

POSITIVE BEHAVIOR SUPPORT
ACROSS THE LIFESPAN:
EXPANDING THE CONCEPT OF
STATEWIDE PLANNING FOR
LARGE SCALE ORGANIZATIONAL
SYSTEMS CHANGE

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LAWRENCE, KANSAS
JANUARY, 2010



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ACKNOWLEDGEMENTS

THE AUTHORS WOULD LIKE TO ACKNOWLEDGE ROB HORNER FROM THE UNIVERSITY OF OREGON FOR HIS ASSISTANCE IN THE PREPARATION OF THIS MONOGRAPH.



Kansas Institute for
Positive Behavior Support

This publication was produced, in part, by the Kansas Institute for Positive Behavior Support at the Schiefelbusch Institute for Life Span Studies, University of Kansas, with financial support by a contract from Kansas Social and Rehabilitation Services. Opinions expressed herein are those of the authors and do not necessarily reflect the position of the State of Kansas, and such endorsements should not be inferred.

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Recommended Citation:

Freeman, R. Perrin, N., Irvin, L., Vincent, C., Newcomer, L., Moore, M., et al. (2010). *Positive behavior support across the lifespan: Expanding the concept of statewide planning for large scale organizational systems change* (PBS Kansas Monograph No. 1). Lawrence, KS: University of Kansas, Schiefelbusch Institute for Life Span Studies.

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ABSTRACT

Providing the technical assistance necessary to embed positive behavior support (PBS) within schools, human service organizations, and communities is a daunting task because it involves a fundamental shift in systemic organizational function. It requires our systems change efforts to focus on larger social and cultural practices. Although each context for change is unique, and no cookbook exists for implementing large-scale systems change in PBS, some currently promising initiatives are demonstrating how integrated approaches to embedding PBS into human service systems can become a reality. In this monograph, we describe how systems change efforts in PBS can and must be expanded to create the type of social and cultural change necessary for wide-scale and sustained adoption of PBS within communities, regions, and states. We describe critical features of statewide planning efforts necessary for expanding PBS beyond individual pockets of implementation within a community to wider-scale adoption and implementation across human service settings. We also present one example of statewide PBS planning and coordination to demonstrate how these critical features are currently being implemented in one state to create a viable approach for implementing statewide PBS planning.

POSITIVE BEHAVIOR SUPPORT ACROSS THE LIFESPAN

Introduction

Providing the necessary facilitation for embedding positive behavior support (PBS) within schools, human service organizations, and communities is a vast undertaking. To effect significant and large scale change, a fundamental shift must occur that is guided by the science of changing and influencing social and cultural practices (Biglan, 1995) as it applies to PBS implementation efforts (Fixsen, 2005). This shift will require agencies and their professionals to focus on building collaborative inter-agency connections that are not the common “business as usual” arrangements in most state and regional settings. To accomplish this change, statewide and regional planning efforts are needed in order to leverage limited resources, increase communication across PBS efforts in local, regional, and state settings; and expand the knowledge base and effective use of PBS processes.

The purpose of this monograph is to discuss systems change as it applies to statewide PBS implementation and describe critical features of statewide planning efforts necessary for expanding PBS to wide-scale adoption and implementation across human service settings. We present one statewide planning example to demonstrate how these critical features are currently being actively incorporated by a state planning team.

Due to the contextual variability of differences in any given situation and setting, a single approach for implementing statewide PBS planning is not possible. There are no “cookbooks or silver bullets” in the systemic change process (Fullan, 1999). Thus, we present both a description and a discussion of the critical features of statewide PBS planning and implementation for any regional and/or statewide application.

Positive Behavior Support

Positive behavior support (PBS) is a set of strategies that are used to assist an individual child or adult to reach important life goals while decreasing the occurrence and future likelihood of problem behaviors. There are a number of excellent references for PBS and we encourage those seeking more details about PBS processes and tools to refer to the following resources: Bambara, Dunlap, & Schwartz, 2004; Carr et al., 2002; Carr et al., 1999; Crone & Horner, 2003; Crone, Horner, & Hawken, 2004; Hieneman, Childs, & Sergay, 2006; Lucyshyn, Dunlap, & Albin, 2002; O’Neill et al., 1997; Sailor, Dunlap, Sugai, & Horner, 2008.

A major emphasis of the PBS planning process is on teaching children or adults appropriate communication and social skills that will replace the problematic behavior with a socially acceptable alternative way to meet the person’s needs (Horner & Carr, 1997). PBS tools and processes are used not only to teach individuals how to communicate what they want and need; these tools and processes also are used to better understand how everyday routines and environmental settings may contribute to problem behavior. Modifications to these routines and settings are made to prevent problem behavior while increasing positive social interactions

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among individuals within those settings.

PBS is a collaborative process that involves multiple people changing the ways in which everyone interacts and supports an individual who engages in challenging behavior in order to build a positive climate for social and emotional growth (Lucyshyn, Kayser, Irvin, & Blumberg, 2002). PBS plans are implemented across educational, work, recreational, home, and community settings in which a person interacts with others. To change an individual's behavior, team members supporting the person must find a way to empower both the individual for whom a PBS plan is created as well as others who live and work closely with that individual (Bambara, Nonnemacher, & Koger, 2005).

The skill sets needed by those facilitating PBS processes are pragmatic and varied. Knowledge and skills related to systems change, learning processes, biomedical issues, applied behavior analysis, and person-centered strategies are just a few examples of expertise necessary for planning and implementing various components of PBS. Often, awareness and knowledge of these skills exists across individuals within an agency context. In addition to such expertise, it is important to keep in mind that it is often easier to identify both the function that a problem behavior serves and the interventions that will effectively eliminate or reduce problem behaviors than it is to achieve the steps involved in collaboratively guiding team members through the functional assessment and intervention planning process. Other real challenges include: teaching team members the science of behavior, building consensus among team members, helping the team decide which interventions will be successful, and creating sustainable support systems for those who will be implementing interventions over time.

According to Dunlap, Sailor, Horner, & Sugai, (2008), it is essential that those implementing PBS focus on the "sociology of behavior" to better understand the organizational and cultural systems variables that influence implementation of PBS interventions. PBS plans are implemented within the context of many different kinds of systems: families, schools, organizational activities, programs, and communities. These systems provide the contexts for both positive and problematic behavior. Supervisory and staffing patterns, organizational policies, budget allocations, cultural expectations, and many other variables that exist within these systems must be considered in PBS plan facilitation (Freeman et al., 2002).

Individuals who work in prevention-focused systems intervene early and design environments for teaching, supporting, and reinforcing positive social behaviors of all of the individuals within a setting before problem behavior occurs within schools, Head Start organizations, adult residential settings, and family support systems (Fox & Hemmeter, 2008; Freeman et al., 2005; Sugai & Horner, 2008; Walker et al., 1996). Waiting until problems arise allows for the development of challenging obstacles that can make it more difficult to be successful in actively teaching social skills, creating an environment that reinforces appropriate behaviors, and developing consensually consistent responses to problems when they do arise. Change agents within these prevention-focused systems are interested in building behavioral expertise across individuals within the setting to support children and adults who engage in

intensive and chronic, challenging behaviors. In this manner, the human resources within the setting are proactively empowered to create and maintain interventions instead of relying on outside experts who are contacted only after problem behaviors occur (Freeman et al., 2008).

PBS and Systems Change

To prevent problem behavior, we must consider the ways in which the systems surrounding an individual are contributing (or not contributing) to positive social and emotional growth (Freeman et al., 2002). This consideration has led to influential definitions of PBS which include the term “systems change” as an essential element that must be considered to prevent problem behavior (Carr et al., 2002; Dunlap et al. 2008). A “system” is simply a form of social, economic, or political organization or practice. In Bronfenbrenner’s (1986) influential family systems approach, any individual in a family is at the core of a number of surrounding systems and subsystems (portrayed by Bronfenbrenner as ever-enlarging circles around circles). Families are considered to be the smallest and most proximal system around an individual family member, while communities surrounding families consist of larger systems with varying smaller sub-systems nested within this larger whole community. For example, within the larger whole of each community, services are provided to educate children, maintain public buildings and land, and serve community members who are in need due to poverty, disability, or unexpected life changes. Organizations are developed within a community to address these different individual family, community, and larger societal needs. Such organizations can be community-based and/or exist within even larger systemic “wholes” surrounding communities such as counties, states, quasi-governmental entities and the federal government.

Paying attention to larger systemic variables related to behavioral support planning and implementation can increase intervention effectiveness. Such variables include the examination and revision of policies and procedures within organizations, as they often focus more on reactive rather than prevention-focused training and support systems. Budgets and funding allocation are other variables to be examined. Budget allocation, staff training, supervisory and management processes, and communication systems all have impacts on the climate and effectiveness of an organization in both a positive and negative manner. Access to systematic evaluation data can assist teams in making informed decisions about changes being implemented within the system, and the overall climate of an organization sets the stage for effective PBS planning with the individuals who are being served (Sugai et al., 2005).

Although it has been asserted that only individuals “behave” (for example, see Sugai et al., 2005), research and practice literatures across education and human services, as well as business and industrial contexts, commonly refer to “organizational behavior(s)” or the “behavior” of systems as a larger whole (DeGues, 1997; Fullan, 1999; Senge, 1990; Senge, Kleiner, Roberts, Ross, & Smith, 1994; Wheatley, 1999). The large corpus of research and practice literature on organizational behavior is focused on the impact that individuals, groups, and structures have on contexts, events, situations, and behaviors within organizations. Leaders and other profession-

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OF THE
WHOLE” (P. 58,
DIANE
SETTERFIELD)*

als, including researchers in human factors engineering, psychology, business and educational development and management, focus much of their efforts on the relationships of people within organizations and the systems for communication which are often referred to as “feedback loops.” An additional related focus is on the overall positive and negative characteristics of whole organizations. Professionals in education study, describe, and discuss “school climate” (Sulzer-Azaroff & Mayer, 1994). They also discuss organizations as “living systems” (Fullan, 1999, 2003). Systems change literature refers to “learning organizations” where the “whole can be greater than the sum of its parts” (Senge, 1990).

Knight (1998) has advanced our knowledge and practice by pondering how districts and schools might have “learning disabilities.” Knight defined schools that might be regarded as having learning disabilities as those having poor problem-solving systems (mechanisms and operations), and noted that negative interactions in such schools are common between and among the students and staff members. For Knight and others, schools, organizations, and groups of individuals “behave” and interact just as individuals do, and often in more complex ways due to their multivariate structures. Each school or other organization is unique based on variables such as the cultural backgrounds of the people within each system, and the experiences, knowledge, and unique qualities that individuals bring to one or more system/sub-systems in the larger wholes in which they live and work. The poor problem-solving systems issue Knight describes is not unique to schools and districts. It is common to hear descriptions of other organizations and communities communicated in terms of the positive and negative characteristics that represent the system and its subsystems, both as a whole and as the sum of its parts.

A consultant recently told one of the authors a story about a school whose teachers were struggling to accept the cultural and behavioral changes in the students attending that school. Changes in socio-economic conditions in the community had led to an increase in families who were new to the area and struggling to make ends meet due to a variety of economic challenges. The cultural diversity within this community is now very different from the more homogenous features that had characterized community previously for many years. Misunderstandings between the school professionals and students, and with the students’ family members as well, were resulting in a general sense of tension and unease. School staff members said they no longer understood their students and reported that “students today don’t act like we did when we went to school here.” The students lived in very different cultural settings with different social and cultural norms than those of their middle class teachers. The number of office discipline referrals (ODRs), an indirect measure of problem behaviors occurring within a school, increased significantly and student problem behaviors were reported by school personnel as occurring at unacceptable levels. Students from certain ethnic backgrounds were overrepresented in both ODRs and special education referrals. The consultant described the school staff members as grieving; they wanted their community to stay the same and remain homogenous in nature. In this situation, everyone was struggling to understand the changes in their community and the sense of discomfort resulting from the unknown nature and ef-

fects of the growing diversity.

