

Model
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TERTIARY BEHAVIOR INTERVENTION MODELS IN ELEMENTARY AND MIDDLE SCHOOLS

Project Findings in Brief

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Summary of Project Findings

The U.S. public school system currently is the target of unprecedented investments¹ aimed at markedly improving the academic performance, high school completion rates, and postsecondary preparation of our students through the use of evidence-based programs and practices. Fortunately, this focus on educational improvement comes at a time when a click of a mouse gives practitioners ready access to information on evidence-based practices for a wide range of subject areas, grade levels, and subpopulations.²

It is interesting then, with all the access to information on “what works” in education, why actual instructional practices often do not reflect the best of what is known about effective teaching and learning for all children. Addressing the gap between what research indicates are effective programs and practices and what schools implement for improving outcomes for children and youth with disabilities is the charge of the Research to Practice Division of the Office of Special Education Programs (OSEP), U.S. Department of Education. In administering the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004), OSEP pursues a mission of “improving results for infants, toddlers, children and youth with disabilities ages birth through 21, by providing leadership and financial support to assist states and local districts” (U.S. Department of Education, 2007). An important part of that pursuit is the Research to Practice Division’s technical assistance, model demonstration, and dissemination activities.

Current Model Demonstration Activities

Beginning as early as 1970 and continuing through the reauthorization of IDEA 2004, Congress has authorized OSEP to conduct model demonstrations in early intervention and special education to improve early intervention, educational, and transitional results for children with disabilities [Sec. 661 (a)]. The purpose of model demonstration projects (MDPs) is to develop new practice, procedure, or program models on the basis of theory and/or evidence-based research. Each project then implements its model in typical settings, assesses impacts, and, if the model is associated with benefits, may go on to disseminate it or scale it up. Since 2005, OSEP has been funding four cohorts of MDPs, each focused on a single new and promising (or perhaps poorly understood or implemented) practice, procedure, or program that is deemed to have high potential for improving child outcomes.

This summary of project findings in brief is on the second cohort of MDPs—those that demonstrated approaches to implementing behavior interventions for students with the most serious behavior problems using a three-tiered model of positive behavior interventions and supports (PBIS). PBIS is a systems approach to establishing the social culture and behavior supports needed to improve children’s behavior and academic performance. A primary program of positive behavior supports is the foundation of the system. Secondary interventions are for children who are at risk for problem behavior but do not require intensive behavior support. Even

¹ For example, Race to the Top (<http://www2.ed.gov/programs/racetothetop/executive-summary.pdf>) and the Investing in Innovation Fund (<http://www2.ed.gov/programs/innovation/factsheet.html>).

² For example, the U.S. Department of Education’s Doing What Works (<http://dww.ed.gov/>), the What Works Clearinghouse (<http://ies.ed.gov/ncee/wwc/>), the National Dissemination Center for Children with Disabilities (<http://www.nichy.org/>), and the National Secondary Transition Technical Assistance Center (http://www.nsttac.org/ebp/evidence_based_practices.aspx).

with secondary interventions in place, 1% to 5% of students require additional support through tertiary intervention, the level targeted in the Cohort 2 (C2) MDPs. When students fail to make substantial progress in primary- and secondary-level programs, an individualized intensive intervention is implemented. Given the challenges of and need for tertiary-level behavior interventions, OSEP requested applications for grants to develop behavioral models that “target the group of children who have not been responsive to universal behavioral strategies or secondary-level evidence-based interventions that have been shown to be effective based on scientific research and who require intensive and individualized behavior interventions at the tertiary level.”

Cooperative agreements for tertiary-level behavior intervention models were awarded to the University of Washington, the University of Oregon, and the University of Kansas Beach Center on Disability in partnership with the Illinois Positive Behavior Interventions and Support Network (ILPBISN). Model development and demonstration work began in January 2007. Each MDP began implementing its model in the 2007–08 school year and used that experience to adapt the model, which was implemented in one or more additional schools in the 2008–09 school year. The MDPs completed their work with all their schools at the end of the 2009–10 school year.

The findings regarding C2’s implementation experiences and their student and system-level outcomes are reported by staff of the Model Demonstration Coordination Center (MDCC) at SRI International, which was awarded contracts in 2005 and 2010 to collect consistent data across MDPs in each cohort and across cohorts over multiple years and topic areas. MDCC worked with C2 to establish consistent design elements, such as sample definition and selection, data collection methods and timing, and instrumentation, and to synthesize cross-MDP data. Consistent data collection within a given cohort permits comparison of the relative ease with which the models were implemented with fidelity and supports comparison of the relative outcomes achieved when the unique approach of each model was implemented.

Focusing MDCC Activities, Analyses, and Products

A set of evaluation questions (Table 1) and a conceptual framework for addressing them (Figure 1) have focused and organized MDCC’s work.

Evaluation Questions

MDCC developed a three-level series of evaluation questions. Level 1 questions were specific to each MDP within a cohort and were suggested to the MDPs as suitable questions to be answered by the project. Level 2 questions pertained to the process of developing and implementing models across the MDPs within a cohort and are addressed in this report. Level 3 questions are being addressed by MDCC across all MDPs in the four cohorts (Wagner et al., 2010).

