>Think through stage-based activities of implementation to explore &amp; adopt, install, initially then fully implement, and sustain prevention &amp; health promotion programs</p> <p>Develop, install, implement, &amp; evaluate competency and organizational drivers to support &amp; sustain the new initiative, program or practice.</p>	High quality, sustainable prevention & health promotion initiatives, programs, & practice.
State Population	Initiative Implementation Strategies	Initiative Implementation Outcomes
State mental health departments & community partners	<p>Develop scale-up vision: <i>What will this initiative look like in 10 years?</i></p> <p>Identify funds &amp; expertise to develop state readiness</p> <p>Design implementation informed RFA process</p> <p>Identify mechanisms to create or re-purpose resources to develop or support state implementation infrastructure including <i>implementation teams</i> and, <i>transformation zones</i>.</p> <p>Establish feedback loops: Practice Informed Policy (<i>PIP</i>) &amp; Policy Enabled Practice (<i>PEP</i>) information cycles</p>	<p>Identification of <i>How &amp; Who</i>: The structures and persons needed so implementation drivers move the state and communities through stages of implementation</p> <p>Creation of effective, efficient implementation infrastructure that supports PEP-PIP information cycles, &amp; that supports <i>capacity development</i>, the development of knowledge &amp; expertise that contributes to sustainable, implementation-informed new initiatives, programs and practice.</p>

## References

- Adams, P. (1994). Marketing social change: The case of family preservation. *Children and Youth Services Review, 16*, 417-431.
- Ager, A., & O'May, F. (2001). Issues in the definition and implementation of "best practice" for staff delivery of interventions for challenging behavior. *Journal of Intellectual & Developmental Disability, 26*(3), 243-256.
- Arthur, M. W., & Blitz, C. (2000). Bridging the gap between science and practice in drug abuse prevention through needs assessment and strategic community planning. *Journal of Community Psychology, 28*(3), 241-255.
- Atherton, F., Mbekem, G., & Nyalusi, I. (1999). Improving service quality: experience from the Tanzania Family Health Project. *International Journal for Quality in Health Care, 11*(4), 353-356.
- Baker, S., Gersten, R., & Keating, T. (2000). When less may be more: A 2-year longitudinal evaluation of a volunteer tutoring program requiring minimal training. *Reading Research Quarterly, 35*(4), 494-519.
- Baron, R. L., Watson, D.M., Coughlin, D.D., Fixsen, D.L., & Phillips, E.L. (1979). *The Program Manager Training Manual*. Boys Town, NE: Father Flanagan's Boys' Home.
- Bedlington, M., Booth, C., Fixsen, D., & Leavitt, S. (1996). *Skills for Family and Community Living: A Guidebook for Practitioners*. Federal Way, WA: Behavioral Sciences Institute.
- Bertram, R.M., Bruns, E., Schaffer, P., Chapelle, E., & Clay, L. (2011). Changing organization culture: Participatory evaluation and theory-based, systematic revision of wraparound implementation. Symposium presented at *The 24th Annual Research and Policy Conference*. March 20-23, 2011. Tampa, FL: University of South Florida, The Louis de la Parte Florida Mental Health Institute, Department of Child & Family Studies.
- Bertram, R.M., Suter, J., & Bruns, E., & Orourke, K. (*in press*). Implementation research and wraparound literature: Building a research agenda. *Journal of Child and Family Studies*.
- Braukmann, C. J., & Blase, K. B. (Ed.). (1979). *Teaching-Parent training manual* (2 vols.). Lawrence, KS: University of Kansas Printing Service.
- Chamberlain, P. (2003). The Oregon Multidimensional Treatment Foster Care Model: Features, outcomes, and progress in dissemination. *Cognitive and Behavioral Practice, 10*, 303-312.
- Denton, C. A., Vaughn, S., & Fletcher, J. M. (2003). Bringing research-based practice in reading intervention to scale. *Learning Disabilities Research & Practice, 18*(3), 201-211.