As related by the consultant, this story about the experiences of the larger community has direct implications for systems change in educational contexts. By extension, the consultant's story also has similar implications for human services contexts, which we describe in other sections of this paper. But it is specifically instructive for educators by pointing out essential contextual considerations for professionals who facilitate PBS plans for individual students within schools. An individual PBS plan implemented by a team of professionals and others in a community may not lead to successful outcomes unless important issues at the school-wide and community-wide levels are identified accurately and directly addressed. Interventions at a school and community level that focus on increasing rapport and understanding among school staff, students, and a diverse community should serve to improve the likelihood that a team of professional educators and others will achieve consensus about a student's PBS plan and the intervention programs needed to improve a student's quality of life. Facilitating learning that leads to the implementation of school and community strategies to increase cultural competence is necessary for significant change to occur at both the molar (school-wide) and molecular (individual student PBS plan) levels.

Organizational systems change literature emphasizes the importance of using both "top-down" and "bottom-up" interdependent intervention efforts (Fullan, 2005). Systemic change strategies implemented by a group of individuals in an organization, school, or community setting are most likely to be effective when necessary considerations are made regarding larger contexts of state and regional policies and procedures, funds and technical assistance that are in place and functioning to support the change process in each individual organizational setting. Conversely, the success of state or regional planning efforts, in turn, is dependent on effective grassroots efforts and investments made by individuals at the local level to support large-scale change. This interdependent concept of change can also be applied to the aforementioned story about changes in diversity within a community and its schools. We believe that a larger systems change intervention that addresses building rapport, relationships, and cultural competence at the school-wide and community level will be more successful if individual PBS plans are also being implemented. In turn, the PBS plan for an individual student will be more successful, if larger school-wide and community level programmatic interventions are in place (Freeman et al., 2006). In the next section, we describe how individual bottom-up strategies have been used in conjunction with statewide PBS planning to expand the use of PBS in schools.

Statewide Planning and School-wide Positive Behavior Support (SWPBS)

The experiences of states pioneering PBS in schools have advanced our understanding of how to create training systems that produce sustainable implementation (Barrett, Bradshaw, & Lewis-Palmer, 2008; Galloway, Panyan, Smith, & Wessendorf, 2008; Muscott, Mann, Gately, Bell, & Muscott, 2004). SWPBS is a team-based approach that includes three tiers of increasingly intensive interventions, adapted from a prevention-oriented service model used widely in public health and

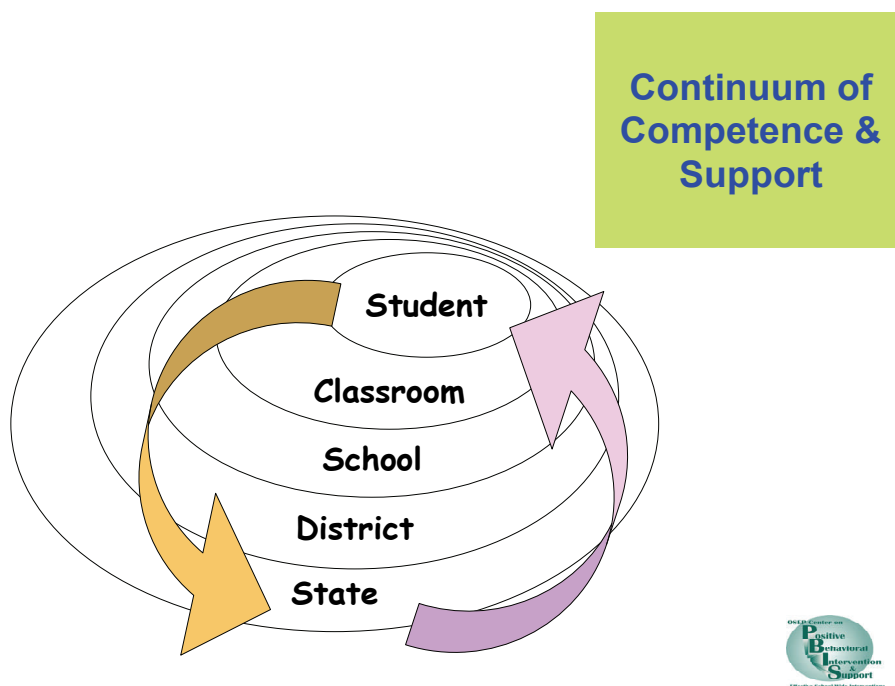
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community mental health settings (Gordon, 1983; Walker et al., 1996). In school settings, the first tier is primary prevention and involves actively teaching all students within a school setting a set of social skills and reinforcing the demonstration skills across all school and school-related settings, while all adults respond to the occurrence of problem behavior in a consistent manner (Peshak George et al., 2008). The second tier in educational settings is secondary prevention and is intended to identify and support students who have learning, behavior, or life histories that put them *at risk* of engaging in more serious problem behavior (Hawken, Adolphson, Macleod, & Schumann, 2008). Tier three, or tertiary prevention strategies, focuses on individualized and intensive PBS plans designed for a smaller number of students who need more support than interventions implemented at primary and secondary prevention levels (Scott, Anderson, Mancil, & Alter, 2008). School-wide planning teams work closely with school staff using consensus-based strategies to design interventions at each tier.

Substantively, SWPBS is built on a common vision, common expectations and a common language shared by all school constituencies (students, parents, teachers, administrators). The common expectations and language developed by schools are key to establishing an overall positive school culture where all students can succeed socially and academically (Horner, Sugai, Todd, & Lewis-Palmer, 2005; Sugai, Horner & Gresham, 2002). To achieve this school-wide cultural consistency across many diverse individuals, SWPBS focuses on establishing structures that promote regular communication among individuals and groups through a coordinated support network in the form of school-based teacher assistance teams, behavior support teams, and coaching networks (Handler et al., 2007; Lewis & Sugai, 1999; Sugai et al., 2005). School-based teams function best if they are representative of the school culture (Benazzi, Horner, & Good 2006; Jones, Caravaca, Cizek, Horner, & Vincent, 2006; Liaupsin, Jolivette, & Scott, 2004; Todd, Horner, Sugai, & Sprague, 1999), convene regularly (Horner et al., 2005) and have access to valid and recent data for decision-making (Horner, Sugai & Todd, 2001; Irvin et al., 2006; Sprague, Sugai, Horner, & Walker, 1999).

SWPBS implementation efforts involve an intervention approach that acknowledges the concept of “nested systems.” Students are influenced by what happens within the classroom, the classroom is “nested” within the school-wide system; schools are “nested” within a district, districts are “nested” within and influenced by state systems, and state systems are “nested” in and influenced by federal governmental policies, initiatives, and funding for PBS. Therefore, to change behaviors systemically within schools, interventions and related implementation efforts must be considered at each level (see Figure 1). School-based leadership teams work to build consensus among school constituencies (students, teachers, parents, administrators) regarding how the needs of students within a given school can be addressed most effectively and efficiently given the cultural context and resources of the school (Albin, Lucyshyn, Horner, & Flannery, 1996; Benazzi et al., 2006). District-wide planning teams are developed to support implementation on a long-term basis and to design plans for expanding the number of schools implementing SWPBS given the cultural

Figure 1. Interventions Implemented at Different Systems Levels.



context and resources of the district. Statewide planning teams are formed to support an increasing number of districts implementing SWPBS within the cultural context and resources of the state. All of these structures support the school-based teams in implementation of SWPBS.

These nested systems form a dynamic continuum reflecting the top-down and bottom-up implementation efforts described by Fullan (2005) and illustrated in Figure 1. If SWPBS is initiated as a demonstration project funded through university-sponsored research, implementation might initially occur from the bottom up. As SWPBS expands, however, and efforts are made to have it become firmly institutionalized within all of the larger and “nested” educational sub-systems, bottom up efforts need to be complemented through top down implementation that provides the funding, organizational commitment and motivation, coordination, and political visibility of larger systems required to sustain local implementation (Adelman & Taylor, 2003; Sugai et al., 2005).

Strategies for funding these SWPBS efforts have varied significantly with many projects initially funded to establish demonstration sites or small cohorts of schools (Freeman et al., 2008). Success at these sites has led to expansion plans designed to reach larger and larger cohorts of schools participating in training via more sophisticated systemic structures at the state level; e.g. statewide planning teams, training and technical assistance systems, regional and state coordinator positions. Currently, functioning state teams have typically recruited and facilitated collaborative involvement of other agencies such as mental health and developmental disability services and have reported that such proactive support through interagency collaboration has improved services for children.

A school-linked comprehensive service approach takes advantage of the fact that children spend large amounts of the day in schools and that communication and supports for families can be improved through these linkages (Duchnowski & Kutash, 2008). Many current statewide efforts for implementing SWPBS have evolved from federal and state funding such as the Individuals with Disabilities Education Act (2004) and its reauthorization, Individuals with Disabilities Education Improvement Act (2007); Safe and Drug Free Schools, and state improvement grants. Statewide teams report that funding for SWPBS at the statewide level changes over time, and that one major goal of statewide planning is to design action plans that include sustainable strategies for funding PBS (Freeman et al., 2008). Shifts in funding streams require balancing and redistributing resources each year to maintain and expand implementation efforts to ensure sustainable implementation. Thus, the broader the base of collaborating organizations and state agencies, the broader the funding foundation must be in order to allow statewide teams to account for such shifts.

One of the first steps in moving forward at a statewide planning level is to establish a vision and mission for the team. It is likely that many state PBS planning teams will focus initially on the parameters set out by their specific existing funding streams. As a result, they may not consider more comprehensive statewide systemic change efforts that include the development of broader policy, capacity building, and infrastructure for PBS implementation in other education and human service departments within their state systems. Statewide planning teams that are open to the possibility of expansion, however, may be able to open the door to larger-scale changes across human service systems and within their state by revisiting the original vision and mission of their statewide planning. Systems change literature emphasizes the importance of establishing moral purpose for groups and providing individuals with the values and reasons for what the ultimate vision and goal is for a group or organization (Fullan 1999, 2003, 2005; Senge, 1990).

Considering the increasingly complex needs of a growing number of students, larger-scale planning is becoming more and more necessary (Eber, Wade, & Torres, 2008). Schools often do not have the resources to adequately address the full range of students' needs, including mental health needs, problems with substance abuse, or diagnosed emotional-behavioral disorders (Adelman & Taylor, 2000; Cauffman, Scholle, Mulvey, & Kelleher, 2005; Eber, et al., 2008; Sales, 2004; Stevens & Morral, 2003). To assure continuity of the support that students with complex needs require over time and across agencies, larger-scale PBS planning can help ensure that sustainable services and integrated systems will be funded beyond short-term demonstration projects.

Sustained SWPBS implementation refers to the institutionalization and continuous regeneration of systems necessary for effective and efficient delivery of interventions (Adelman & Taylor, 2003; Fixsen et al., 2005; Sugai & Horner, 2006; Sugai, Horner, & McIntosh, 2008). Sustaining SWPBS systems might require that all groups involved in implementation fully subscribe to SWPBS values (e.g., prevention, inclusion, student-centered intervention, cultural sensitivity), recognize it as cost-effective, and believe in its feasibility (Adelman & Taylor, 2003; Blonigen et al.,

2008; Carr et al., 2002). Institutionalization of SWPBS is facilitated through ongoing local (school-level) administrative support as well as broader political and fiscal support from larger systems shaping educational policy and resource allocation; e.g., district, state (Doolittle, 2006; Sugai et al., 2005). The necessary local and district or state support of SWPBS is likely to sustain more readily if key stakeholders are continuously provided with data illustrating the impact SWPBS implementation efforts have on student outcomes (Adelman & Taylor, 2003; Doolittle, 2006; Sugai et al., 2005). In this way, systemic planning at all levels can occur in response to continuous evaluation of student outcomes. Most SWPBS schools collect and review office discipline referral data primarily for local planning. But integrating planning efforts across multiple systems (school, district, state) requires collecting and reviewing additional data to shape service delivery models responsive to the full range of student needs across the full range of systemic contexts (Eber et al., 2008).

