

Model
Demonstration
Coordination
Center

Tertiary Behavior Intervention Models in Elementary and Middle Schools: Lessons Learned About Model Sustainability and Spread

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Jennifer Yu
Mary Wagner
Debra Shaver

SRI International

Contents

| | |
|---|----|
| 1. Introduction | 1 |
| 2. Tertiary Behavior Intervention Models Two Years Later | 5 |
| Illinois Positive Behavior Interventions and Support Network | 5 |
| Sustainability of the Model Within Districts | 6 |
| Spread of the Model Outside the District | 8 |
| University of Oregon | 9 |
| Sustainability of the Model Within Districts | 9 |
| Spread of the Model Outside the District | 10 |
| University of Washington | 11 |
| Sustainability of the Model Within Districts | 11 |
| Spread of the Model Outside the District | 12 |
| The Sustainability of Specific Model Core Intervention Components | 12 |
| 3. Factors Related to Model Sustainability and Spread | 14 |
| Factors Reported to Promote Model Sustainability and Spread | 14 |
| Relative Advantage | 16 |
| Compatibility | 18 |
| Complexity | 18 |
| Factors Reported to Hinder Model Sustainability and Spread | 19 |
| 4. Summary | 21 |
| References | 22 |

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1. Introduction

The mission of the U.S. Department of Education’s Office of Special Education Programs (OSEP)¹ is to improve results for infants, toddlers, children, and youth with disabilities by providing leadership and financial support to the states and local districts serving them, as authorized under the Individuals with Disabilities Education Act (IDEA). OSEP’s legislative authority to provide technical assistance, support model demonstration projects, and disseminate useful information is critical to its ability to fulfill its mission. One emphasis of OSEP’s dissemination activities is promulgating the use of evidence-based practices (EBPs) in serving children and youth with disabilities.²

Research shows that all students, including those with disabilities, benefit from exposure to EBPs that are matched to their needs (Hattie, 2009). The federal government has made a considerable investment in identifying educational practices, programs, procedures, curricula, and technologies that have been linked to improved student achievement on the basis of rigorous scientific evidence through such vehicles as the What Works Clearinghouse (<http://ies.ed.gov/ncee/wwc/>), Doing What Works (<http://dww.ed.gov/>), and the National Dissemination Center for Children with Disabilities (<http://www.nichcy.org/>). Yet in 2005, Fixsen and colleagues (2005) clearly delineated a gap between amassing research evidence in support of particular practices and implementing those practices to improve child outcomes, asserting that although “the science related to developing and identifying ‘evidence-based practices and programs’ has improved...the science related to implementing these programs with fidelity and good outcomes for consumers lags far behind” (p. vi).

Fortunately, in the years since that statement was made, implementation science has grown substantially as a field (e.g., Durlak & DuPre, 2008; Eccles et al., 2009) and has made valuable contributions to an understanding of the factors that come into play in successfully implementing and sustaining EBPs (e.g., Savaya & Spiro, 2011). OSEP’s investment in the Center for State Implementation and Scaling-up Evidence-based Practices and the new Technical Assistance Center to Support Implementation of Evidence-based Practices has supported that growth, as has its funding since 2005 of the Model Demonstration Coordination Center (MDCC) at SRI International. MDCC coordinates the work of OSEP Model Demonstration grantees, whose projects aim to develop new practice, procedure, or program models for children and youth with disabilities on the basis of theory and/or evidence-based research. Each model demonstration project (MDP) then implements its model in typical settings, assesses impacts, and, if the model is associated with benefits, may go on to disseminate it.

MDCC staff members have been studying the implementation experiences and outcomes achieved by the five cohorts of MDPs funded since 2005; each has 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. MDCC has worked with the MDPs to establish consistent design elements, such as sample definition and selection, data collection

¹ <http://www2.ed.gov/about/offices/list/osers/osep/mission.html>

² For example, the National Early Childhood Technical Assistance Center (<http://www.nectac.org/topics/evbased/evbased.asp>) and the National Secondary and Transition Technical Assistance Center (http://www.ideapartnership.org/index.php?option=com_content&view=article&id=1352&Itemid=134).

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 in participating schools and supports comparison of the relative outcomes achieved when the unique approach of each model was implemented. Comparing and contrasting implementation experiences within and across cohorts also enables MDCC to distill from MDPs their insights into factors that have hindered and promoted full implementation of their models.

For the first two cohorts of MDP grantees that were coordinated by MDCC, the study of implementation has broadened to examining the extent to which core components of the MDP models have been sustained in original MDP sites and spread to other sites after the end of their grants. Although research on program sustainability “has not yet coalesced into a single research paradigm, a shared set of statistical methods, or even a common terminology” (Schreier, 2005, p. 321), several conceptualizations of sustainability suggest that it could be considered as the continuation after initial implementation and funding of (1) program benefits to participants, (2) program activities within the implementing organization, and/or (3) community capacity to deliver the program, in the case of community-based programs (Johnson, Hays, Center, & Daley, 2004; Mancini & Marek, 2004; Shediak-Rizkallah & Bone, 1998).

Findings from the follow-up study conducted by MDP grantees that had completed their projects in 2010 (i.e., cohort 1) have been reported (Wagner, Lenz, & Shaver, 2011). The report can be found at http://mdcc.sri.com/documents/MDCC_C1_Followup_OCT2011.pdf.