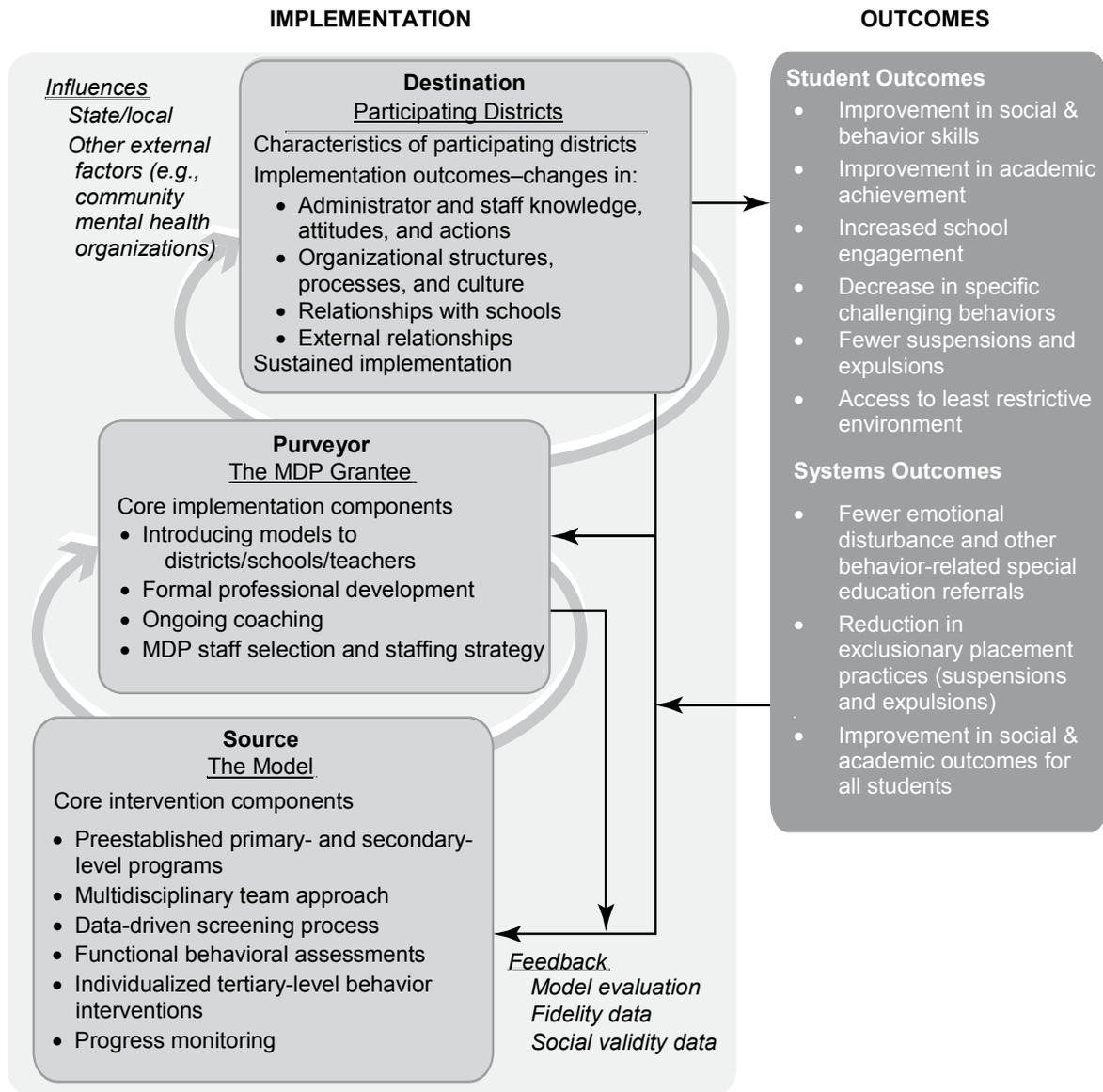
Table 1. Tertiary Behavior Intervention Model Implementation and Efficacy– Level 2 Evaluation Questions

Model Development
1a. How do the core intervention components of tertiary behavior intervention models differ?
1b. How do differences relate to the models' perceived relative advantage, complexity, compatibility with the destination organization and contextual environment, and social validity?
1c. How do these perceived differences relate to the fullness/fidelity of model implementation and to establishing conditions supportive of sustainability?
Implementation
2a. How do tertiary behavior intervention models differ with regard to: (1) strategies for recruiting destination organizations and introducing models; (2) professional development approaches; (3) ongoing support; (4) MDP staffing strategies; and (5) ways of learning from implementation experiences and adapting core implementation and intervention components?
2b. How do these differences relate to the fullness/fidelity of model implementation and to establishing conditions supportive of sustainability?
3a. How do organizations differ with regard to key characteristics (e.g., children/families served, history with model-related practices, organizational functioning, etc.)?
3b. How do organizations differ with regard to implementation outcomes—their ability to establish support of implementation with fidelity and the potential for sustainability?
3c. How do differences relate to the fullness/fidelity of model implementation and to establishing conditions supportive of sustainability?
4a. How do model contexts differ with regard to: (1) district and state support for/alignment with model, (2) district resources provided for model implementation and sustainability, and (3) circumstances/authorities outside of the model that exert some control over implementation and/or sustainability?
4b. How do differences relate to the fullness and fidelity of model implementation and to establishing conditions supportive of sustainability?
Outcomes
5a. How do models, districts, and schools differ with regard to individual- and system-level outcomes?
5b. How do differences in core intervention and implementation components, destination organizations, and influences relate to differences in individual- and system-level outcomes?