In response to growing interest in SWPBS implementation at all school levels, the national SWPBS research agenda is now shifting its attention towards sustained large-scale systems change (Horner & Sugai, 2006). Large-scale implementation of educational innovations comprises two key components: (a) scaling-out, i.e., adding units at the same organizational level, and (b) scaling-up, i.e., adding units at the next higher organizational level (Lemke & Sabelli, 2008). SWPBS research is now beginning to focus both on scale-out activities, e.g., adding middle and high schools to its implementation agenda, and on scale-up activities, e.g., developing procedures and practices for school districts and state educational agencies to support and facilitate implementation in their schools (Horner et al., 2009; Lewis-Palmer, Bounds, & Sugai, 2004). For this ambitious systems change agenda to succeed, schools implementing SWPBS will need to reach out to other agencies to establish sustainable relationships that increase efficient use of limited resources and deliver needed services to students and their families.

The evolution of SWPBS implementation efforts provides an important opportunity to expand to even broader objectives for the implementation of PBS in society, i.e., statewide interagency planning in PBS across regional, state, and national levels.

Expanding the Scope of Statewide PBS Planning

PBS research has been increasing to support a greater diversity of children and adults (Crosland, Dunlap, Clark, & Neff, 2008; Duchnowski & Kutash, 2008; Dunlap & Fox, 2008; Feeney & Ylvisaker, 1997, 2006; Horner, Close et al., 1996; Sugai, Horner, et al., 2005). A peer-reviewed list of evidence-based publications and other materials for those interested in PBS across different populations of people and in a variety of settings is available for review (for example, see www.apbs.org). In many cases, PBS has evolved due to leaders in specific university or educational and human service settings who have guided teams of colleagues and collaborators through the implementation process (Freeman et al., 2008). In these instances, the teams and their leaders tend to focus on one setting or population of people. In the authors' experience, it appears that these pockets of implementation often remain

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ADDING UNITS AT
THE NEXT HIGHER
ORGANIZATIONAL
LEVEL.*

isolated. For example, within a given state, there may be statewide implementation of SWPBS, early childhood demonstration sites where program-wide PBS is being implemented, and several locations where adult residential systems have successfully embedded PBS processes with funding from state or federal funds. However, it is often the case that none of these pockets of PBS implementation have been purposefully coordinated at a statewide level.

In order to maximize effectiveness, we propose that the statewide PBS planning team concept be expanded in ways that facilitate effective communication among state agency professionals and leveraging of resources available for PBS across populations of individuals providing PBS services. State-level planning must now expand beyond PBS in schools and school-linked services to serve more diverse needs. Obvious starting places include organization-wide planning systems for developmental disability agencies responsible for providing services to families and adult service settings, and early childhood systems that often already rely on cross-department state funding mechanisms in education and home-based supports. In the next section, we introduce the essential elements of statewide planning in SWPBS followed by an example of how one state team used the concepts from SWPBS models to develop interagency-focused statewide PBS planning.

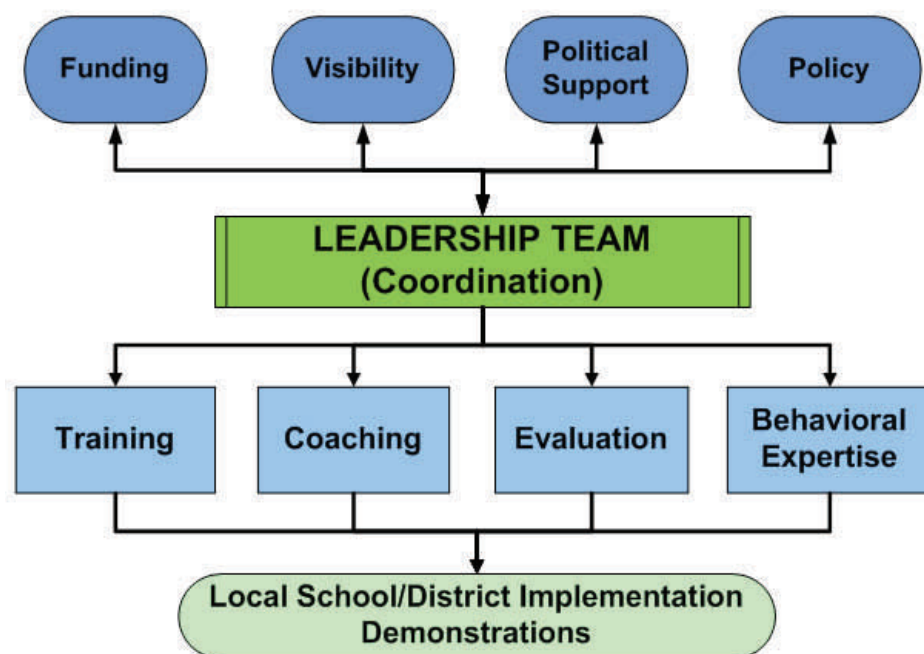
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Purpose of Statewide Planning

The elements and processes of statewide planning for SWPBS implementation efforts are described in detail in the model developed by the National Technical Assistance Center on Positive Behavioral Interventions and Supports (PBIS) (Sugai et al., 2005). In SWPBS, the leadership planning team meets to establish an infrastructure within the state to provide support to districts implementing SWPBS. Statewide planning teams in SWPBS meet on a regular basis and include a core of individuals representing key roles within the state department of education including curriculum and instruction, counseling and special services, special education, safe and drug free schools, response to intervention (RtI) initiatives, teacher certification and/or others, as deemed necessary. Staff members from other agencies that are often included as participants in statewide SWPBS planning meetings include those with key roles in mental health, developmental disability, child welfare, and juvenile justice departments. Various local educational district representatives may also be involved in statewide SWPBS team meetings, including district and/or school administrators, as well as educators and related service professionals responsible for SWPBS coordination. Professional educational consultants or SWPBS trainers often facilitate initial statewide PBS team meetings in order to facilitate and guide action planning. Professionals from institutions of higher education are members of some statewide PBS teams, as well.

Figure 2 describes the major action planning responsibilities for statewide leadership teams including establishing clear visibility for SWPBS, building political support, and identifying funding for SWPBS implementation. Action plans for district implementation also focus on expertise and capacity building in three main areas: training, coaching, and evaluation systems. Statewide planning teams conduct a

Figure 2. District-wide Leadership Team Model in SWPBS.



self-assessment and create three- to five- year plans for implementing the major elements of SWPBS outlined in Figure 2. Some statewide teams collaborate directly with state-level mental health, child welfare and developmental disability services; and identify professionals, service providers and other professionals in community organizations who join school professionals in statewide SWPBS training and technical assistance efforts.

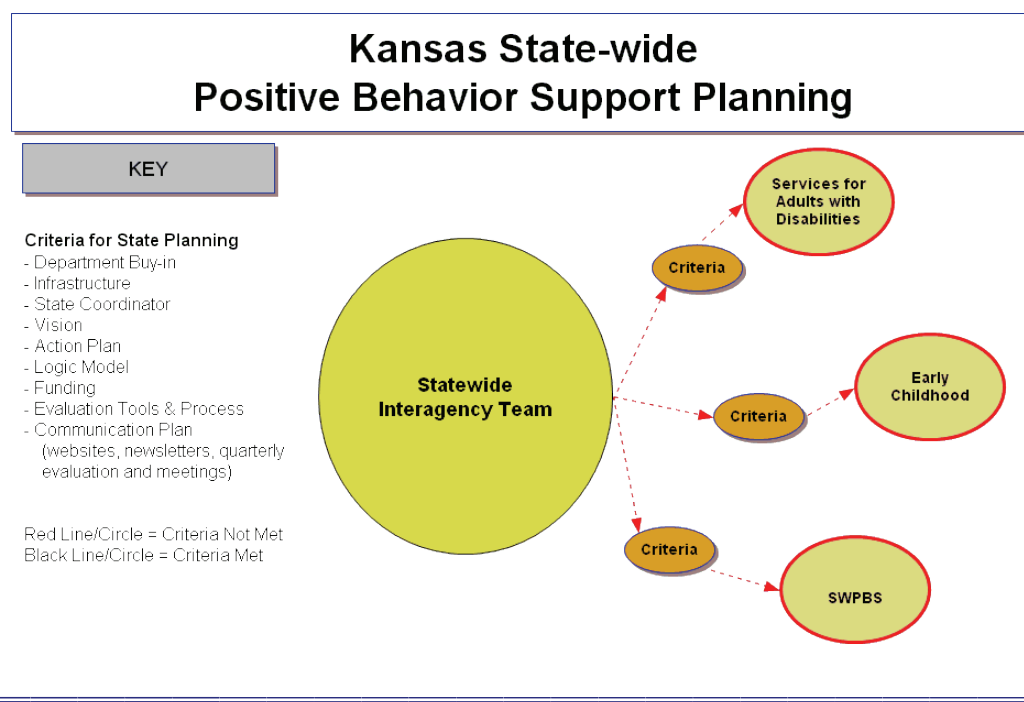
The infrastructure developed in statewide SWPBS planning is tied directly to funding streams available for supporting the implementation of SWPBS, and often a professional within the state educational system is identified who will dedicate full time equivalent (1.0 FTE) work to manage statewide SWPBS coordination. Regional coordination is organized in order to form a support network for districts and schools involved in the statewide SWPBS implementation process.

Although training and technical assistance infrastructures vary across state teams, some critical features are necessary for establishing effective training efforts in statewide SWPBS initiatives (Freeman et al., 2008). These critical features are similar to those of many broad-scale implementation efforts and will include evidence-based elements. For example, any type of program is optimized when organizations create and provide (a) the infrastructure necessary for carefully coordinating training and mentoring; (b) frequent performance assessments of practitioners; (c) an approach for integrating regular process and outcome evaluations; (d) opportunities for communities and consumers to be fully involved in the selection and evaluation of programs and practices; and (e) actions that are aligned with state and federal funding, policies, and regulations (Fixsen et al., 2005). In this context, the PBS statewide co-

ordinator’s role is to facilitate statewide planning meetings, oversee and coordinate technical assistance efforts and capacity building, and to communicate with regional coordinators in gathering and summarizing data for evaluation purposes. The infrastructure for establishing SWPBS within a state is often funded and coordinated through the Department of Education, with other professionals who represent related human service systems such as mental health, child welfare, and developmental disabilities involved at the school, district, regional, and state levels.

Larger statewide planning will replicate the systems used to launch statewide SWPBS and apply the major concepts to other populations and environmental settings, such as adult services for individuals with developmental disabilities, early childhood, child welfare, and mental health services. The ways in which SWPBS infrastructures are designed can be modified to address the wide-scale expansion of PBS in other populations and settings. Figure 3 shows the vision for establishing wide-scale expansion of PBS across a state using an interagency planning model. To establish a rigorous PBS training system for each target population of interest (e.g., early childhood, adult residential supports, SWPBS), the following criteria must be met: 1) establish commitment from the state department(s); 2) design a training and coaching infrastructure to support implementation; 3) identify a coordinator who will facilitate state meetings, organize the training system, and summarize evaluation data for leadership meetings; 4) create a statewide vision for implementing PBS within the environmental and political contexts for the population of interest; 5) design an action plan at the state leadership team level based on the funding available for implementation; and 6) develop an evaluation plan and tools needed to summarize data for decision making. Each smaller statewide team (e.g., statewide SWPBS, early childhood, etc.) is responsible for reporting progress to an interagency team whose members are working to expand PBS across the state and leverage limited resources.