The second cohort of projects, the subject of this report, implemented models that demonstrated 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 (referred to as tier 1). Secondary, or tier 2, interventions are for children who are at risk for problem behavior but do not require intensive behavior support. Even 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 tier 1 and tier 2 programs, an individualized intensive intervention is implemented. Given the challenges of and need for tertiary-level (tier 3) 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” (U.S. Department of Education, 2006).

Cooperative agreements for tier 3 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. MDP grantees provided MDCC with a range of qualitative and quantitative data on their models, their implementation contexts and experiences, and the outcomes achieved. The

results of MDCC's analyses of cohort 2 (C2) data were reported in 2011 (Yu, Wagner, Levine, & Petersen 2011).³

Of the four original cohort 2 MDP sites, three (ILPBISN, University of Oregon, and University of Washington) participated in the follow-up activities. The University of Kansas MDP team elected not to follow up with its two districts because implementation challenges encountered during the MDP made it unlikely that the model implemented would have been sustained or spread. In alignment with the examination of the sustainability of the first cohort of MDPs (Wagner et al., 2011), the examination of the sustainability and spread of the three participating MDP grantees from the second cohort also addressed the extent to which "core intervention components" (Fixsen et al., 2005) of the models were still in place 2 years after the MDPs discontinued their work in their implementing districts. Core intervention components refer to "the most essential and indispensable components of an intervention practice or program" (Fixsen et al., 2005, p. 24). With that focus, OSEP funded the cohort 2 MDP grantees, through MDCC, to document

- the core components of the models that were still in place in their model demonstration districts and schools as originally implemented and those that had been adapted or discontinued and
- the extent to which the models, in whole or part, had been implemented outside those districts.

MDP principal investigators (PIs) and colleagues worked with MDCC staff to develop a protocol for qualitative data collection and a format for reporting findings. Using that protocol, MDP staff interviewed key district and school leaders and other personnel in the original implementation sites (and, in the case of Illinois, in other demonstration and replication sites), conducted focus groups with teachers, and observed selected MDP-related activities that were core components of the models (e.g., tier 2 decisionmaking team meetings). Table 1 summarizes the data collection activities of each participating MDP conducted over a 2-month period. MDP staff then reported findings from the data collection activities to MDCC using a follow-up qualitative template designed collaboratively by MDCC staff and the MDP PIs, responded to MDCC staff questions to clarify or expand on reported results, and participated in a cross-MDP teleconference to jointly discuss the implications of the findings. One staff person in each MDP was subcontracted for \$16,000 to complete the follow-up task.

³ A summary of the findings from the cohort 2 final report is on the MDCC website, http://mdcc.sri.com/documents/MDCC_C2_Sept2011-ProjectBrief_051812av.pdf.

Table 1. Key Informants and Data Collection Methods, by MDP

| Data Collection Method | MDP | | |
|------------------------|---|--|---|
| | Illinois | Oregon | Washington |
| Interviews | None | District Intensive Positive Behavior Support (IPBS) coaches at two districts (OR-1 and OR-2) | School team coordinators for six schools, one in the first implementing district (WA-1) and five in the second district (WA-2). MDP staff conducted individual interviews with 18 school team members from three teams. Interviews were conducted for a separate but similar study designed to gather more information about the successes and challenges that may have affected team implementation of the model. |
| Focus groups | Three focus groups, one for each of the three districts (IL-1, IL-2, IL-3): a total of 13 people representing school, district, and regional-level implementers | None | None |
| Observations | None specific to this follow-up. Observations were done using external evaluation of fidelity tools over multiple years (i.e., SET, ISSET*). | Observations of IPBS team meetings at OR-1 and OR-2 | Observations in five schools during regularly scheduled team meetings on referral, progress monitoring, and strategy development processes |
| Fidelity checks | SET and ISSET evaluation tools completed in all three districts for 3 or more years | Fidelity data of the CICO [†] process collected at three schools. | Fidelity of the team process noted using a recording sheet developed by MDP staff to document current multitiered team processes |

*SET= School-wide Evaluation Tool; ISSET= Individual Student Systems Evaluation Tool

[†]CICO=Check-in/Check-out

The next section reports the extent to which the components of each model were sustained in the original implementation districts and schools and whether the models had spread to other districts. An analysis of those results identifies core intervention components of the models that were more or less likely to be sustained as originally implemented. The final chapter reports factors that MDP staff identified as promoting or hindering model sustainability at the school and district levels and spread within and outside the district.

2. Tertiary Behavior Intervention Models Two Years Later

The MDP grantees each had developed a behavior intervention model for students with the most serious behavior problems at school using a three-tiered model⁴ of positive behavior interventions and supports. Although each model had unique features, the following core intervention components were common to each (Yu, Wagner, Levine, & Petersen, 2011):

- a preestablished primary-level PBIS program,
- a data-driven screening process to determine which students required more intensive support,
- functional behavioral assessments (FBA) to accurately assess the type of intervention a student required,
- a multidisciplinary team approach to individualize the intervention according to the student's specific needs, and
- progress monitoring using a response to intervention (RtI) approach.

MDP staff members returned to their implementation districts and schools in spring 2012, which was 2 years after they had concluded their model implementation activities, to assess the extent to which these core intervention components were still in evidence, either operating as they had during the MDP or adapted to varying degrees by the district and/or schools. Their findings are reported here.