A Conceptual Model of the Model Demonstration Process

MDCC adapted a conceptual model for understanding the implementation of interventions that was developed by the National Implementation Research Network (NIRN) at the University of North Carolina, Chapel Hill (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). The NIRN conceptual framework specified the key elements in the implementation process; the adaptation of this framework for model demonstration is presented in Figure 1. In the C2 MDP context, **source** is the tertiary behavior intervention model, which has *core intervention components*, such as a preestablished primary-level PBIS program, a data-driven screening process to determine which students require more intensive support, and functional behavioral assessments to accurately assess the type of intervention a student requires. The tertiary intervention is individualized to the student by a multidisciplinary team that develops the intervention and monitors its progress using a response to intervention (RtI) approach.

Figure 1. Conceptual Framework for Model Demonstration Implementation and Outcomes: Cohort 2



Source: Adapted from *Implementation Research: A Synthesis of the Literature* (Fixsen et al., 2005).

The *purveyor* of the model is the MDP grantee. Whereas the model itself has core intervention components, the MDPs have *core implementation components* in their process of bringing models to schools. These include strategies for (1) selecting demonstration sites and introducing the model to district and school administrators and teachers, (2) providing professional development (PD) in how to use the model, (3) offering ongoing coaching in support of implementation, and (4) selecting MDP staff and formulating staffing strategies. The framework posits that these actions of the MDPs are the mechanisms through which the models are transmitted to participating districts (the *destination*) and the staff in them, who are the intended implementers of the model. A fourth element involves the model development context,

or the *influences* on the implementation process. In the case of the C2 MDPs, influence could occur from factors within the state educational system and other external factors, such as partnerships with community-based mental health organizations.

In addition to these key elements, the NIRN model posited three *implementation outcomes* that would be expected within the destination organization if implementation were successful: (1) changes in the knowledge and skills of practitioners and other key staff members; (2) changes in organizational structures and cultures, both formal and informal, to routinely bring about and support the changes in adult professional behavior; and (3) changes in relationships with consumers, stakeholders, and systems partners. A fourth implementation outcome that is critical in the model demonstration context is the sustainability of the model after the MDP ends, that is, the extent to which the destination organization maintains the core intervention components of the model.

Because the NIRN conceptual model focused solely on the implementation, not the results, of interventions, the MDCC needed to add an element related to intervention outcomes to reflect the full intention of the MDPs. The outcomes specific to students with tertiary behavior problems involve improvement in social and behavioral skills and academic achievement, increases in school engagement, decreases in specific challenging behaviors, and fewer suspensions and expulsions. Systems-level outcomes include reductions in behavior-related referrals for special education and in the use of restrictive placements for students with emotional disturbances as well as schoolwide improvements in social interactions and academic achievement. Characteristics of the intervention models themselves, implementation fidelity, and factors associated with the destination districts and their contexts may relate to variations in the effectiveness of the implementation and intervention outcomes. Finally, the conceptual framework includes feedback loops, which are the learning paths through which experience with model implementation informs iterative adaptations in core intervention and implementation components.

Data Sources

The data compiled and reported here are largely descriptive and come from templates and profile tools that MDCC developed and that MDP teams used to document the specific features and design elements of their models, record the “story” of the model development and implementation process, and describe the district, school, and classroom contexts within which they implemented their models. MDCC-developed school and teacher surveys augmented the information gathered in the profile tools, as did information from the U.S. Department of Education’s Common Core of Data (CCD). The MDPs’ applications for OSEP funding described the model components and provided background information on the proposed sites. Another data source were notes taken during each MDP’s “update report” on regularly scheduled, cross-MDP conference calls. Finally, each MDP developed and administered model-specific instruments to assess fidelity and social validity.

Core Intervention Components of Tertiary Behavior Intervention Models

Core intervention components are “the most essential and indispensable components of an intervention practice or program” (Fixsen et al., 2005, p. 24). It is important to identify these intervention components so that implementation effort is not spent on establishing aspects of a model that are not necessary to achieve the desired effects. Further, knowing which components

are core and which are peripheral allows the MDP team to provide some flexibility to schools with regard to nonessential aspects of the model.

The core intervention components of the tertiary behavior intervention models were (1) preestablished primary and secondary prevention programs, (2) a multidisciplinary team approach, (3) a data-driven screening process, (4) positive behavior support plans driven by functional behavioral assessments (FBAs), (5) individualized tertiary behavior interventions; and (6) progress monitoring to assess response to intervention. The C2 MDPs differed in several ways on these components; these variations were assessed and hypotheses generated as to how they may relate to variations in implementation and intervention outcomes using three key concepts from the body of research on the diffusion of innovations (Rogers, 2003):

- Relative advantage—“the degree to which an innovation is perceived as being better than the idea it supersedes” (p. 229)
- Compatibility—“the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (p. 240)
- Complexity—“the degree to which an innovation is perceived as relatively difficult to understand and use” (p. 257).