Figure 3. Establishing Scaling Up and Scaling Out Across Human Service Settings.



Process and outcome measures are aligned such that statewide summaries of the effectiveness and impact of PBS efforts can be evaluated.

In the next section, we describe how one team has expanded the statewide PBS planning team model by creating a broader vision and mission that includes supporting individuals across the lifespan and encouraging other state departments to coordinate PBS efforts and establish training and technical assistance structures for large-scale implementation efforts.

A Case Example of Statewide Interagency PBS Planning: Kansas

In Kansas, the statewide PBS planning team (PBS-Kansas) did not convene specifically in order to launch SWPBS implementation. Rather, a grassroots statewide planning team was formed by a number of individual champions of PBS who lived and worked in the state. No consensus framework for statewide planning in SWPBS or in any other human service department in state government had been established and no state agency had commissioned (or approved) such an initiative under the auspices of the state. The members of PBS-Kansas were committed to forming such a framework for future statewide PBS planning that would then be supported by different educational and human service departments in Kansas. Early childhood, SWPBS, and adult services were areas of potential statewide PBS planning interest among the early PBS-Kansas planning team members.

Kansas has a long and rich history in both applied behavior analysis (ABA) and PBS which makes it impossible to note all contributions. Nonetheless, a broad sampling of key contributors is readily identifiable from the past 40 plus years (for example, see Baer, Wolf, & Risley, 1968, 1987; Carr et al., 1999; Carta & Young Kong, 2007; Freeman et al., 2005, 2006; Guess & Sailor, 1993; Greenwood, 2006, 2008; Greenwood, Carta, Kamps, Terry, & Delquadri, 1994; Kamps, Wendland, & Culppepper, 2006; Lassen, Steele, & Sailor, 2006; Shogren, Faggella-Luby, Bae, & Wehmeyer, 2004; Shores, Wehby, & Jack, 1999; Turnbull et al., 2002; Wolf, 1978).

All of the above-noted contributions have served as valuable “intellectual capital” for facilitating progress by many professionals who have been implementing PBS in Kansas. PBS has been conducted in Kansas across a variety of fields, including education, early childhood, adult independent/supported living, traumatic brain injury, autism, and family support programs. State and federal funding for PBS has resulted in programmatic research focused on PBS and numerous technical assistance demonstration projects in different situations and settings in Kansas. By 2005, a number of direct service programs and various service providers, consumers, and family members were expressing interest in collaborating with staff members in state agencies to increase knowledge about and use of PBS across Kansas. The primary aim of such collaborations was to share information about current PBS efforts across Kansas, and to find ways of coordinating PBS at a statewide level.

In 2005, several planning events were scheduled to bring together an interagency and cross-stakeholder group to design a long-term statewide PBS action plan. Most of the participants in this process were familiar with PBS and, as noted, repre-

sented diverse stakeholder groups including: family members, self-advocates, state administrators representing various governmental agencies, communities and schools; community-based service providers and community members; educators; and advocates. An outside facilitator guided the process.

PBS-Kansas planning efforts were based on an adaptation of a person-centered planning process called Planning Alternatives for Tomorrow with Hope (PATH; Pearpoint, O'Brien, & Forest, 1986). The purpose of the PATH process is to facilitate development of a three-year vision statement (in this instance, for state-wide implementation of PBS in Kansas) and to document the planned steps for reaching that vision (Moore, Freeman, & Jackson, 2006; Moore, Freeman, & Johnston, 2005). The planning group confirmed a consensual vision for PBS in Kansas and then used this vision as a conceptual framework within which three-year goals, two-year benchmarks, and single-year objectives were specified. Five operational themes were identified into which the goals could be meaningfully clustered: training, evaluation, funding/policy, systems integration and public awareness. The theme of systems integration was used to describe goals that encouraged regional planning and inter-agency collaboration among local organizations.

The goals and objectives that constituted these five themes, though developed independently, were very similar to the components outlined in the PBS Leadership Team Checklist for SWPBS statewide planning (see Figure 2, which includes categories such as funding, visibility, political support, training, coaching, and evaluation). Figure 4 summarizes the major goals originally identified in the statewide planning process. The statewide PBS planning group decided initially to meet four times a year, but in 2007 increased the meeting frequency to every two months.

The PBS planning team was careful to define themselves clearly as operating independently from any one particular agency or project. The group did not want to be regarded as being a team that was controlled by any one PBS group, person, or stakeholder group agenda. All members attending meetings did so through their own (or their organization's) in-kind contributions for travel and time spent in similar meetings, conferences, or other volunteer-based activities. The role of the coordinator within the state team is to facilitate meetings, summarize meeting minutes and

Figure 4. PBS-Kansas Goals.

- 1. Provide guidance (self-assessment and fidelity of implementation tools, information, and training materials) to Kansans interested in organization-wide (including SWPBS) and individualized PBS planning processes for children and adults.*
- 2. Continue to obtain funding to maintain PBS-Kansas.*
- 3. Create opportunities for collaborative planning for administrators among and across agencies and services.*
- 4. Build greater public awareness and buy-in for PBS within state and regional human services systems.*
- 5. Evaluate PBS-Kansas efforts and summarize data quarterly for decision making.*

actions, oversee website design and development, and work with the evaluation committee in summarizing data for the PBS-Kansas meetings.

During the first year of planning, the statewide planning team named itself “PBS-Kansas,” developed vision and mission statements, launched a website (www.pbskansas.org), and formed an evaluation committee that worked on strategies for recording the major accomplishments of the statewide team. Subcommittees were formed in accordance to the themes identified in the action plan (e.g., training, evaluation, visibility and marketing, funding). Statewide meetings included large group and individual subcommittee planning time to work on further development and refinement of goals and objectives. At the end of the first year, the team evaluated progress being made and identified and discussed strengths and barriers for the statewide PBS initiative.

The evaluation committee created a document for recording information on the process and outcomes of PBS-Kansas for distribution to team members during every meeting. The data gathered were used by the evaluation committee to record the number of: a) members attending meetings, b) overall hours donated to PBS-related presentations and trainings; c) PBS awareness presentations and PBS trainings; d) individuals impacted by PBS presentations; e) community planning and inter-agency meetings related to PBS; f) members disseminating PBS awareness materials; g) products created by the team each year; h) hours spent on policy-related activities (i.e., meetings, writing, communication); and i) visitors to www.pbskansas.org. The mileage contributed by PBS-Kansas members also was reported on a regular basis. PBS-Kansas members created a list of possible presentations and audiences and prioritized the diverse list based on what the members felt would make the largest impact or reach the most important stakeholder groups. Graphs are presented at each PBS-Kansas meeting to share data regarding progress on these core process-related evaluation outcomes (Francisco, Paine, & Fawcett, 1993).

The PBS-Kansas team created an “Introduction to PBS” notebook that is given to new PBS-Kansas members and shared during presentations and major events. The notebook contains introductory information about SWPBS, program-wide PBS in early childhood, information for family members, and examples of PBS plans for children and adults in easy-to-read formats. PBS-Kansas members distributed 506 notebooks in 2007, 614 in 2008, and 490 in 2009 and are expected to reach the 500-notebook mark in 2010.

One of the more significant tasks completed by PBS-Kansas members is the development of PBS guidelines or essential features of organization-wide PBS. The primary, secondary, and tertiary prevention model used by SWPBS districts and schools was adapted for PBS-Kansas to show which systems change and implementation efforts should be considered when implementing a three-tiered model in human service systems. The tools and guidelines were shared with professionals participating in a state-funded PBS training and certification project, as well as with individuals from their organizations who were invited to participate in special events introducing organization-wide planning. Feedback was gathered informally at these events to learn more about what changes might be needed to create guidelines for monitoring

fidelity of PBS interventions in different types of human service settings.

The goal of PBS-Kansas has been to work towards the wide-scale (statewide) expansion of PBS by encouraging policy development, increasing funding for PBS, and coordinating PBS programs and services. The intention has been to work from both the grassroots level and a statewide, top-down effort. This two-fold approach has been aimed at facilitating establishment of conditions for statewide development of training and support systems within different target populations and across education and human service settings, as shown in Figure 3. The vision of PBS-Kansas is to create the conditions for large-scale implementation of PBS in a variety of organizational settings. The first step in this process, as described on the left side of Figure 3, is to meet the criteria necessary to establish training and coaching systems for services supporting adults with developmental disabilities, early childhood, or program-wide PBS, and SWPBS.

Integrating PBS Across Human Service Settings

One of the notable outcomes of statewide PBS planning in Kansas has been the formation of interagency agreements for educators to participate in the state's PBS training and certification system funded through Social and Rehabilitation Services (SRS). SRS is the part of the state system in Kansas that manages human services including mental health, children and family services (CFS), and community supports and services (CSS). CSS has responsibility for oversight of a number of services including those for people with developmental disabilities, traumatic brain injury, and autism.

The PBS training and certification project, funded by SRS using Medicaid administration funds, was designed to provide training to professionals across agencies and systems. Although the Medicaid fee-for-service reimbursement system is targeted for developmental disability, mental health, and child welfare professionals, the curriculum was intentionally designed to meet the needs of a broader group, including family members, educators, adult residential and vocational services staff among others. Training can be provided to individuals beyond the targeted professionals (e.g., developmental disability, mental health, and child welfare) as long as priority status is given to potential Medicaid billers. This allows for Medicaid funding to be "leveraged," resulting in improved services for children without requiring federal or state funding.

In 2006, an informal interagency agreement was developed in order to allow education professionals participating in district-wide implementation of SWPBS to attend the training and certification program as auditors. From 2006-2009, the Kansas State Department of Education funded trainings for six districts and 41 schools implementing SWPBS. Although not part of official statewide planning initiatives through the Department of Education, these trainings have involved systematic scaling up of implementation efforts with an emphasis on building district capacity to support students needing more intensive PBS plans. District leadership teams now have the opportunity to send district personnel to the training and certification course in order to build behavioral expertise within district systems. Education audi-

tors do not complete the same level of requirements that participants seeking Medicaid reimbursement certification must complete. However auditors still get training and supervised experience in facilitating PBS with a case study student. In addition, the SWPBS technical assistance providers teach district teams strategies for integrating interagency supports into the district action plans.

As part of the three- to five-year action plan, district leadership teams increase behavioral expertise, not just within the district, but throughout the larger community as well. District teams are encouraged to seek out professionals in human service settings to become part of a district tertiary team or a regional team to learn more about intensive PBS facilitation. The long-term goal of a district is to design an effective district interagency tertiary support system for students needing highly intensive PBS facilitation within the district. School teams will refer students to the district tertiary team when it is clear that a student needs a more time-intensive individualized behavioral plan.

The main goal of the district leadership team is to invest in building behavioral capacity by selecting district trainers who will: 1) provide onsite support to school teams working on secondary and tertiary systems; 2) provide district inservice training to school faculty; and 3) guide a district tertiary team that receives referrals for students in need of highly intensive person-centered planning or wraparound, and PBS planning. The goal in Kansas is to use the district leadership team system as a place where educators and professionals representing mental health, developmental disability, or child welfare who are certified to bill Medicaid for PBS services in family and community settings can meet to ensure better service coordination and unify PBS planning with schools. Although in its early stages, the integration of SWPBS and the SRS-funded Medicaid reimbursement training and certification project may improve service coordination and strengthen the impact of both implementation efforts.