Illinois Positive Behavior Interventions and Support Network

The Illinois Positive Behavior Interventions and Support Network MDP team implemented its behavior intervention model in three districts starting in the 2007–08 school year. In addition, the ILPBISN also spread the model outside the MDP districts simultaneously with and immediately after the initial implementation of the MDP. Simultaneous implementation was justified as a way to provide greater exposure of the model across Illinois (the three original MDP districts represented only the northern part of the state). In addition, simultaneous implementation allowed for “better capacity building by providing more opportunities [for ILPBISN] to learn from the experience of implementing and responding to the districts and providing technical support to the directors, coordinators, and external coaches involved.”

Consequently, rather than invest all their resources for the follow-up study solely on the MDP districts, the ILPBISN staff felt that they would have a more comprehensive picture of the sustainability and spread of the model throughout the state if they also considered some of the districts that were not directly involved in the MDP. Therefore, information was gathered from three districts: one that was part of the original MDP (IL-1), a second that came from another tier 2/3 demonstration project that was implemented simultaneously with the MDP (IL-2), and a

⁴ Although the C2 MDP model is referred to formally as a “tertiary behavior intervention model” to remain aligned with OSEP’s request for proposals and the C2 final report, the model referred to most predominantly in the follow-up report is the PBIS model, which incorporates all three tiers of behavior prevention and intervention. Consequently, throughout this report, the intervention is referred to by the specific tier described in the follow-up interviews and focus groups, namely, tier 1 (universal), tier 2 (secondary level), tier 3 (tertiary level), and tier 2/3 (secondary and tertiary levels that suggest more individualized supports for students exhibiting behavior problems).

third from a district that replicated the MDP model a year after the initial implementation of the MDP (IL-3).

Sustainability of the Model Within Districts

IL-1. The Illinois MDP staff who conducted the focus groups and observations reported that seven of the nine schools within IL-1 continued to maintain the multitiered PBIS behavior system. The successful maintenance of the tier 1 supports was evident from reviewing the district's School-wide Evaluation Tool (SET) scores, which revealed an increase in fidelity of the model's implementation across these seven schools for the past 2 school years.

Tier 2 strategies also appeared to be in place at the district level, with all but one of the nine MDP schools maintaining tier 2 strategies in their buildings (the one school that did not was reported to have problems with "leadership turnover"). As in the model demonstration years, Check-in/Check-out (CICO) remained the most commonly implemented tier 2 strategy. In fact, IL-1 reported that its schools seemed even more committed to CICO because the "structures and procedures are more in place now than at the end of the MDP." The trainings and ongoing support by ILPBISN and district coaches were believed to have strengthened CICO at these schools, and the IL-1 district leaders continued to set aside time for teams to come together in an effort to sustain CICO at their schools.

In addition to CICO, other tier 2 interventions had been in place during the MDP implementation years, one being Social or Academic Instructional Groups (S/AIG), an intervention in which lesson plans were created to teach students problem solving and anger management skills to prevent the occurrence of targeted behaviors. Like CICO, S/AIG also has been sustained post-MDP and in fact is being implemented more frequently and with better consistency across the buildings. No new tier 2 interventions have been implemented since the MDP ended.

Although the original intent of the MDP was to implement a model for tier 3 behavior interventions, it became evident during the MDP years that the primary focus of the MDP was on tier 2 strategies, which could then lay the foundation for effective tier 3 strategies. Two years later, IL-1 apparently still had not fully implemented tier 3 strategies at the district level. However, schools that had successfully implemented the tier 3 model during the MDP continued to devote staff time and resources to the tier 3 strategies, such as Complex FBAs and Wraparound. IL-1 provided some degree of district support for tier 3 implementation in its schools by giving school-based teams a Guiding Questions tool that was developed by the Kansas-Illinois MDP staff during the MDP implementation years to "help schools reflect on, plan, and record improvements to their tier 2/3 systems." At follow-up, many of the IL-1 schools appeared to be using this tool, although no new schools within IL-1 were moving toward full implementation of tier 3.

Focus groups from IL-1 revealed that slight modifications had been made to some components. For instance, data-based decisionmaking meetings used to be led by clinical staff assigned by the Illinois MDP; at follow-up, the teams were more representative of the school faculty, and "the teaming structure has been incorporated into...the district and buildings." Additionally, team meetings were adjusted according to "team members' scheduling availability and the school's needs." Consequently, tier 2 team meetings were less frequent than they had been during the MDP, although members still attempted to meet monthly.

After the MDP was over, the district attempted to distribute tier 3 coaching responsibilities across a team of academic/behavioral external coaches designated to support all three tiers rather than maintaining one tier 3 coach. Although some of the tier 2/3 coaches' responsibilities were absorbed by other district coaches and district leaders, there reportedly was not enough staff capacity to continue intensive tier 3 technical assistance. However, the ILPBISN has continued monitoring fidelity using the Individual Student Systems Evaluation Tool (ISSET) and found that fidelity was maintained in all the schools that continued to administer tier 2 and tier 3 strategies. Tier 3 coaching capacity was re-established for high school wraparound during FY12 as part of a newly established relationship between the district and ILPBISN.