Given the variations in the degree of district support provided to each MDP, the MDCC hypothesized that the Washington MDP would contend with more challenges and consequently a diminished belief by teachers and administrators in the relative advantage of the tertiary behavior intervention model. Further, we hypothesized that the Washington MDP would face greater challenges than the other MDPs in terms of the compatibility of its model with the culture of its implementing district and schools. However, the ambitious multidisciplinary team and progress monitoring approaches of the Kansas-Illinois MDP were felt to create the greatest model complexity, which could potentially result in problems with fidelity and model adoption for its MDP schools.

Core Implementation Components of Tertiary Behavior Intervention Models

Fixsen and colleagues (2005) identified four core components that were common among successfully implemented practices or programs that are directly applicable to the tertiary behavior model demonstration projects:

- Practitioner selection—the choice of the sites where the models were implemented
- Training in core intervention components provided before and during implementation
- Ongoing consultation and coaching support for practitioners’ learning the skills required by the model on the job
- Facilitative administrative support—leadership and support for model implementation within the schools and districts.

They also suggested that differences in the selection, training, ongoing consultation and coaching, and administrative support of the MDP staff also may illuminate implementation experiences.

We hypothesized that choosing districts with whom the MDP staff had well-established relationships would ease implementation, suggesting that the Kansas-Illinois and Oregon MDPs would have fewer implementation challenges than the Washington team, which had selected a district with which it had a limited relationship. Further, Washington’s need to devote resources

to strengthening secondary-level interventions may have substantially decreased time and resources for tertiary-level behavior interventions compared with the other MDPs. A PD and coaching strategy that used a train-the-trainer model, such as that promoted by the Illinois districts, was hypothesized to result in less effective or inconsistent PD and support compared with the Oregon and Washington MDPs where MDP-led trainings were provided directly to all people involved in school and district teams. Finally, we hypothesized that districts providing strong and early administrative support would experience quicker and more successful implementation than districts where support was less evident.

Districts Implementing Tertiary Behavior Intervention Models

Fixsen and colleagues (2005) contend that “core [implementation] components do not exist in a vacuum. They are contained within and supported by an organization that establishes facilitative administrative structures and processes to select, train, [and] coach” implementers of a new model or program (p. 58). Reflecting the importance of context in understanding model implementation, data from MDCC-generated surveys and the CCD were used to characterize the schools and districts in which the MDPs implemented their models. Fifteen district factors were hypothesized to relate to variations in achieving implementation and student and system outcomes. Factors included **student body characteristics, resources, school and district functioning, experience with tiered behavior support and interventions, support for the MDP, and school behavioral climate**. We hypothesized that districts with a greater number of challenges would experience more difficulty in achieving full implementation in their schools.

External Influences on Schools

Fixsen and colleagues (2005) also contend that “organizations exist in a shifting ecology of community, state, and federal social, economic, cultural, political and policy environments that variously and simultaneously enable and impede implementation and program operation efforts” (p. 58). Factors that may influence the implementation process and model outcomes are those affecting the MDPs’ state education systems, most prominently the fallout from the global economic crisis on states’ financial health and the impact on both general and special education funding. Other potentially important contextual influences include the presence of a statewide PBIS technical assistance network; statewide interest in PBIS, RtI, and tiered interventions through initiatives or resources; competing initiatives; access to mental health-related support services; and student academic status. We hypothesized that having more of these factors would create greater challenges to implementation, outcomes, and sustainability. Illinois faced the most significant barriers—a total of nine challenges that spanned four of the seven domains discussed. The Oregon MDP had seven challenges across five domains, the Washington MDP had six challenges across four domains, and the Kansas MDP had four challenges across four domains.

The 3-Year Implementation Experiences of Tertiary Behavior Intervention Model Demonstration Projects

Implementation was initiated in 2007–08 school year and was completed in the 2009–10 school year. The Kansas-Illinois MDP team implemented its model in three Illinois districts (IL-1, IL-2, IL-3) and two Kansas districts (KS-1 and KS-2),³ the Oregon MDP team implemented its model in two districts (OR-1 and OR-2), and the Washington MDP team implemented its model in one district (WA-1), with another district (WA-2) joining during the final implementation year. Analysis of the initial implementation experiences of the MDPs in these schools was organized around the first three stages of the NIRN conceptualization of the implementation process (Fixsen et al., 2005): exploration and adoption, installation, and initial implementation. After documenting first-year implementation experiences and fidelity and social validity data for each MDP, we reported revisions to the core intervention and implementation components that occurred as a result of those experiences and data. Similarly, the second- and third-year implementation experiences and the fidelity and social validity were described for each MDP, along with the results of those experiences at the end of the 2008–09 and 2009–10 school years.