PBS implementation in Kansas is clearly increasing. There are more individuals reporting that they are facilitating PBS, and positions are being created that are dedicated solely to PBS in state systems, and within organizations. One of the issues discussed within PBS-Kansas is whether the expansion of PBS made by different state departments could be counted as part of the evaluation outcome data for PBS-Kansas. The team felt unsure whether counting increased numbers of PBS facilitators in Kansas or reporting the number of PBS awareness presentations made by team members was something that PBS-Kansas could “take credit for” as part of the outcomes of statewide planning. The PBS-Kansas team wanted to capture the growing awareness about PBS and the increased implementation of PBS while recognizing that different organizations and projects were responsible for funding and contributing to these PBS efforts. This led to a discussion about the purpose of evaluation and whether the PBS-Kansas team was truly evaluating the project effectively. In the next section, we describe how the PBS-Kansas team has moved toward a more comprehensive evaluation model.

PBS-Kansas: Moving Toward a More Comprehensive Evaluation System

During Fall 2008, PBS-Kansas members were ready to review the annual ac-

tion plan and make decisions about whether to continue using the same action planning system or to change the process and/or content focus and expand the evaluation system. The group decided that the first step was to gather more information through informal interviews of a sample of PBS-Kansas participants. Interview questions were developed to focus on respondents' perceptions of the processes and accomplishments of PBS-Kansas, as well as the barriers impeding further progress.

Interviews were conducted with seven representatives of key stakeholder groups. Aggregated results of the interviews were summarized and interpreted within the context of a larger self-assessment process that was organized and completed by a subset of PBS-Kansas members. Results of the existing action plan were incorporated into the summary, as were PBS-Kansas evaluation data. A detailed report of the results is available upon request.

A draft of a logic model was created using all of these sources of information and subsequently presented to PBS-Kansas members for discussion and potential revision. Logic models are frequently used by many different types of organizations to provide a framework for planning, implementation and evaluation. A logic model describes what a program or project aims to accomplish, what resources are planned to support its implementation, what kinds of activities will be implemented, and the intended effects/outcomes of the implementation of those activities for the intended recipients. Figure 5 describes the final draft of the PBS-Kansas logic model.

The remainder of this section is organized by the major elements of the PBS-Kansas logic model depicted in Figure 5. Definitions and additional descriptions related to the logic model are detailed in the sections that follow.

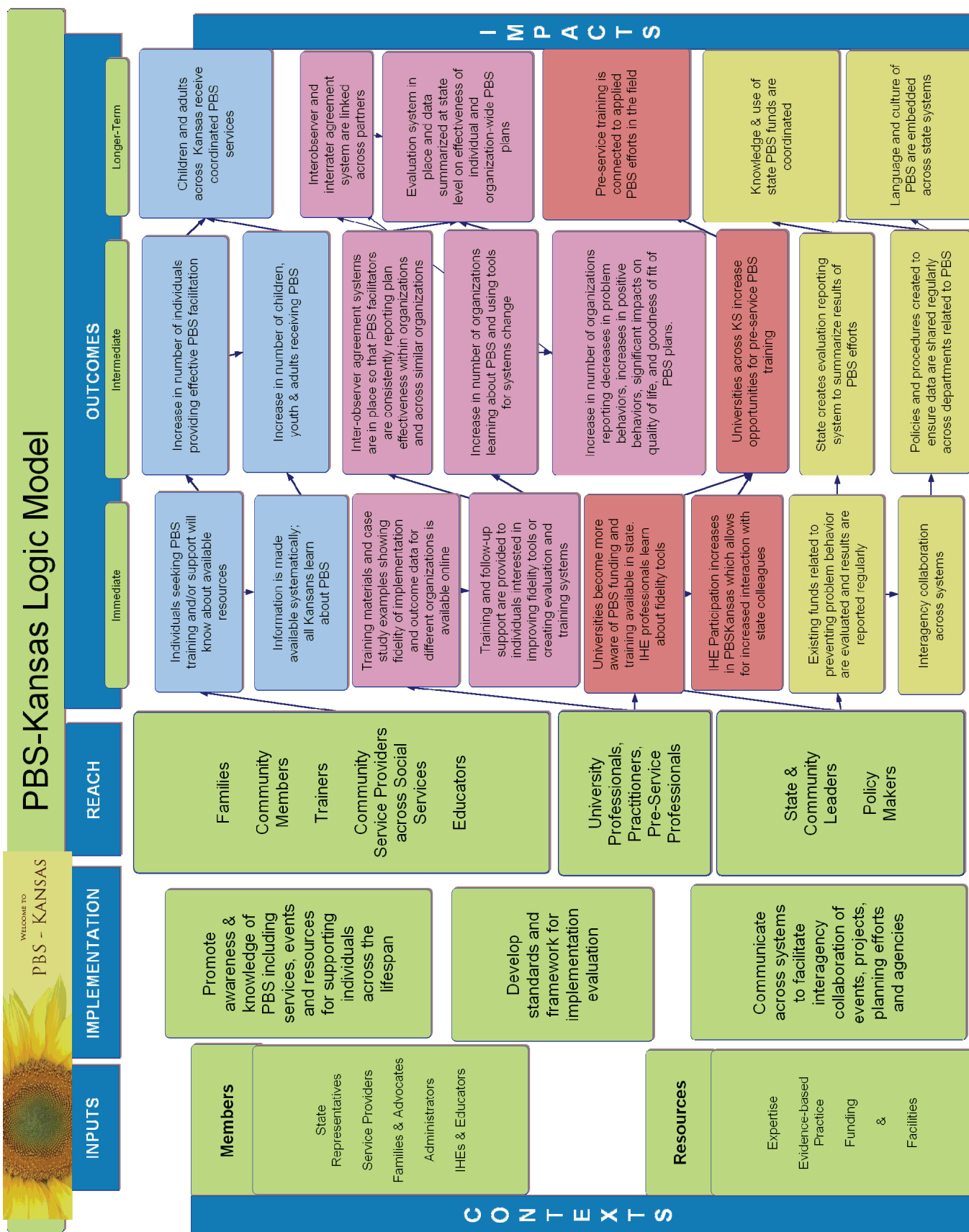
Context

“Context” is written vertically in a narrow band down the left hand side of Figure 5. Due to page/figure size constraints, however, Figure 5 does not include entries that identify the important elements of the “Context” for PBS-Kansas (i.e., the historical, contemporary and future influences that are expected to support or hinder the anticipated inputs, implementation, reach, and/or outcomes for PBS-Kansas). Thus, in the narrative that follows, we identify and describe the important elements of the local-, state- and national-level context within which PBS-Kansas was developed and continues to function.

In program development and evaluation terms, “Context” refers to the political, fiscal, social, and organizational settings and situations that, collectively, constitute the broader cultural environments (“Contexts”) in which programs operate. Program contexts include elements (contextual features) that influence how and to what extent a program uses and/or allocates its resources (“Inputs”), is “installed” and put into action (“Implementation”), with recipients (“Reach”), in order to accomplish its intended “immediate”, “intermediate”, and “longer-term” outcomes. Contextual features can influence potentially larger-scale “Impacts” of a program, e.g., family-wide, school-wide, community-wide, and nationwide in economic, social, and/or cultural ways which can affect larger-scale quality well beyond that of program participants.

Thus, in order to draw meaningful conclusions or make judgments about the

Figure 5. PBS-Kansas Logic Model.



“CONTEXT” REFERS TO THE POLITICAL, FISCAL, SOCIAL, AND ORGANIZATIONAL SETTINGS AND SITUATIONS THAT, COLLECTIVELY, CONSTITUTE THE BROADER CULTURAL ENVIRONMENTS (“CONTEXTS”) IN WHICH PROGRAMS OPERATE.

efficiency, fidelity of implementation, and/or effectiveness of PBS-Kansas, it is first necessary to understand the contextual features that have influenced its conception, development, implementation, and outcomes. In what follows, we describe some contextual factors that, to date, appear to have influenced the development, reach, implementation, and effectiveness of PBS-Kansas and of statewide PBS initiatives more generally.

A crucial aspect of the statewide context within which PBS-Kansas has developed is that, for many years now, a number of state-level leaders in Kansas have been quite knowledgeable about concepts/procedures and related programmatic applications of both applied behavior analysis (ABA) and PBS. This knowledge, experience and expertise of state-level leadership personnel has contributed to and resulted in policy and funding support essential for PBS-related programmatic opportunities and initiatives in Kansas. The importance of such experienced, proactive and sustained leadership at the statewide level cannot be overemphasized. That leadership has served as an essential contextual feature that has guided and supported PBS-related initiatives in Kansas. Absent this context of state-level leadership with PBS-related expertise and commitment, it is not likely that PBS-related policy, funding, and program priorities would have developed as they have in Kansas.

One example of high level leadership in PBS-related systems change in Kansas comes from SRS. In 2001, the Kansas Medicaid Director, with backgrounds in applied behavior analysis (ABA) and PBS, was instrumental in leading the changes in the Medicaid state plan that resulted in Medicaid reimbursement for PBS services. Additionally, the Kansas Medicaid Director and other executive-level leadership personnel in Kansas justified use of some Kansas Medicaid funding for implementing a statewide PBS training and certification system (described in more detail in the following paragraphs). These related “macro”-level systemic change examples were due in no small measure to the knowledge, experience and expertise of Kansas state-level leadership personnel regarding both Medicaid and relevant Kansas policy, regulations, priorities and related funding streams.

As noted, Kansas state-level policy and program executive leadership, operating within Medicaid regulations, has allocated some annual Kansas Medicaid funding to support the implementation of statewide training and certification of PBS Facilitators. Specifically, the PBS training and certification program has aimed to develop a statewide cadre of trained personnel to provide effective PBS-related services to qualified individuals in Kansas. The program has also aimed to provide PBS-related training and support for the programs that serve those qualified individuals. Taken together, these aims of the PBS training and certification program have been intended to prepare some of the human capital, also known as personnel, and some of the institutional capital, mainly infrastructure, necessary for supporting broader PBS-related systems change across Kansas, i.e., statewide planning and implementation of PBS-related services to all qualified individuals and the programs/personnel that serve them.

PBS-Kansas also operates within a broader statewide context in which the history and current functioning of person-centered planning (PCP) plays an impor-

tant role. Prior to the advent of PBS-Kansas, PCP was already being implemented across the state, mainly within the field of developmental disabilities. In 1998, PCP was mandated in Kansas for individuals with developmental disabilities. For PBS-Kansas, this “contextual feature” of already-existing statewide person-centered planning service provision in developmental disability services is especially notable. PCP activities, with their primary focus on promoting quality of life outcomes, have great potential for contributing to accomplishment of PBS-Kansas goals that are aimed at behavioral/life skills. Furthermore, wraparound and PCP are considered a necessary first step within the PBS process (Freeman et al., 2006).

PBS-related research, program development and training activities at the University of Kansas (KU) are other important aspects of the context within which both PBS-Kansas and statewide PBS-related services in Kansas have developed. Some KU faculty, along with other KU professional practitioner training personnel, have been essential to KU’s role in the awareness and knowledge of person-centered planning and PBS within the state systems. These faculty and other training project personnel at KU are those who are highly knowledgeable and experienced in PBS- and person-centered planning -related program development and implementation. Additionally, for many years, KU has provided supportive environments for a large number of research-based projects focused on program development, demonstration and evaluation in education and human services. These federal- and state-funded projects are staffed by highly skilled and experienced university faculty and professional staff who are implementing the most recent evidence-based practices in their projects in a variety of education and human services settings across the state.