IL-2. All schools in the IL-2 district were reported to be fully implementing and sustaining tier 1 and tier 2 at the time of the follow-up focus groups. District-level leadership continued to provide support for the model, for instance, by making sure that district coaches who focused on tier 2 and tier 3 interventions were present at all monthly school meetings to “go over data, provide professional development training on tier 2/3 interventions and supports, and evaluate fidelity annually.” The district coaches even went so far as to attend meetings specific to tier 1 prevention strategies, indicative of the district’s efforts to promote an effective multitiered behavior support system.

The tier 2 intervention CICO was most successfully sustained, enabling school teams to “work smarter and not harder” by introducing students with behavior problems to less intensive interventions first before determining whether more intensive, individualized tier 3 services were required. An additional advantage of CICO noted by the IL-2 focus group members was its impact on families. Parents appeared more open to advanced interventions (if needed): “They already had positive experiences with the school’s tier 2 behavior intervention and were aware of the school’s intentions to deliver effective interventions, [resulting in] students and families responding sooner to tier 3 interventions because parents were engaged and students were familiar with procedures and expectations.”

Data indicated that tier 1 and tier 2 interventions were not only sustained, but done so with fidelity in IL-2. Comparing SET scores in the 2009–10 and 2010–11 school years revealed improvements in tier 1 implementation for all but one participating school, whereas ISSET data for 2010–11 showed that all participating schools met criteria for successful implementation of tier 2.

Focus group participants reported positive outcomes from the successful maintenance of tier 1 and tier 2 strategies in IL-2, such as the fact that universal strategies in the district’s elementary school resulted in “elementary students coming to middle school knowing the [behavior] expectations.” In addition, “elementary and middle schools were identifying more students for [tier 2] interventions and placing them in interventions quicker now than at the end of the demonstration.” The focus group members attributed much of this success to the consistent procedures set forth at the district level, as well as the open lines of communication across schools within the district.

Unlike IL-1, IL-2 had incorporated district-wide tier 3 strategies during the third year of its demonstration project, and those strategies were still in place at follow-up. IL-2 focus group members reported that tier 3 data were regularly discussed at principal meetings and at the district RtI meetings. FBAs continued to be the primary assessment tool used to “better target and provide support for 1–3% of the student population.”

IL-3. Tier 1 strategies continued to be in place in this replication district, and SET scores for 2 years revealed high implementation fidelity in all participating schools. The IL-3 focus group participants remarked that all schools now share tier 1 and tier 2 data at team and staff meetings, suggesting a better continuum of support across the multiple PBIS tiers since the replication project ended. Although many of the same interventions have been sustained, adaptations have been made. For instance, some schools now have students present their own daily progress report data at the team meetings, which was not the procedure used previously.

Other modifications since the replication project ended include more teaming structures for tiers 2 and 3 and a greater diversity of team members to better represent the school staff, including more general education staff, interventionists, bilingual staff, and special education staff.

Similar to the other Illinois districts, IL-3 continues to implement CICO as its primary Tier 2 intervention. During the replication project, CICO had been provided only to students demonstrating the most need, in essence turning it into a tier 3 intervention. Over time, the schools have become more comfortable with the use of CICO and are now using it as a true tier 2 intervention “to support a larger percent of their total student body” by implementing it with students at risk for serious behavior problems. Indeed, the use of CICO in IL-3 schools has become so widespread that “now almost every teacher in that building is a part of the check-in, check-out procedure.” Furthermore, thanks to CICO, progress monitoring at the tier 2 level continues to be an important component of the behavior intervention model.

The IL-3 focus group members stressed that sustaining these tier 2 interventions at such high levels could not be possible without the district-level support that enabled schools to have the resources and time for “training, educating, and reeducating staff.” One example of the kind of support provided by district administrators was stipends for school staff to participate in leadership and coach network meetings. However, district support did not appear to reach the tier 3 level because tier 3 strategies were not fully in place by May 2010. The IL-3 focus group acknowledged that tier 3 implementation was “still in need of improvement.” Despite several schools having begun implementing some components of tier 3, such as Wraparound techniques to support students with serious behavior problems, many school and district personnel felt that it was not appropriate to implement tier 3 strategies “until tier 2 strategies are firmly in place.”

Spread of the Model Outside the District

At the end of the IL MDP, ILPBISN moved to continue the spread of the model using the following strategies:

1. completely integrating all successful aspects of the MDP model into the statewide and regional trainings and technical assistance available to all PBIS schools;
2. training all ILPBISN staff “to fluency” in the tier 2 model, tools, and messages;
3. exposing all ILPBISN staff to the tier 3 model, tools, and messages and supporting more staff in becoming fluent at tier 3;
4. incorporating the new tiers 2 and 3 content into all statewide conferences, reports, and newsletters to give a broader audience access to this learning; and
5. sharing tools and training materials on the state website.

The Illinois MDP staff explained that ILPBISN does not require districts in its network (beyond those involved in the MDP and replication sites) to submit data on the extent of their participation in PBIS; therefore, it is difficult to know exactly how many of the more than 300

ILPBISN districts are now using all or most of the tier 2/3 model or whether the model is implemented with fidelity. However, a few indicators suggest spread is occurring statewide. First, the number of school and district staff participating in tier 2 trainings across the state has steadily increased over the last 4 years, from 197 participants in the 2009–10 school year to 516 participants in the 2011–12 school year. Similar increases were reported in the number of districts that had schools using CICO via the School-Wide Information System (CICO-SWIS) (3 districts in 2008 compared with 127 districts in 2012). The number of Illinois schools using CICO-SWIS to track daily progress report data has steadily increased over the last 5 years, from 19 in 2008 to 440 schools in 2012.