Kansas-Illinois MDP

First-year implementation, 2007–08. Both Kansas and Illinois MDP teams considered for project participation districts that had at least 5 years of prior experience with PBIS. The different degrees of interest among eligible superintendents were reflected in the roles they played in introducing the MDP to school leaders. The IL-1 and IL-2 superintendents made an effort to communicate their support of the tertiary behavior interventions to schools, in contrast to the superintendents from IL-3 and KS-1, who chose not to communicate their support to the schools, electing instead to place the responsibility for whether to participate in the MDP entirely on the schools. Similarly, some schools were very committed to behavior interventions, expressing full buy-in and recognizing the importance of consistency and collaboration in implementing the model, whereas others doubted their capacity to fully support a tertiary intervention program, especially in light of ongoing budget cuts.

Because the Kansas-Illinois MDP recognized early on that school and district staff were far less experienced with providing secondary-level behavior interventions than anticipated, the MDP team used the initial implementation period to train school staffs in both secondary and tertiary interventions. The Illinois MDP staff used a train-the-trainers model in which they trained the PBIS coordinators and technical assistance directors, who in turn were expected to provide all district and school trainings. Technical assistance (TA) was provided by MDP staff as they participated in the secondary- and tertiary-level systems planning teams. MDP staff reported that the training model used and the support they provided had a positive impact and that participants felt “supported and empowered as leaders.”

³ Numerous obstacles were encountered in the KS-1 and KS-2 school districts during the 2007–08 school year, including Institutional Review Board-related delays and significant administrator turnover. Consequently, the full implementation of the intervention did not occur in the Kansas districts until the 2008–09 school year.

At the end of the first year, the MDP staff reported that many more students were being identified for secondary-level behavior interventions, most notably Check-in/Check-out (CICO).⁴ They observed that the greatest challenge in their districts and schools was establishing the use of data to monitor student progress and identify appropriate interventions.

Second-year implementation, 2008–09. In Illinois, this year involved trainings in the secondary- and tertiary-level behavior interventions for schools whose leaders reported they needed a boost in a particular area of practice. Some modifications were made to the various teams on the basis of the first year’s experience, such as creating two new teams to provide better support at the secondary and tertiary levels. The Illinois MDP reported that people were finding it very challenging to consistently use the progress-monitoring systems to determine appropriate interventions. Many of these difficulties appeared to stem from differences in ideology; whereas school staff members considered progress monitoring of use to the student only, MDP staff wanted them to recognize that progress monitoring was a way to “monitor the effectiveness of the interventions for themselves.” Despite the continued struggles with data use by the schools and districts, all schools consistently collected data monthly and submitted the data to the MDP every quarter. The next step, then, was to find ways for the schools to *use* the data so they could make changes to intervention assignments and move students along the continuum of support.

In Kansas, where districts were beginning their first year of implementation, school staffs received 1–2 days of secondary-level intervention training and 1–2 days of tertiary intervention training with ongoing TA sessions monthly throughout the school year. All district meetings were scheduled and facilitated by the Kansas MDP team members, who were the main trainers and TA providers for all participating Kansas schools. Although the Kansas MDP team had hoped to implement a train-the-trainer model to facilitate greater independence and responsibility on the part of implementing schools, no funding existed for district staff to take over a training role. To compensate for the lack of resources, MDP staff volunteered their time for PBIS implementation at the schools. The MDP also began building a partnership with community mental health centers in the KS-1 area to create a sustainable support system that would enable schools there to continue using wraparound services.

Third-year implementation, 2009–10. Although the original goal for this year was full and independent implementation by Illinois districts, that MDP needed to continue being active at the district level, although it did report providing much less building-based support. Illinois MDP staff reported that school teams were becoming more able to “identify youth for interventions quickly, progress-monitor youths’ response to interventions, and exit or transition youth from interventions.” This success was apparently due in large part to CICO, which, in addition to being an effective behavior intervention, was reported to be the greatest application of data-based decisionmaking during the year. However, Illinois MDP staff reported that the greatest challenge experienced this final year was “systems change fatigue”; schools and districts had gone through such an intensive implementation process that they reached a plateau for learning and implementing new practices. Illinois MDP staff chose to respect this fatigue by offering TA and

⁴ CICO (also referred to as the Behavior Education Program) is a targeted behavior intervention in which students are required to check in and check out with an adult in the school at the beginning and end of each school day. During these times, the adult and student discuss specific behavioral and academic goals for the day and whether they were achieved. Teachers provide feedback on the student’s social behavior at the end of each class period via a daily progress report, which is sent home with the student for the parents to sign. Data on individual student performance are summarized weekly for continual monitoring and decisionmaking ((Hawken & Horner, 2003).

training on school/district practices that still needed improvement, with the understanding that they did not have to be implemented immediately.

The Kansas MDP team elected to individualize much of its district trainings and TA to accommodate financial and time constraints. The Kansas MDP team also decided to put less time and effort into the KS-1 district, where it reported that its support “wasn’t bearing fruit,” instead shifting that support primarily to the KS-2 school district, where the MDP team witnessed “grassroots efforts from the schools desiring [PBIS].” Similar to the Illinois MDP team, the Kansas team gave much of its attention to supporting secondary-level behavior interventions, primarily through the use of brief FBAs and CICO. Shifting the focus to primary- and secondary-level interventions in some ways resulted in even fewer resources available to support tertiary-level behavior interventions. However, the Kansas MDP team asserted that even tertiary-level teams benefited from this redistribution of resources because a solid foundation at the first and second tiers made schools better recognize and support the importance of tertiary interventions.