An essential contextual feature for PBS-Kansas is the goals and action-planning processes that are used by members to achieve progress. Figure 4 provides the original version of the overall goals used by PBS-Kansas members in the action planning process. Each goal is broken down into smaller objectives. These objectives are reviewed during meetings and additional actions related to completing the goals are documented with the name of the members responsible for completing the goal and a projected date for completion. The action plan itself is posted online for PBS Kansas members to access. Currently, the team is in the process of revising the action plan to better align measurement systems expressed in the PBS-Kansas logic model. Each of the areas of implementation now form major goals which are broken down into smaller objectives and action steps.

As would be expected, PBS-Kansas operates within the context of some challenging barriers. For example, PBS-Kansas participants and beneficiaries who live and work some distance away from northeast Kansas have been concerned that access to statewide PBS-related resources is not always feasible for them. In Kansas, the major organizational leadership personnel and associated statewide PBS-related program development activities are located primarily, though certainly not exclusively, in the northeast of the state where the state population density is highest (the greater Kansas City area; the state capital in Topeka, where the legislative and state program leadership and administrative offices are located; and the University of Kansas in Lawrence, where a greater number of developers and implementers of the PBS preservice and

ANY TYPE OF PROGRAM IS OPTIMIZED WHEN ORGANIZATIONS CREATE AND PROVIDE (A) THE INFRASTRUCTURE NECESSARY FOR CAREFULLY COORDINATING TRAINING AND MENTORING; (B) FREQUENT PERFORMANCE ASSESSMENTS OF PRACTITIONERS; (C) AN APPROACH FOR INTEGRATING REGULAR PROCESS AND OUTCOME EVALUATIONS; (D) OPPORTUNITIES FOR COMMUNITIES AND CONSUMERS TO BE FULLY INVOLVED IN THE SELECTION AND EVALUATION OF PROGRAMS AND PRACTICES; AND (E) ACTIONS THAT ARE ALIGNED WITH STATE AND FEDERAL FUNDING, POLICIES, AND REGULATIONS.

in-service training in the state are located). Thus, to attend meetings, participate in trainings, and collaborate with other professionals, PBS-Kansas members who live in counties in western and southern Kansas must travel substantially greater distances than their PBS-Kansas colleagues in the northeast part of the state. These PBS-Kansas members who live and work in the more rural areas of Kansas report feeling left out of many collaborative and training opportunities due to geographic distances and/or time required for travel.

In summary, it is essential to understand potential and actual influences of the contextual features within which statewide PBS-related program initiatives are planned and implemented. With knowledge of the contextual features, such as those described above, that have the potential to influence statewide PBS-related program planning, implementation, and outcomes, a great deal of useful information can be gained related to effective statewide PBS-related service programming: relevance of program goals; efficiency and effectiveness of program operation; needs, obstacles and/or “problems” compromising program implementation; and factors contributing to program accomplishments and success.

Use of such information about both statewide and local contextual features is essential if a PBS statewide planning initiative is to be able to continue moving forward productively and successfully. As described earlier in this section, some contextual features have been (and continue to be) essential assets for making progress toward full and effective capacity for statewide provision of PCP/PBS services in Kansas. Examples include: knowledgeable and committed PCP/PBS-related leadership with budget authorities at both state and local levels; state-level priority for funding professional PCP/PBS-related service provision to qualified recipients; carefully monitored training of PCP/PBS providers; and PCP/PBS service provision to qualified recipients from professionally trained and certified providers of PCP/PBS-related services.

Awareness of the potential importance and roles of PCP/PBS in state services in Kansas started with more momentum in the developmental disability and education fields. These particular “starting points” for state-level PCP/PBS initiatives in Kansas were due primarily to prior knowledge of PBS by state leaders in those particular state-level departments in Kansas. Now, however, PCP/PBS training has begun for service personnel and program administrators beyond those in developmental disability and education programs. The training is aimed at increasing the PCP/PBS service capacities of additional appropriate state- and local-level agencies, departments, and/or programs, e.g., children and family services, early intervention, autism, juvenile justice. The PCP/PBS training is increasingly being offered in all regions of Kansas to help assure access to it in the many rural areas of the state. In the above-noted ways, extension of the “model” of combining PCP/PBS training and use of Medicaid funds to support both the training and subsequent PCP/PBS service provision (in appropriate instances) is beginning to facilitate the meeting of PCP/PBS-related service needs of more populations of qualified children and adults across Kansas.

Inputs

In Figure 5, the first column heading, “Inputs”, is found in the top left area of the logic model. Program “Inputs” are the potentially broad variety of resources available for developing, implementing, evaluating and improving a program. For our purposes here, that program is PBS-Kansas. As shown in Figure 5, “Inputs” for the PBS-Kansas initiative/”program” include: 1) the involvements and related time, energy, activities, creativity and expertise donated by PBS-Kansas participant “Members,” and 2) the funding, contributions and investments dedicated, and/or donated to PBS-Kansas, and other fiscal resources allocated and used to support the various PBS-Kansas implementation efforts. In the logic model presented in Figure 5, Inputs are organized by “members” and “resources.” Members of PBS-Kansas include representatives from state agencies, community service providers, families, advocates, administrators of agencies, elementary- and secondary-level educators, and university personnel (from institutions of higher education). For PBS-Kansas, “Resources” refer to funding in the form of a small contribution by a state funded project, and in-kind contributions of members in the form of time and travel, as well as energy devoted to PBS-Kansas. Evidence-based practices are also considered a resource. Specifically, PBS-Kansas members can utilize research in ABA, PBS, biomedical literature, and systems change while working with individuals seeking to embed PBS with organizations or while facilitating PBS with interdisciplinary teams. SWPBS implementation efforts have become an important resource for PBS-Kansas because many statewide teams are sharing strategies for introducing PBS to professionals in other human service fields who are unfamiliar with PBS and are describing how state funds are used to improve service coordination for students.

Implementation

There are three important aspects of implementation around which PBS-Kansas members have organized their efforts. The first aspect is to promote awareness and knowledge of PBS. PBS-Kansas members are interested in expanding the knowledge of PBS among individuals across communities in Kansas and to ensure that the appropriate individuals know how to find resources that are currently available related to training and technical assistance. An example of a PBS-Kansas implementation activity related to promoting knowledge and awareness is the posting of online resources and content on the PBS-Kansas website. PBS-Kansas members organize distance-learning events that provide an overview of PBS as it relates to early childhood PBS, adult residential supports, and SWPBS. Presenters during these events share real examples of systems change, provide tours of online resources, and answer questions from ten or more different videoconferencing sites across the state.

A second area of implementation that PBS-Kansas members have focused on is the development of guidelines, tools, and examples of effective PBS implementation at both a systems level and within a single individualized PBS plan for a child or adult. PBS-Kansas members are working on these guidelines, tools, and examples to ensure that individuals in Kansas can find out what PBS should look like when implemented effectively and to provide information for those individuals interested in ex-

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PROGRAM.*

panding the implementation of PBS across a large number of organizations and settings. Essential features of implementation research are being summarized by PBS-Kansas members so that individuals interested in embedding PBS within organizations can access guidelines for implementation, tools for monitoring implementation fidelity, and exemplars that show how a three-tier prevention model can be applied in different education and human service settings. PBS-Kansas members are working on the development of policies to guide a review process for posting examples of PBS implementation online, and for deciding what data are considered rigorous enough to be used as an example of effective PBS implementation.

PBS-Kansas members are also working on a plan to establish inter-rater agreement both within and across major PBS implementation efforts. Although the types of fidelity of implementation tools and outcome measures at the systems-wide level (e.g., schools, districts, family support organizations) vary across settings and organizations, the steps involved in evaluating these efforts are similar. An example of how PBS-Kansas members are establishing statewide fidelity of implementation within one PBS effort is occurring within SWPBS in Kansas. Inter-rater agreement processes are needed when observers evaluate the effectiveness of SWPBS using fidelity of implementation measures such as the School-wide Evaluation Tool (SET) (Horner, Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004; Sugai, Lewis-Palmer, Todd, & Horner, 2001). A number of district coordinators implementing SWPBS are collaborating by completing the SET in pairs in the same school. Each district coordinator is completing the SET with one PBS-Kansas technical assistance provider who is taking the lead inter-rater agreement role. Once agreement across the lead technical assistance provider and each district coordinator is established, district teams can be more confident that the results of the internal SWPBS evaluation process is consistent with the data gathered from other collaborating districts. District teams can conduct external evaluations of the SET by asking a district coordinator from a nearby district to complete the SET in a small number of schools each year. The district teams that are collaborating are more confident that they are all implementing PBS consistently because they are applying inter-rater agreement systems. The SET scores completed by an external evaluator (e.g., district coordinator) will probably not be extremely different than the district's own internal SET evaluations if effective inter-rater agreement systems are in place.

An example of fidelity of implementation across different agencies is occurring at the individual PBS planning level. Individual written PBS plans include baseline/intervention data documenting changes in behaviors. Additional outcome data from individual plans include evidence of the professional-in-training and the team's satisfaction with the fit of the PBS plan to the values, resources, skills, and changes in quality of life for the student and his or her family. Fidelity of implementation of the PBS plans and individual interventions can be evaluated using checklists that include the essential function-based intervention features of effective plans scored by professionals with behavioral expertise. These scores can then be aggregated to summarize implementation progress (Freeman et al., 2005).

The overall impact of plans can also be evaluated and aggregated to assess the

extent to which: a) interventions directly address the function maintaining behavior; b) the extent to which problem behaviors have decreased and positive social and communication skills have increased; c) the impact of the plan on quality of life; and d) the extent to which the plan is perceived as being “a good fit” for the individual and his or her team (Albin, Lucyshyn, Horner, & Flannery, 1996; Horner, Salentine, & Albin, 2003).

A number of Kansas professionals across different organizations have already established inter-rater agreement using two fidelity of implementation tools, one called the *Person-centered Positive Behavior Support (PC-PBS) Checklist* and the second called *KIPBS Impact Assessment* (Tieghi et al., 2006; Tieghi, Griggs, Irvin, Freeman, & Kimbrough, 2008). The *PC-PBS Checklist* was designed to evaluate PBS plans submitted by professionals within the Medicaid certification training and billing reimbursement system. As a result, a significant number of professionals from different organizations in Kansas are familiar with the tool and some individuals have also already obtained inter-rater agreement with the trainers participating in the Medicaid funded training and certification project. However, there are a number of university professionals and other individuals from state-funded behavioral support projects who are also participating in PBS-Kansas and these trainers, technical assistance providers, and researchers are using a variety of evaluation methods to document outcomes of individual PBS plans.

As a first step, PBS-Kansas members are beginning to identify the different tools used to evaluate both systems-level and individual PBS plan data across different projects. This process, best described as a statewide self-assessment of PBS implementation efforts within Kansas, is providing PBS-Kansas members information that will result in a consensus-based fidelity of implementation definition for PBS at the systems level and individual PBS planning level. These implementation activities are meant to provide the first steps in establishing a unified data reporting process across major PBS implementation efforts. The authors of this monograph believe that rigorous evaluation should be used by anyone implementing PBS and, therefore, conducting inter-rater agreement should not be considered something only “researchers” are responsible for conducting. All technical assistance providers within states, districts, schools, and human service organizations should be familiar with the process for establishing reliable and consistent evaluation methods. By creating internal inter-rater agreement systems within PBS projects and across similar technical assistance providers (e.g., SWPBS, early childhood program-wide PBS), PBS-Kansas members will be able to systematically summarize and align the results of PBS in Kansas across different populations and settings. The essential features of PBS at the systems and individual PBS planning levels and across education and human service systems, have many similarities. Although the fidelity of implementation and outcome measures used in different organizational settings may vary, an analysis of the similar features across different tools may be systematically conducted in order to begin the process of unifying reporting processes at a statewide level.