University of Oregon

The University of Oregon MDP team began implementing its tertiary behavior intervention model in two districts in the 2007–08 school year (OR1, OR2).

Sustainability of the Model Within Districts

OR-1. In the follow-up interview, OR-1 representatives reported that “all MDP schools are implementing tier 1” and that all components of the model were similar to those that had been in place during the MDP. Only one school appeared to have a “weaker” tier 1 program because of administrative changes, and the Oregon MDP planned to “target this issue.”

During the MDP, the primary function of school-based team meetings was to monitor the progress of students receiving tier 2 and tier 3 supports and to use those data to determine next steps in dealing with their behavior issues. OR-1 has maintained this function in its teams with few modifications other than changes in team membership. However, the composition of the teams retained the same core representatives—one school administrator, a counselor, and an Oregon MDP staff member.

Similarly, tier 2 strategies have been sustained in all the OR-1 schools, with increasing numbers of students involved in tier 2 supports because the tier 2 system has become “more solid” and able to increase capacity. As was the case in the Illinois districts, CICO has continued to dominate as the primary form of tier 2 intervention. As the OR-1 district coach explained in an interview, “Sustaining CICO is pretty easy—it is just a part of what schools do.”

OR-1 also reportedly had no difficulty maintaining other tier 2 programs that were implemented during the MDP. Several interventions were described, including

- “refocus rooms,” which are locations in a school where students with behavior support plans are encouraged to go to redirect or “neutralize” inappropriate behaviors and complete homework in a positive, supportive environment;
- Breaks are Better (BRB), an elementary school program in which a student and teacher identify times when it would be appropriate for the child to take small breaks from activities that they feel trigger inappropriate behaviors; and
- academic-based CICO (ABC), a middle school intervention in which the daily progress reports used in regular CICO are focused more on academic behaviors, such as asking for help appropriately, participating in class, and turning in assignments on time.

For each of these interventions, the University of Oregon staff continued to provide technical support.

OR-1 staff did not appear to check implementation fidelity of tier 2 interventions. Instead, the district relied on the University of Oregon staff to compile and examine the “overall effectiveness data.” The university staff reported that fidelity has been maintained in OR-1.

Unlike the Illinois MDP district described in this report, both Oregon MDP districts had tier 3 strategies in place during the MDP and have sustained them. Although traditional FBAs continue to be used for tier 3 assessment, the University of Oregon staff has recently been encouraging districts to use a new FBA tool it developed called Assess-Intervene-Monitor (AIM). The purpose of AIM is to guide school teams through the process of identifying functions of a problem behavior, developing and planning interventions, and monitoring the effectiveness of the intervention to help teams build function-based interventions.

All schools in OR-1 have maintained the same progress monitoring procedures that were in place during the MDP.

OR-2. The OR-2 district coach reported that all schools in this district have continued to implement the tier 1 strategies using the same programs that were in place during the MDP. Fidelity of tier 1 continues to be monitored annually using SET, which indicates that universal programs are appropriately implemented.

Similarly, tier 2 strategies were sustained across all schools in the district. CICO has remained the main tier 2 intervention because “sustaining CICO is not a problem—schools have been doing it for a long time.” However, district budget cuts have made the district coach less available to ensure that fidelity remains high in these interventions, and there is concern that this may negatively affect the “weaker” schools that generally need more supports.

OR-2 schools began implementing the BRB and ABC interventions at the tier 2 level after the MDP ended. The increase in behavior resources available with implementation of these two interventions was accompanied by an increase in the number of students receiving tier 2 interventions.

As was the case for OR-1, all the OR-2 schools sustained function-based supports as tier 3 strategies. Although identification of students for tier 3 interventions is based on FBAs that resemble those used during the MDP, the University of Oregon staff members were excited to report that schools had embraced strategies that adapt these assessments to suit their particular needs: “One neat thing is that some schools have developed their own flowcharts to delineate the difference between tiers 2 and 3 supports.”

The OR-2 district coach admitted that fidelity is no longer monitored for tier 3 supports beyond what might be captured when measuring tier 2 through assessments such as ISSET or Benchmarks for Advanced Tiers (BAT). It was explained that although implementing more rigorous fidelity measures specific to tier 3 “would be nice,” a lack of resources and time precluded these additional assessments.

Similar to the MDP years, data-based decisionmaking teams continue to meet every other week to monitor the progress of students. These meetings are attended by an administrator, a counselor, and “a few” teachers, who rotate on and off these teams throughout the school year. This is the same team structure that was in place during the MDP.

Spread of the Model Outside the District

The University of Oregon staff reported that in addition to OR-1’s implementation of the model district wide and OR-2’s adding schools, three other districts are now implementing the

IPBS (tier 3) model, and the use of the tier 2 system is becoming even more widespread across districts in Oregon. Since the end of the MDP, scaling up has been facilitated by the Northwest PBIS Network (NWPBISN). The University of Oregon personnel explained that they are actively involved in guiding implementation across the districts; however, scaling up and determining how many resources to put in to the spread of the model are now up to NWPBISN.