Fidelity data were collected in Illinois districts during all 3 implementation years and in Kansas districts during the second and third years. Across Illinois districts, fidelity appeared to improve with each year of implementation. In Kansas, the increased training and support provided for KS-2 during the third year was not enough to offset the budget cuts and resulting drain on resources, as KS-2 experienced decreased implementation fidelity over time.

Oregon MDP

First-year implementation, 2007–08. The Oregon MDP had 5 to 10 years of experience working with OR-1 and OR-2, where district staffs were said to be enthusiastic and committed to the PBIS model. The leaders from both districts readily agreed to participate in the MDP in the hopes of strengthening the tertiary-level of the PBIS model and decreasing the number of students needing special education services for behavior problems. School leaders in both districts were said to display a similar degree of enthusiasm for PBIS and the tertiary behavior intervention model, with a high degree of buy-in on the part of principals, teachers, and staff.

Initial training in the core intervention components involved three half-day sessions that focused on technical skills needed by secondary and tertiary behavior intervention teams. Relative to the other MDPs, Oregon was perhaps the most hands-off in its TA approach. Although MDP staff members planned to continue providing ongoing support and PD throughout the project, they made a concerted effort to minimize their involvement. Coaches from each district—permanent positions funded by the district and separate from the MDP—were responsible for leading and facilitating school staff in decisionmaking.

Both districts were said to experience similar implementation challenges during their first year, primarily (1) acknowledging that building systems for data-based decisionmaking is a long-term process that cannot be accomplished in a single year, (2) shifting the PBIS teams away from conducting only student-focused meetings to also conducting progress monitoring, and (3) reallocating staff to accommodate the behavior intervention model. The Oregon MDP team reported that all three issues were successfully resolved during the first implementation year, at least in part because the schools all had strong schoolwide interventions and strong administrative support at both the school and district levels.

Similar to the Kansas-Illinois MDP, feedback provided by school staff and meeting attendees during training events indicated a need for greater emphasis on interventions with progress monitoring, such as CICO. In addition, the MDP staff planned to work with the districts

to assess the feasibility of school-based, behavior-focused parent training. Otherwise, no notable changes to the model were said to have been made as the MDP moved into its second implementation year.

Second-year implementation, 2008–09. By this year, the Oregon MDP staff had fulfilled its goal for the model districts and schools by handing off all training responsibilities to the district coaches and leaders. MDP staff members continued to attend the trainings and monthly team meetings to garner feedback and to address any questions that arose; however, MDP personnel were largely meeting participants rather than facilitators. Oregon MDP personnel reported that beyond the changes made to further emphasize progress monitoring and secondary-level interventions in their trainings, all other aspects of the model were similar to those of the first year.

Third-year implementation, 2009–10. By this time, the model demonstration schools were said to be “completely independent,” with no need for further training or TA from the Oregon MDP staff. Thus, much of its focus the third year was on scaling up the model to other districts within the state. The Oregon Department of Education had planned to work with three Education Service Districts in the next few years to explore how scaling up should occur. The Oregon MDP’s role would be to provide these scale-up schools with trainings.

Reflecting on this third year, the Oregon MDP reported that a few achievements were particularly remarkable. MDP team members stated that it was “very exciting” to see the high quality of function-based support both within schools and at the district level. In addition, they reported that their tertiary-level intervention had an impact across all three tiers of behavior support; there were sustained reductions in the number of students with five or more office referrals, and in some schools, the number of students with fewer than two referrals had increased. However, several challenges remained. Except for CICO data, the Oregon MDP team acknowledged that it had not shared objective data regularly with families. In addition, team members said it was “very hard” to get a measurement system in place to evaluate tertiary-level behavior interventions. By far the greatest challenge they faced this year was a budget crisis. The MDP team explained that districts faced huge deficits resulting in “shortened school years, furlough days, increased class size, and fewer days for training,” causing pressures that were “very stressful for everyone.” However, the Oregon MDP team was hopeful that tertiary-level behavior interventions would persist despite these financial problems.

Fidelity data were collected in the Oregon districts during all 3 years. In both districts, fidelity improved over time. Social validity data were collected during the first 2 implementation years, with scores varying across districts. However, both OR-1 and OR-2’s district and school administrators stated that they would recommend the secondary and tertiary behavior intervention’s intensive positive behavior support process to other districts and schools.

Washington MDP

First-year implementation, 2007–08. Compared with the other MDPs, the Washington MDP had less experience partnering with its implementation district (WA-1), as past relationships had included only the district’s special education staff. Further, the superintendent who had expressed support for the model was replaced by an interim superintendent just before the project began. Being unfamiliar with PBIS, the interim superintendent reportedly had minimal communication with the schools about the model. Despite the lack of district support, MDP staff members reported that generally there was a good deal of excitement about the model

in the three participating schools. However, they discovered that although principals supported the *concept* of secondary-level interventions, they were unaware of the actual extent of time and resources required to effectively implement them. Consequently, the MDP staff was unsure whether WA-1's participating schools would be able to fully commit time, staff, and resources to develop and implement the more intensive tertiary behavior model. Additionally, the Washington MDP had relatively few formal PD and training activities, with more emphasis on informal PD and ongoing coaching. According to the MDP staff, "In our view [the coaching] is one of the most powerful components of the model." Both team members and teaching staff were reported to be pleased with the coaching procedures and the ongoing support provided by their school teams and project staff.