The third and last aspect of implementation is focused on increasing communication across human service systems and increasing collaboration amongst state

professionals representing local education agencies, institutions of higher education, mental health, child welfare, developmental disability services. Implementation activities related to this aspect will focus on identifying ways in which to share data that are summarized and reported about PBS in Kansas. PBS-Kansas members are aware that the large scale implementation of PBS must include preservice training systems and therefore, it is important to better understand what, if any, types of PBS preservice training are already taking place. For instance, a number of KU professionals can report that PBS is included within two departments: special education and applied behavior sciences. Implementation activities by PBS-Kansas members include: evaluating the extent to which university personnel across the state are aware of curricula available online, recruiting new university professionals to participate in PBS-Kansas, and encouraging KU students to participate actively within PBS projects occurring near the university.

Reach

If PBS-Kansas members are successful in implementing this vision of PBS across the lifespan, they will reach out to a very diverse group of individuals in Kansas in ways that best meet each stakeholder group's needs. Family and community members will learn more about PBS and how to find the resources that are available in Kansas. Trainers, community service providers, and educators will learn about how PBS can be implemented in their organizations and more individuals will become PBS facilitators. Leaders in local education agencies will be exposed to SWPBS and the importance of interagency collaboration. Professionals in institutions of higher education will begin learning more about PBS in order to begin incorporating information, tools, and resources into pre-service and inservice training curricula. More practicum opportunities will be available so that university students can see how systems-level PBS is implemented in real settings. State professionals will be exposed to the language and terminology commonly used in PBS. In addition, all stakeholders will know more about what is happening across the state and where PBS is being implemented with fidelity. State policy leaders will be exposed to important data-based decision making and evaluation practices. Over time, the data collected across different PBS projects and services will be summarized in ways that will allow for better formative and summative statewide evaluation.

Immediate, Intermediate, and Long-term Outcomes

The same color used in the Input, Implementation, and Reach sections in Figure 5 of the logic model indicates that there is overlap among many of the elements across all three sections. Arrows in Figure 5 indicate points at which evaluation data can be collected. On the right-hand side of the logic model, related outcomes are color coded to show how PBS-Kansas members are planning to build upon immediate implementation outcomes and how these outcomes will evolve over time following a pathway for related activities. For instance, PBS-Kansas members are working on efforts to increase knowledge and awareness of the PBS resources that are available to Kansans. A more immediate goal is to create opportunities to share informa-

tion with others via webinars, videoconferences, presentations, website materials, and regional planning meetings. The intermediate outcome of these efforts will be that PBS-Kansas members can organize data that provides evidence of more individuals with expertise in PBS working in Kansas. Furthermore, there will be evaluation data that begin to provide evidence of effective PBS implementation at both the systems and individual PBS planning level. The long-term outcome, then, will be that children and adults in need of PBS can receive effective services across home, school or work, and community settings. In addition, a significant number of education and human service organizations will be reporting evaluation data on the implementation of PBS using a three-tiered prevention model.

Simply reporting the number of schools and organizations implementing PBS will not be sufficient for PBS-Kansas evaluation purposes. Fidelity of implementation and outcome data will be reported systematically and evaluated at regular intervals. Over time, state professionals will be able to provide guidelines for contractors who implement PBS trainings and/or PBS services by outlining the expectations for comprehensive evaluation. As stated earlier in the implementation section of this monograph, the vision of PBS-Kansas is that, in the future, trainers from different organizations will systematically share their evaluation data outlining the essential best practice features of implementation at the individual (i.e., a PBS plan for a child or adult) and the systems level (e.g., fidelity of implementation and outcome data for districts and organizations). Immediate outcome measures will focus on the assessment of different types of measurement tools and systems used across PBS projects. Intermediate outcomes will include inter-rater agreement data reported systematically *within* PBS efforts and *across* different types of organizations (e.g., SWPBS, early childhood program-wide PBS, adult residential supports). Furthermore, these data will be summarized across different systemic levels (e.g., school, district, state) as well as for the individual PBS planning level. Long-term outcomes will include a comprehensive analysis of systems and individual PBS plan implementation effectiveness using measures intended to align and unify evaluation data. An important next step for PBS-Kansas members will be to demonstrate how organizations can establish evaluation systems by designing logic models that include outcome measures that are directly aligned with the statewide PBS-Kansas logic model. Clearly, funds are needed to begin collecting evaluation data across PBS efforts, and PBS-Kansas members will be seeking state and federal monies to accomplish this long-term objective. However, as indicated in this section, a number of immediate outcomes have already been accomplished without a significant amount of funds simply by working together in a collaborative manner within PBS-Kansas.

Another category within immediate, intermediate, and longer-term outcomes is the expansion of preservice training opportunities in Kansas. With the direct involvement from institutions of higher education (IHEs), individuals in preservice settings have an opportunity to establish a deeper understanding of the PBS implementation process and what effective implementation looks like within their respective fields. Immediate outcomes include increasing the awareness of IHEs in Kansas about PBS and increasing the number of preservice professionals actively involved

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MORE COMPLEX A
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IN THE PROCESS"
(P. 21, MICHAEL
FULLAN 1993)*

in PBS-Kansas meetings. Intermediate intended outcomes are to increase the number of PBS courses offered across a growing number of IHEs. Longer-term outcomes are to establish practicum sites across Kansas that are linked to demonstration sites where PBS is implemented with high fidelity and where significant outcomes have been achieved across education and human service settings.

The last major category for immediate, intermediate, and longer-term outcomes in Figure 5 is related to interagency collaboration. An immediate outcome will be to establish statewide meetings that result in a process for establishing statewide evaluation systems for PBS. Mechanisms (e.g., quarterly evaluation meetings, annual summary reports, events for sharing progress, and celebrations) are needed to ensure that state professionals have a chance to review evaluation data from different systems on a regular basis and to discuss how funds can be leveraged across human services and education. Intermediate outcomes will include documentation indicating reporting systems have been established. State policies will be on record that document how PBS evaluation systems are expected across PBS contracts and all services provided. Long-term outcomes will include evidence indicating that the language and use of PBS is embedded within state systems and across different types of education and human services.

*IATROGENIC REFERS
TO THE ACTIONS
TAKEN BY
INDIVIDUALS WITH
THE BEST OF
INTENTIONS THAT
RESULT IN
UNINTENDED
NEGATIVE
OUTCOMES FOR ONE
OR MORE
INDIVIDUALS.*

Impacts

Due to page/figure size constraints, another important area of the logic model that appears in Figure 5 is not described in detail. This essential element of the logic model is referred to as “Impacts” and is visible in Figure 5 as a vertical band on the right hand side of the logic model. Impacts are the results of a project that go well beyond long-term outcomes and reflect the larger shifts that may occur due to implementation efforts over time. The impacts of programs can be positive, whether planned or unplanned, or impacts can be well intended, but ultimately counter-productive (“iatrogenic”) in nature. Positive impacts from PBS-Kansas efforts might include any of the following: broad-scale state funding for PBS; restructuring of state support systems, and/or changes in the state plan that provide a sustainable context for PBS in Kansas; larger numbers of children and adults experiencing significant changes in quality of life; and, more organizations reporting significant decreases in problem behavior in the populations they serve. However, unforeseen “iatrogenic” impacts are also possible. For instance, the increase in state support for PBS may result in individuals feeling pressured to implement PBS which may, in turn, lead to organizations actively avoiding opportunities for implementing PBS. As Fullan (1993) stated most eloquently, “You can’t mandate what matters... the more complex a change effort is, the less likely you can force individuals to become involved in the process” (p. 21). In the next section, we summarize the critical features of a broader approach to interagency statewide planning and discuss how many professionals across various fields are incorporating innovative applications of complexity theory and the science of chaos into implementation and evaluation of their larger scale programs.

Critical Features of Statewide Planning: Embracing Complexity

Many change processes are implemented at a superficial level because the depth and commitment necessary for sustaining change is very difficult, complex, and demanding in most systems (Senge, Schwarmer, Jaworski, & Flowers, 2004). Successful PBS implementation is often due to the contributions of individuals who are passionate champions seeking values-based change. To really effect the kind of societal change we aspire to achieve, the kind of change that is sustainable, our champions of PBS must reach out to each other and seek ways to link efforts at both the grassroots and statewide levels. The development of a statewide planning logic model for implementing PBS provides the vision and framework for data-based decision-making systems that will assist teams in:

- Connecting preservice and inservice training systems;
- Providing an overall evaluation framework that can be used by organizations who can align logic models so that data collection at each level within the system can be shared, (for instance logic models at the school, district and, state levels in education; within residential settings, organization-wide, and state levels in developmental disabilities);
- Improving communication systems across human service settings;
- Leveraging limited state funds for implementing PBS;
- Providing a vision for using formative and summative data for decision making and to guide the values and vision of the statewide planning team;
- Creating state policy that will encourage sustainability of PBS; and
- Creating a plan for expansion that will lead to better service coordination and a more common language.

Some level of uncertainty and unpredictability will always accompany the evaluation of complex social innovations that involve activities such as those listed above. According to Patton (2008), social innovations such as statewide PBS implementation efforts are considered complex in nature. In many cases, this is because communities have unique, dynamic and emergent qualities making cause and effect more difficult to predict. Simple evaluation problems are those in which cause and effect are clear, and where repetition and practice results in the development of desired outcomes. Assembly lines in factories have this simple quality. Outcomes are less predictable when considering statewide PBS planning that is influenced by changes in political leaders, funding streams, individuals with expertise, and local advocates. In addition, as Senge has pointed out (1990), cause and effect are not always closely linked in time. Global warming is a good example in which “causes” that began long ago are now having dramatic and potentially cataclysmic effects. PBS leaders working hard to establish training and technical assistance systems should consider these issues when going to scale because the problems that may be inherent within initial implementation efforts may result in significant challenges much later in time when larger numbers of organizations are participating in the process.

Michael Fullan, who has written a series of texts on complexity theory as it relates to change in education (1999, 2003), encourages those involved in systems change to consider key principles related to complexity theory. Complexity theory

*“DYNAMIC
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DEFINED AS THOSE
IN WHICH
INTERACTING
PARTS OF A
SYSTEM HAVE
SIMULTANEOUS
EFFECTS ON EACH
OTHER
PRODUCING
UNPREDICTABLE
OUTCOMES.*

“THE BUTTERFLY EFFECT”

IN COMPLEX SYSTEMS INTERACTIONS LIKE THE WEATHER, MICROSCOPICALLY SMALL FACTORS OR EVENTS AT ANY POINT IN TIME CAN HAVE ENORMOUS UNANTICIPATED EFFECTS AT A LATER POINT IN TIME (OR THE FLAPPING OF A BUTTERFLY’S WINGS IN ASIA MAY LEAD TO TORNADOS IN KANSAS).

was originally developed by engineers and other scientists who studied how “dynamic systems” functioned (such as the flow of liquids), and why they functioned in such seemingly unpredictable ways when only very small changes in conditions occurred (such as temperature increases or pressure changes). “Dynamic systems” were defined as those in which interacting parts of a system have simultaneous effects on each other producing unpredictable outcomes (in the example of liquids: highly turbulent or completely non-turbulent flow seemingly corresponding to nearly undetectable changes in temperature, pressure, etc.). Complexity theory suggests that complex links that produce changes attributable to relationships between causes and effects are not always easy to track. In many instances, cause-effect relations are not unidirectional, as we assume them to be, i.e., a cause “causes” an effect. But complexity theory teaches us that, in complex interacting systems, an effect of a cause may, in turn, be a cause of an effect on the original cause.