The greatest challenge to model spread appears to be budget cuts, which may limit NWPBISN's ability to extend the model to other districts or to sustain the interventions that exist in the MDP districts. As the University of Oregon PI stated, "I am worried about the ability to 'hold on' in these districts much less bring on new schools."

University of Washington

The University of Washington MDP team implemented its behavior intervention model in two districts, one beginning in the 2007–08 school year (WA-1) and the other in the 2009–10 school year (WA-2).

Sustainability of the Model Within Districts

WA-1. Interviews conducted with the WA-1 team coordinator indicated that even though universal tier 1 strategies still exist via the Safe and Civil Schools program, all other tier 2 and tier 3 efforts were abandoned by most schools that participated in the MDP.

The Washington MDP staff reported that part of the challenge WA-1 faced in maintaining a systematic, sustainable framework that supports a continuum of behavioral interventions was the large number of other initiatives being implemented in the district. In addition to the Safe and Civil Schools program, schools in WA-1 are implementing five other programs, including a school reform system, a parent volunteer program promoting development of social skills, and one through an agency that provides academic and behavior support products and professional development.

Despite the lack of district-level support to sustain, let alone spread, the model within WA-1, some WA-1 schools that had not participated in the MDP did reach out to the Washington MDP, hoping to obtain support for building tier 1 systems. Further, one middle school that had not participated in the MDP expressed an interest in implementing tier 2 strategies. This school ultimately embraced CICO as its tier 2 initiative, reportedly because it used "a common format for providing points tied to schoolwide expectations," thus making it easy to incorporate into the school culture. Even with its relative ease of implementation, CICO could not have been initiated without a school administrator to champion the effort. In fact, the school's principal was reported to be so invested in supporting CICO that he took an active role in the weekly team meetings that discussed CICO data, often facilitating, providing the agenda, and taking notes.

WA-2. Interviews conducted with WA-2 team coordinators revealed that, in contrast to WA-1, tier 1 strategies had been sustained in the schools that participated during the MDP. SET evaluations were conducted annually by district personnel and indicated that schoolwide supports were implemented with fidelity at the time of the follow-up. Progress monitoring also was said to continue to play an integral role in the school. Further, tier 1 data were discussed during all team meetings, including those specific to tiers 2 and 3, reportedly because understanding data across the continuum of the multitiered model was expected to help "to inform communication and training."

Systematic Screening for Behavior Disorders (SSBD) and teacher referrals were used to identify students for tier 2 interventions during the MDP and have continued to be. CICO has remained the primary tier 2 intervention and was reported to resemble the intervention that had been in place during the MDP. The goal remains “to keep the number of students manageable and systematically fading the supports, when appropriate.”

In addition to CICO, some of the WA-2 schools had implemented other tier 2 strategies during the MDP, such as an intervention targeting recess period and another promoting small group supports. After the MDP ended, other schools had added more tier 2 interventions, such as the Big Buddies, Little Buddies program, in which staff provide students with mentoring supports. All these tier 2 strategies appeared to be in effect to this day.

WA-2 also has been successful in maintaining tier 3 strategies. The WA-2 team coordinators reported that six of the seven original schools have maintained functioning tier 3 teams. This multitiered behavior intervention model has continued to be championed at the district level. For instance, the district had employed a tier 1/2 PBIS coordinator for more than 4 years and has since added two more district personnel for the 2011–12 school year. Perhaps most telling of the district’s commitment to the model is said to be the fact that these multitiered strategies have been sustained despite staff and administrative turnover at the district and school levels.

Although many of the tier 3 strategies have been sustained, the Washington MDP staff reported that many of them have been adapted to fit the needs of the schools. For example, many MDP schools have continued to use the FBA tools/process as they were developed by the Washington MDP, but in some instances the teams reduced steps or tools (e.g., “no classroom check, no direct observation, and no competing behavior pathway model”). Another modification made by a school team was to “begin targeting behavioral and academic interventions at specific times of the day,” a strategy that had not been used during the MDP but was reported to be effective for this school.

Modifications also had been made in progress monitoring. Although monitoring student progress was reported to be common practice in most schools, it competed with other school needs and interests. Accordingly, progress monitoring was reduced to simple “check-ins,” without concrete and regular quantitative measures of progress.

Spread of the Model Outside the District

The UW MDP staff members acknowledged that they had not attempted to formally extend the model to other schools. However, they have been exploring ways to address some of the challenges and barriers that were evident from the MDP, such as increasing the efficiency and ease of the model implementation process and making data collection more meaningful. As they expressed, “It is our hope that this process, currently being piloted, will help scale up the model.”

The Sustainability of Specific Model Core Intervention Components

One purpose of the follow-up work on the sustainability and spread of the C2 MDPs was to ascertain whether some core intervention components of the models were more likely than others to be sustained and spread. The findings of the MDP staff members who investigated the status of their models 2 years post-MDP suggest that if a site had sustained the model at all, it had sustained most of its fundamental components. One core component was strong preestablished tier 1 and tier 2 programs. This indeed is the case, particularly in terms of the use of CICO as a

tier 2 intervention; it has been sustained across most schools in each of the districts in the same form as it had been during the MDP years. Reportedly because of its success and ease in implementation, CICO also now includes an “academic behavior” focus and is implemented in some middle schools. Described as “a concrete, simple method of progress monitoring” for students with behavior problems (Yu et al., 2011, p. 158), in many districts CICO’s daily progress reports on student behavior are used in decisionmaking related to behavior intervention across tiers.