Second-year implementation, 2008–09. The Washington MDP schools differed in their implementation experiences during this year. In two schools, the MDP team was able to greatly diminish the number of hours during which they closely monitored the teams, as was the original intent. However, in the other school the technical assistance team (TAT) reportedly continued to look toward the MDP staff or the school psychologist for strategies, suggestions, and next steps, showing little growth toward independent implementation. Despite these challenges, MDP staff reported that TAT members were learning to use the behavior assessment tools more effectively as the year progressed, and data were regularly used to make decisions. Teams also appeared to be more comfortable discussing challenging behaviors in terms of function and were more confident in their abilities.

Third-year implementation, 2009–10. This year, the Washington MDP began implementation in another school district (WA-2). Schools there had already implemented primary-level PBIS and were "excited" to partner with the Washington MDP to receive PD and support for secondary- and tertiary-level behavior interventions. During this time, WA-1 had a new superintendent who brought with her a large districtwide initiative, "Instructional Leadership Teams," toward which nearly all PD opportunities were directed. In contrast, the supportive WA-2 district was willing to provide full PD trainings and even tailor them to the specific needs of its individual schools. Such contrasting experiences led the Washington MDP team to surmise that "the single most important factor that facilitated implementation was strong and consistent leadership, both at the district and school levels." Although the Washington MDP team had struggled for 3 years to maintain the trainings and supports for WA-1 schools, it found that WA-2, with its history of strong district leadership and support for schoolwide efforts, was quick to achieve successful implementation of the model.

Fidelity and social validity data were collected in WA-1 during all 3 implementation years, generally indicating improvements over time; fidelity and social validity data were collected in WA-2 for its 1 implementation year. These data revealed that WA-2's level of fidelity was similar to the fidelity data during WA-1's first implementation year and revealed generally positive experiences with the tertiary behavior intervention model by TAT members in WA-2 schools.

Implementation Outcomes

MDCC's analysis of the implementation outcomes achieved by the C2 MDPs focused on the extent to which implementation districts had demonstrated changes in (1) the knowledge, attitudes, skills, and behaviors of practitioners and other key staff; (2) formal and informal organizational structures and cultures; and (3) relationships with stakeholders (Fixsen et al.,

2005). These changes would establish the conditions needed to sustain the models' core intervention components in implementation schools and for the models to have the potential to spread to other schools in the district or beyond. Variations in the extent to which these implementation outcomes were achieved were considered in light of the hypotheses noted earlier.

Findings regarding **model characteristics** revealed that the Illinois⁵ and Oregon MDPs were able to implement tertiary behavior interventions that were championed and integrated into the district-level organization and culture, a result the Kansas and Washington MDPs found difficult to achieve. Furthermore, all three MDP teams said the model characteristics of high relative advantage and compatibility as perceived at the district level were the best indicators of successful implementation, perhaps even more so than support by school-level leaders. Contrary to expectations, the relative complexity of the Illinois model was thought to be beneficial in that having multiple teams with different members and functions provided multiple opportunities to reinforce the principles of the model with a broad range of staff.

Some hypotheses involving **implementation strategies** were found to hold true, as the Washington MDP experienced “the rockiest journey” in terms of implementation in WA-1. However, the Washington MDP also faced several unanticipated circumstances—such as multiple superintendent changes and teacher union issues—that also contributed to the implementation challenges there. Although the Washington MDP partnered with schools that had poorly implemented secondary-level behavior interventions, it turned out that this was the case for the majority of schools in all MDP districts. Other hypotheses regarding variations in MDPs' professional development and facilitative administrative support were difficult to assess because of inconsistent and limited quantitative data that could adequately support or refute them.

It was unclear whether the number of **destination challenges** affected the MDPs' ability to implement their models. Data did suggest that one Illinois district had some difficulty implementing with fidelity. Nonetheless, the Illinois MDP team reported good progress and strong potential for sustainability across all its MDP districts. WA-1 showed improvements in fidelity and social validity measures throughout the project, which were most likely attributable to strong school (rather than district) support, as the Washington MDP team made it evident that district support was essentially nonexistent by the third year. When considering the impact of **contextual factors**, it was surprising to find that the MDPs with the most challenges appeared to implement most successfully, perhaps suggesting that many contextual factors are too distal to have a strong influence relative to more proximal factors described in the conceptual framework; alternatively, it may imply that certain indicators—such as the economic crisis—were felt by all, ultimately washing out the ability to explain variations in implementation experiences.