For example, in the Midwest when the jet stream of prevailing winds causes weather fronts with vastly different temperatures from the Arctic and the Gulf to meet, under certain conditions the meeting of the weather fronts causes the jet stream of prevailing winds to change, and the outcomes of those multi-directional cause-effect interactions become highly unpredictable under the complex conditions involved. And, in plain English, we all know what that means: Dorothy lands in Oz. Also, change in complex systems is often nonlinear and thus often cannot be controlled by our usual methods of managing events and changes. This results from the fact that, in complex systems interactions, microscopically small factors or events at any point in time can have enormous unanticipated effects at a later point in time (this is a version of butterfly wings flapping in New York sets in motion an unpredictable sequence of changes in climate and weather conditions resulting in typhoons in Asia).

The idea of a “tipping point” where small initial changes can lead to wide-scale change is now widely discussed in business and social settings and has implications for both smaller “nested” systems as well as large statewide systems (Fullan, 2003; Gladwell, 2000). For example, in 2001, the Medicaid Director was interested in establishing a PBS training and certification system. The selection of one particular person to serve as Medicaid Director seems, on the surface, to have been a small change in the Kansas state system. However, this one individual was instrumental in establishing specialized access to PBS services for Medicaid eligible children. The training and certification system has resulted in a growing number of professionals who are dedicated to systems change and who have joined forces with other PBS advocates to establish a coordinated effort to expand PBS by establishing statewide planning mechanisms described in this monograph.

In complexity theory, paradoxes and contradictions are to be expected, and creative solutions often arise out of such unstable and uncertain conditions because our usual methods for solving “problems” do not produce solutions. The statewide interagency planning case study example in this monograph describes the way in which the change process can be nonlinear and unpredictable. The statewide PBS-Kansas team was initiated by individuals seeking new and creative solutions for ex-

panding PBS across the state of Kansas. The barriers identified by those PBS-Kansas members who were interviewed were also identified as being related to the major accomplishments (e.g., including more stakeholders makes the meeting process more challenging but more rewarding). The in-kind status of the team can result in very unpredictable meetings due to turn-over of members and this, in turn, can result in inconsistent progress made accomplishing steps identified in the action plan. However, those interviewed also reported a feeling of accomplishment, continuity, and a sense of identity. The fact that the conditions for establishing statewide planning through any one state department were poor did not stop the group from forming and making significant accomplishments in statewide PBS implementation.

Complexity theory also refers to “webs” of “nonlinear feedback loops” in organizations that can and do operate within “stable and unstable states of equilibrium” (Stacey, 1996). For instance, in many education and human service systems, groups of people tend to gravitate towards each other because they share similar values and perspectives. The types of groups that form within an organization can have nonlinear “positive feedback” loops or communication systems that at some unpredictable time “snowball” into an outcome that would not have been predicted earlier. For instance, individuals tend to meet in hallways, sit together in meetings and socialize after work. No formal meetings are scheduled to discuss actions and decide how to proceed as a whole group or “unit”. These informal groups comprise individuals who do, however, engage in very similar types of behaviors and approach problems in a common manner. Often, one outcome of these unplanned activities among people with shared values is a seemingly sudden and unexpected consensual solution to some chronic issue or problem in the organization. Also, it is not uncommon to have a number of these smaller groups functioning within an organizational setting, each of which has very different demographic and behavioral characteristics, opinions, and interaction patterns than the other smaller groups within that setting. The social values of each of these groups result in certain types of related actions by their members who are seen as having a shared “identity”, even though their communications have been quite nonlinear in nature.

In settings where leaders have established effective communication (meetings, newsletters, emails, trainings, surveys and/or focus groups), the views, opinions, and actions of these smaller informal groups are known. Leaders within the organization assess the communication patterns within each group and find ways of unifying communication across groups. However, in organizations that may have characteristics that Knight described as “learning disabilities”, these informal groups may not be considered when systems change efforts are implemented. The communication in nonlinear feedback loops that occurs within these smaller groups may be quite stable even when the organization as a whole has unstable communication patterns and does not have consistent ways of communicating with staff members. In addition, if an organizational leader attempts to implement a change that goes against the values, beliefs and views of a sufficient number of the smaller groups, the informal and nonlinear feedback (communication) systems that are already in place will continue to be stable and may thwart any new implementation efforts. The smaller

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(P. 17, MICHAEL
FULLAN 2003)*

*THE TERM
"ATTRACTOR" IS
USED TO REFER TO
THE REPEATING
PATTERNS THAT
OCCUR WITHIN
THE ACTIVITY OF
A COLLECTIVE
CHAOTIC SYSTEM
THAT IS
COMPOSED OF
INTERACTING
FEEDBACK AMONG
ITS MANY PARTS.*

subgroups will continue to do the things they have always believed to be important and ignore the request by leaders to create change, or will go through the motions without conviction or commitment (which often results in little or none of the "organizationally desired" change).

When principles from complexity theory fail to facilitate understanding of complex and perplexing problematic interactions and the other events in organizations, some leaders and researchers in organizational behavior have turned to what has become known in scientific terms as "chaos theory" (Gleick, 1987). The "chaos" in chaos theory does not refer to what we might intuitively think of as chaos (i.e., random, out-of-control sequences of events). In practical terms, chaos theory was developed to facilitate identifying "order within disorder" (i.e., understanding the predictability of certain factors and outcomes in what appears to be (in a graph, for instance) a jumbled mass of "chaotic" data points. An example would be a case where school personnel were tracking the problem behaviors of some or all students while simultaneously and systematically varying school-wide staff behavior, yet ending up with graphs showing no apparent relation between student behaviors and staff behaviors. In such a circumstance, chaos theory offers ways to analyze such a mass of seemingly non-interpretable data to find any interpretable patterns that are "hidden" in the "jumbled mass" of data in the graphs. Similar methods could be used to try to identify patterns of events, contexts, behaviors, and interactions to try to make sense of seemingly unrelated behaviors of administrators, staff, students, and parents in a school that many agree is not functioning well at all, and/or is functioning in ways that are broadly considered by all as "dysfunctional."

In chaos theory, the term "attractor" is used to refer to the repeating patterns that occur within the activity of a collective chaotic system that is composed of interacting feedback among its many parts (Briggs & Peat, 1999). Wheatley (1999) has proposed that the values and meaning individuals have that are related to their jobs can be powerful attractors that influence behavior. Fullan sums up an important message from a book he wrote in 2003 about social attractors by stating "...if you want to change systems, you need to increase the amount of purposeful interaction between and among individuals..." (p.17). Although vision and mission statements are common in most organizations, communication and feedback systems must be used to ensure that moral purpose is considered at all levels within a system. Moral purpose must be made part of the actions, not just language within an organization (Fullan, 2005).

Many professionals in a variety of disciplines have turned towards the concepts within chaos and complexity theories to learn about more universal principles that impact the physiological, social and organizational behavior of humans (Bodfish, Parker, Lewis, Sprague, & Newell, 2001; Fullan, 1999, 2003, 2005; Glass & Mackey, 1988; Granic, Hollenstein, Dishion, & Patterson, 2003; Guess & Sailor, 1993; Lewis, MacLean, Johnson, & Baumeister, 1981; Lewis, Silva, & Silva, 1995; MacLean et al., 1984; Patton, 2008; Wheatley, 1999). Complexity theory provides one framework through which a complex change process can be understood, and complements the science of behavior in the field of applied behavior analysis (ABA).

In ABA, the sequence of a behavioral chain for one person is evaluated and modified to produce more appropriate behavioral outcomes. Dynamic and constantly changing environmental and physiological variables in the persons involved, as well as the “natural world” (or more immediately, the contextual factors around the person involved) are impacting the behavior of each individual involved, interacting while doing so and, in turn, having an impact on the behavioral sequences of all others. The dynamic ebb and flow of all the contextual variables in a dynamic sequence of interactions, environmental as well as physiological in nature, constantly influence the power of setting events, reinforcers, and negative consequences within such settings. This can make it extremely difficult to craft predictions about any given individual’s behavior at any given point in time beyond the present, even when all variables and their various relationships are thought to be accounted for and understood. While applied behavior analysis assists us in understanding an individual’s behavior by providing a snapshot or static model for understanding behavior in the present, practical applications of complexity theory (and other complex multivariate approaches) can assist teams by providing ways to study and make predictions based on continually changing patterns in dynamic systems operating within a “natural environment.”

We believe that researchers and technical assistance providers interested in implementing PBS should actively be exploring new data analysis procedures, evaluation approaches, and research methodologies that account for dynamic contexts, interactions, and behaviors. Complexity theory and the science of chaos are clearly well-established theories and associated methodologies that can help guide our efforts to advance our knowledge and skills in areas of research that have significant implications for human service settings. With only a few exceptions (Bodfish et al., 2001; Granic et al., 2003; Hollenstein, 2007; Lewis et al., 1995; Lewis et al., 1981; MacLean et al., 1984; Newell, Incledon, Bodfish, & Sprague, 1999), there has been very little research and development of creative models related to the field of behavior that take into account dynamic systems. Patton (2008) offers us practical paths to follow by suggesting that those seeking to evaluate innovative implementation efforts that are highly complex and dynamic use his “developmental evaluation” (DE) model. A clear strength of DE with regard to dynamic programs and contexts of interest to us, is that it can support statewide PBS planning by organizing data so that it informs and guides *emergent* qualities of an initiative. Applications of Patton’s (2008) DE could help us shine some light into what is currently the darkness of how complex interacting and dynamic systems change efforts will evolve, as we move forward with such initiatives.

Conclusion

In summary, the ways in which we view statewide planning must shift in order to create state structures and establish policies and procedures that will support scaling-out (i.e., adding units at the same organizational level), and scaling-up (i.e., adding units at the next higher organizational level) (Lemke & Sabelli, 2008). Evaluation strategies that support the complex and emergent qualities of statewide PBS planning are available and can provide the types of data that can be used for decision

“HOW SMART AN ORGANIZATION OR A COMMUNITY IS REFLECTS THE KINDS OF CONVERSATIONS THAT PEOPLE HAVE WITH ONE ANOTHER...” (P. 14, PERKINS 2003).

making. Senge (1990) defines system thinking as “....a discipline for seeing the “structures” that underlie complex situations, and for discerning high from low leverage change.” (p.69). In other words, small and well-focused actions can result in significant and sustainable change. In addition, smaller actions that are implemented based on a better understanding of dynamic and complex phenomena, combined with the application of research methodologies that are based on dynamical models of individual group and organizational behavior, can create a “tipping point” leading to larger and unpredictable social impacts that hold the promise of facilitating improved, systemic-level PBS services.

Strong and healthy relationships are the basis for effective systems change in each “nested” system, and these relationships must be based on shared values and beliefs that form a clear moral purpose that drives individual behaviors (Fullan, 1999). Statewide PBS teams that build feedback loops within an organization must consider the smaller informal groups represented within the larger whole to ensure that everyone’s agenda is addressed and that the team is working together as a whole. PBS-Kansas members have learned that interagency teams require more sensitivity to cultural differences among team members, and recommend that individuals interested in forming interagency teams should pay close attention to the structure of meetings systems to ensure that everyone within the team is an effective part of the communication process. Feedback loop systems help ensure that ongoing learning and effective communication systems are established. Perkins (2003) said it best when he observed that “How smart an organization or a community is reflects the kinds of conversations that people have with one another...” (p. 14).

*SENGE (1990)
DEFINES SYSTEM
THINKING AS
“.....A DISCIPLINE
FOR SEEING THE
‘STRUCTURES’
THAT UNDERLIE
COMPLEX
SITUATIONS, AND
FOR DISCERNING
HIGH FROM LOW
LEVERAGE
CHANGE.” (P. 69).*

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