Other core intervention components also appear to have been sustained, although with adaptations, both substantial and small. For the most part, such adaptations were welcomed by the MDP as a sign of sites’ ownership as the model became embedded in their schools and district. This sense of ownership and the potential benefits and pitfalls of these adaptations made to the core intervention components are described in detail in the next chapter.

3. Factors Related to Model Sustainability and Spread

MDP staff members involved in the follow-up visits to C2 schools and districts synthesized data collected from interviews and focus groups with district and/or school staff, from their own observations, and from any documentary evidence obtained about the districts and schools (e.g., SWIS and SIMEO data collection results, fidelity checks from SET and ISSET scores). These data were used to suggest factors that appear to have promoted and those that appear to have hindered the sustainability of the models in the original MDP schools and districts, the spread of the models to other schools within the districts, and the spread of the models outside the original districts. The conceptual framework that has guided MDCC's work (Figure 1) suggests that variations in factors related to the model itself (i.e., the *source*), the composition and strategies of the MDP team (i.e., the *purveyor*), the organizations implementing the models (i.e., *destination organizations*, in this case, districts), and the contexts in which those organizations implemented the models (e.g., a statewide PBIS network) might help explain variations in the implementation experiences and outcomes generated by the various MDPs. Findings related to these linkages were reported earlier (Yu et al., 2011). Not surprisingly, many of the same factors also were reported by MDP staff to relate to model sustainability and spread. The following sections first present the factors thought to have promoted sustainability and/or spread of one or more of the MDP models, organized to correspond to the major elements of the conceptual framework, and then consider reported inhibitors of sustainability and/or spread.

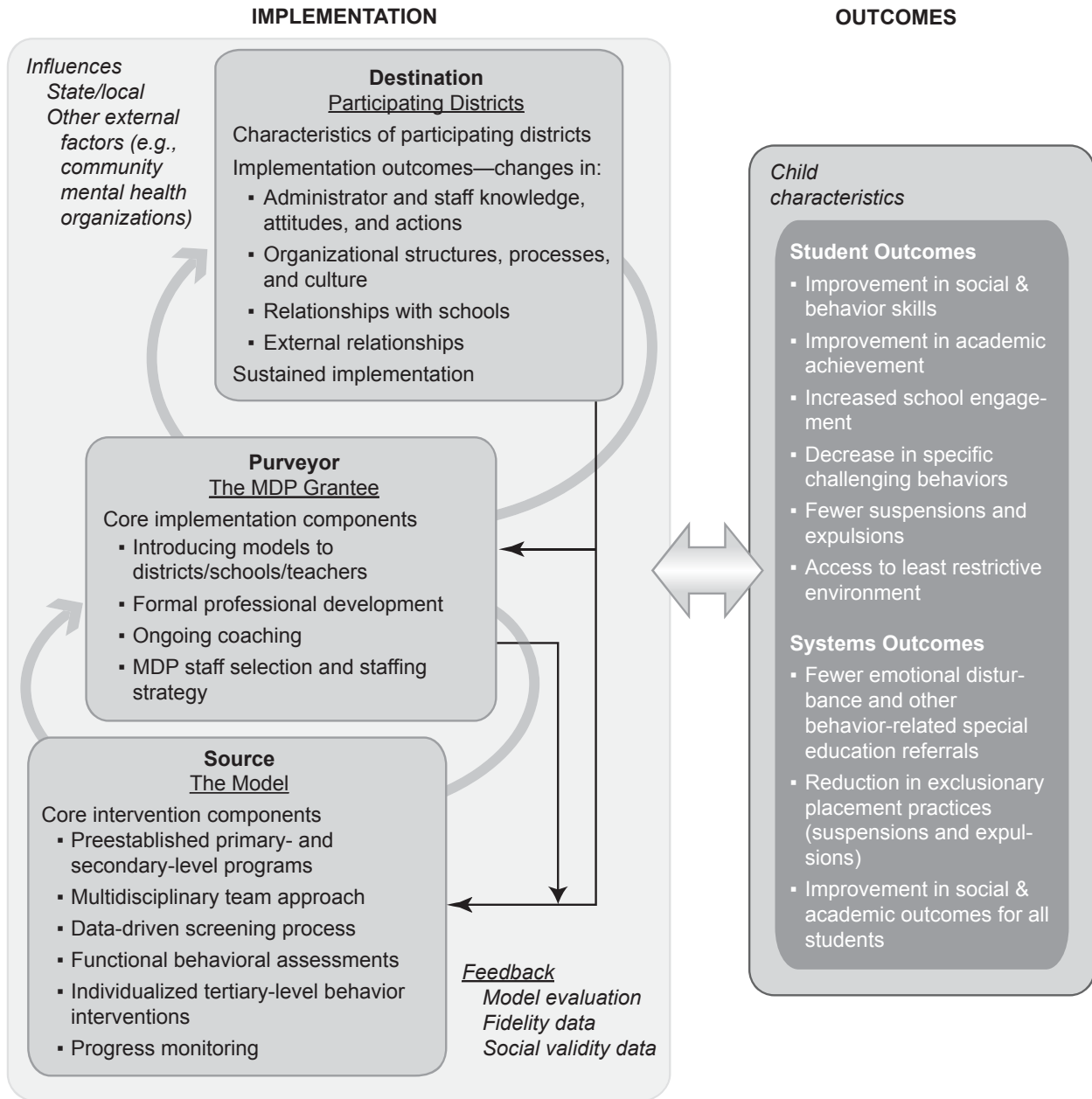
Factors Reported to Promote Model Sustainability and Spread

The following three key concepts from the body of research on the diffusion of innovations (Rogers, 2003) have helped to focus our analyses of variations in the MDPs' implementation experiences, outcomes, and sustainability and spread:

- 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); and
- complexity—"the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 257).