- Davis, M., Warfel, D.J., Maloney, D.M., Blase, K. B., & Fixsen, D.L. (1979). *Consumer Evaluation Manual: How to Assess Consumer Attitudes Towards Group Homes* (Second ed.). Boys Town, Nebraska: Father Flanagan's Boys' Town.
- Ebert L., Amaya-Jackson L., Markiewicz J., & Fairbank J. (2011). Use of the Breakthrough Series Collaborative to Support Broad and Sustained Use of Evidence-Based Trauma Treatment for Children in Community Practice Settings. *Administration & Policy in Mental Health and Mental Health Services Research*. doi: 10.1007/s10488-011-0347-y
- Faggin, F. (1985). The challenge of bringing new ideas to market. *High Technology*, 14-16.
- Fitzgerald, L., Ferlie, E., & Hawkins, C. (2003). Innovation in healthcare: how does credible evidence influence professionals? *Health & Social Care in the Community*, 11(3), 219.
- Fixsen, D. L., Blase, K. A., Horner, R., & Sugai, G. (2009). Concept paper: Developing the capacity for scaling up the effective use of evidence-based programs in state departments of education. Retrieved from University of North Carolina, Frank Porter Graham Child Development Institute Web site: [http://www.fpg.unc.edu/~sisep/docs/Concept\\_Paper\\_SISEP\\_0409\\_WEB.pdf](http://www.fpg.unc.edu/~sisep/docs/Concept_Paper_SISEP_0409_WEB.pdf)
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation Research: A Synthesis of the Literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).
- Fixsen, D.L., Blase, K.A., Timbers, G.D., & Wolf, M.M. (2001). In search of program implementation, 792 replications of the Teaching-Family Model. In G.A. Bernfeld, D.P. Farrington & A.W. Leschied (eds.). *Offender rehabilitation in practice: Implementing and evaluating effective programs* (pp. 149-166). London: Wiley
- Fixsen, D. L., & Blase, K. A. (1993). Creating new realities: Program development and dissemination. *Journal of Applied Behavior Analysis*, 26, 597-615.
- Heifetz, R.A., & Laurie, D.L., (1997). The work of leadership. *Harvard Business Review*, 75(1), 124-134.
- Heifetz, R.A., & Linsky, M. (2002). *Leadership on the Line*, Boston: Harvard School Press.
- Henggeler, S.W., Schoenwald, S.K., Borduin, C.M., Rowland, M.D., & Cunningham, P.B., (2009) Multisystemic Therapy for Anti-Social Behavior in Children and Adolescents, Guilford Press New York, NY.
- Hicks, D., Larson, C., Nelson, C. M., Olds, D., & Johnson, E. (2008). The influence of collaboration on program outcomes: The Colorado nurse family partnership. *Eval Rev*, 32, 453 - 474.



- Joyce, B., & Showers, B. (2002). *Student Achievement Through Staff Development (3rd ed.)*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Khatri, G. R., & Frieden, T. R. (2002). Rapid DOTS expansion in India. *Bulletin of the World Health Organization*, 80(6), 457-463.
- Mowbray, C. T., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: Development, measurement, and validation. *American Journal of Evaluation*, 24(3), 315-340.
- National Research Council and Institute of Medicine. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. O'Connell, M.E., Boat, T., & Warner, K.E. (Eds.). Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press
- Nord, W. R., & Tucker, S. (1987). *Implementing routine and radical innovations*. Lexington, MA: D. C. Heath and Company.
- Ogden, T., Forgatch, M. S., Askeland, E., Patterson, G. R., & Bullock, B. M. (2005). Large scale implementation of Parent Management Training at the national level: The case of Norway. *Journal of Social Work Practice*, 19(3), 317-329.
- Phillips, S. D., Burns, B. J., & Edgar, E. R. (2001). Moving Assertive Community Treatment Into Standard Practice. *Psychiatric Services*, 52, 771-779.
- Randolph, F., Blasinsky, M., Morrissey, J. P., Rosenheck, R. A., Cocozza, J., & Goldman, H. H. (2002). Overview of the ACCESS program. *Psychiatric Services*, 53(8), 945-948.
- Reiter-Lavery, L. (2004). *Finding great MST therapists: New and improved hiring guidelines*. Paper presented at the Third International MST Conference, MST Services, Charleston, SC.
- Rogers, E. M. (1995). *Diffusion of Innovations (5 ed.)*. New York: The Free Press.
- SAMHSA (2011) <http://store.samhsa.gov/shin/content//SMA11-4629/01-FullDocument.pdf>
- Schoenwald, S. K., Brown, T. L., & Henggeler, S. W. (2000). Inside multisystemic therapy: Therapist, supervisory, and program practices. *Journal of Emotional and Behavioral Disorders*, 8(2), 113-127.
- Schoenwald, S. K., & Hoagwood, K. (2001). Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services*, 52, 1190-1197.
- Shern, D., Steverman, S., Ahmed, E. & Shea, P. (2011). *Situational Analysis: Issues of Relevance in Designing a National Strategy to Promote Mental, Emotional, and Behavioral Health and to Prevent/Reduce Mental Illness and Substance Use Disorders*. Alexandria, VA: National Association of State Mental Health Program Directors (NASMHPD).

- Smart, D. A., Blase, K.B., Smart, D.I., Graham, K., Collins, S.R., Daly, P.B., Daly, D.L., Fixsen, D.L., & Maloney, D.M. (1979). *The Teaching-Family Consultant's Handbook (Second ed.)*. Boys Town, Nebraska: Father Flanagan's Boys' Home.
- Spoth, R., Greenberg, M., Bierman, K., & Redmond, C. (2004). PROSPER community-university partnership model for public education systems: capacity building for evidence-based, competence-building prevention. *Prevention Science, 5*, (1), 31-39.
- Westphal, J. D., Gulati, R., & Shortell, S. M. (1997). Customization or conformity? An institutional and network perspective on the content and consequences of TQM adoption. *Administrative Science Quarterly, 42*(2), 366-394.
- Wineman, J. H., & Fixsen, D. L. (1979). *The Professional Evaluator's Handbook*. Boys Town, Nebraska: Father Flanagan's Boys' Home.
- Winter, S. G., & Szulanski, G. (2001). Replication as Strategy. *Organization Science, 12*(6), 730-743.
- Yeaton, W. H., & Sechrest, L. (1981). Critical dimensions in the choice and maintenance of successful treatments: Strength, integrity, and effectiveness. *Journal of Consulting & Clinical Psychology, 49*, 156-167.