Several themes emerged from the MDPs' implementation experiences. Each one learned that **increasing the understanding and support for the tiered behavior intervention model among district-level leaders was more valuable for implementation than effecting change in school leadership**, particularly in terms of the potential for model sustainability. Furthermore, in

⁵ The working hypotheses for C2 were created originally on the basis of data sources such as grantee proposals and model specification templates provided by each MDP. At the time, Kansas and Illinois had developed a common tertiary-level behavior intervention model with similar core components. However, as implementation progressed, their experience with it differed. Thus, most of the hypotheses pertaining to the Kansas-Illinois MDP reflect most closely the model characteristics of the Illinois districts and schools and the implementation experiences of the ILPBISN.

an effort to provide a secondary-level intervention while also promoting data-based decisionmaking, the MDPs discovered that **CICO had a direct and immediate impact on increasing district leaders' understanding and positive attitude toward PBIS and the MDP.** The Oregon MDP's partnership with the statewide PBIS network as well as KS-1 School District's partnership with the local mental health agency both revealed that **although there is potential for invaluable support from outside partnerships, partners must have similar priorities to ensure that a model is implemented in its entirety and with fidelity.** Finally, a theme that emerged when addressing the hypotheses regarding variations in MDPs' model characteristics was that **implementation outcomes that impact the perceived relative advantage and compatibility of the model were more influential, at least initially, than the complexity of the model.**

Student- and System-Level Outcomes

MDCC analyses reveal that overall, small improvements in student- and school-level behavioral outcomes were associated with implementing tertiary-level behavior interventions and with strengthening the primary- and secondary-level supports in an overall three-tiered PBIS system. However, these results were not consistent across MDPs, raising the question of what might explain the model-to-model differences. Analyses of the MDPs' ability to generate positive behavioral outcomes as they pertain to hypotheses on student, district, contextual, and implementation factors were inconclusive. All MDPs had some factors that would challenge and some that would support their ability to produce positive results; the differences were in the number of factors and the combination of specific indicators of risk. Analyses with few cases are inadequate to sort out those that actually contributed to the MDPs' ultimate outcomes. However, some themes emerged as the MDPs' worked with their models to produce positive implementation outcomes.

The Illinois experience suggests that if a model is effective, **strong implementation can produce positive outcomes, even in the face of multiple and powerful potential challenges.** This MDP achieved arguably the strongest and most consistent implementation of its model and the broadest and most positive set of behavioral outcomes for the students it served, despite the particularly challenging nature of that population. However, the pattern of results reported here also suggests that **different factors may come into play in shaping student-level versus systems-level outcomes.** Despite the ability of the Illinois MDP to generate positive individual student behavior change, no corresponding strong impact was apparent on schoolwide behavior, and the Oregon MDP showed no improvements and some declines in individual student behavior outcomes despite strong model implementation, but it had a sizable reduction in office discipline referrals. It is reasonable to hypothesize that characteristics of the students themselves, in combination with the effectiveness of the intervention, would be more salient in shaping individual student outcomes for tertiary-level intervention participants, whereas, district and contextual factors may be more important influences on school-level outcomes.

Lessons Derived from Model Demonstration Projects

Several lessons were gleaned from the experiences of the MDPs that relate to the core intervention components of the models themselves, the core implementation strategies used by the MDPs, the partnering organizations the MDPs worked with in implementation, and the contexts surrounding the organizations and MDPs. Although based on the experiences of the C2

MDP teams and their districts and schools, the lessons below are couched in more general terms for broader application to the model demonstration process as a whole.

Components of MDPs' Models

- Envision intervention levels as a continuum rather than “tiered.”
- Generate and share data that are important to implementers as soon as possible in order to enhance buy-in.
- Adapt model technologies to be appropriate for diverse users and purposes.
- Ask, “What are the core intervention components of this model?” as an ongoing question for MDP staff.

Components of MDP Implementation Strategies

- Recognize that a long history with an implementation site is no guarantee of implementation ease or success.
- Choose destination organizations that are open to change supported by data.
- Emphasize opportunity, not need, when approaching potential implementation sites.
- Pay attention to infrastructure support.
- Provide professional development and coaching for administrators as well as teachers and other service providers.
- Provide concrete directions and usable tools to give implementers confidence and competence.
- Staff implementation sites with sustainability in mind.
- Be mindful of implementer burnout.
- Have a well-thought-out plan and timeline for developing the organization’s capacity to support training and facilitation needs.

Characteristics of Implementing Organizations

- Leadership is critical; develop a deep bench of key leaders who understand and actively support the model.
- Recognize that sustained leadership is necessary to overcome the burden and risks to site staff of the changes the models require of them.
- Create systemic change by promoting a high sense of group efficacy.
- Align competing initiatives in a coherent program of reforms to avoid repeatedly shifting focus to new initiatives.

Contextual Factors

- Be prepared to recognize and adjust accordingly to contextual influences that are often outside the MDP’s control.
- Be aware of the opportunities and challenges that come with developing partnerships with outside sources.

Learning Paths

- Plan to collect and use multiple types of data to serve the formative process within a model demonstration.

The implementation themes and lessons reported here illustrate what MDCC staff members have abstracted from the experiences and outcomes of Cohort 2 MDPs as they implemented their tertiary-level behavior intervention models. As MDCC continues its work, the experiences of Cohorts 1, 3, and 4 will be synthesized with those of Cohort 2 to draw lessons that apply to a broad range of interventions and implementation contexts.

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