Research suggests that the relative advantage and compatibility of an innovation, as perceived by members of a social system, are positively related to its rate of adoption, whereas its perceived complexity is negatively related to its rate of adoption. MDPs reported similar relationships to sustainability and spread.

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



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

Relative Advantage

MDP follow-up teams reported that the models' benefits, as perceived by district and school administrators and staff, have contributed strongly to sustainability and spread. Benefits attributed to one or more of the models include improvements in (1) accurately identifying and addressing student's behavioral problems and needs, (2) improved student behavior and academic achievement, and (3) increased systems-level support, including that from school administrators, district-level staff and administrators, and state-level networks.

Identifying and Addressing Student Behavior Problems. To appropriately identify and accurately address students' behavior problems, particularly at tiers 2 and 3, it is important to ensure that accurate assessments are being made, progress is appropriately monitored, and decisions for intervention strategies are based on the data at hand. These are all critical components of the behavior intervention models and ones that remained intact, if somewhat modified by some of the schools and districts to fit within their specific contexts. In most MDP districts, data-based decisionmaking and progress monitoring were reported to still be essential elements of the behavior intervention models, a noteworthy finding considering that during the MDP, MDP staff were concerned that data could not be readily shared "simply because they did not collect this data regularly" and that "getting schools to have the capacity—much less the interest—in progress monitoring has been more difficult" (Yu et al., 2011, p. 118). Yet among the districts that have maintained their behavior interventions and even in those schools that are maintaining or creating behavior interventions despite lack of support at the district level (i.e., WA-1), a consistent refrain is that progress monitoring and data-based decisionmaking have "been built into the culture." Although the nature of the data may be different,⁵ the end goal of continuously monitoring progress and reviewing data in regularly scheduled staff meetings is intact because, as an Oregon district coach explained, "It works for us."

Improved Student Outcomes. Follow-up work with the first cohort of model demonstration grantees revealed that improvements in student achievement, attributed to their RtI models for elementary reading instruction, were "a particularly powerful argument for sustaining the models (Wagner et al., 2011, p. 17). A weaker connection was made between student outcomes and model sustainability and spread for C2 in some districts. A positive connection was made in IL-2, for example, where individual student outcomes were monitored at both the district and school levels and suggested "an increase in the number of students in less restrictive environments, improved state test scores for IEP students, a steady decline in office discipline referrals (ODRs) over time, and increased use of data." Similarly, student outcomes data collected in IL-3 revealed "more academic success and fewer ODRs reported in schools." Additionally, students who transitioned out of CICO appeared to remain successful because they did not seem to require any further tier 2 supports.

In Oregon, both districts monitored individual behavioral and academic outcomes using SWIS, CICO-SWIS, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and easyCBM. Results indicated that "schools are building capacity to support more students and that data-based decisionmaking is indeed in place," but no connection to student outcomes was reported. WA-2 monitored student outcomes based on ODRs and Social Skills Rating System and SSBD assessments for behavioral outcomes and DIBELS for academic measures. Although

⁵ For instance, simplified DPRs that promote quick check-ins are used at Washington schools rather than the more comprehensive SIMEO tracking system in place in Illinois districts and schools.

the districts did not report whether student outcomes had improved with the implementation of the behavior intervention model, they acknowledged that in one WA-2 school, suspensions had gone down from 83 to 38 during the 2010–11 school year. The IL-1 focus group revealed that the district did not monitor individual student outcomes because district leadership meetings typically concerned issues pertaining only to district-wide planning. WA-1 also did not monitor any individual behavioral and academic student outcomes, reportedly because it lacked the system-level supports to do so.

Increased Systems-Level Support. During the MDP implementation years, the support of district administrators was reported to be one of the most important contributions to successful schools' implementation of the behavior intervention: "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" (Yu et al., 2011, p. 158). From the interviews, focus groups, and observations conducted for the follow-up study, such support was critical for sustainability and spread as well. As the Oregon PI explained, the "real emphasis should be on systems...and how to infuse capacity building so that [the behavior intervention model] will live on." The Illinois PI described how district support was critical for sustaining the interventions because district leaders were the ones who could provide schools with the resources for "training, educating, and reeducating staff" as they implemented the model. To maintain district support, IL-2 reported data from tier 3 interventions at district-held meetings so as to ensure that district administrators were aware of the service needs of students with the most significant behavior problems and accounted for them in resource allocation decisions.

Although the importance of receiving the support of district-level leaders cannot be overemphasized, systems-level support, as it affects sustainability and spread, goes beyond finding a champion for the behavior intervention. It also refers to the concept of having in place a critical mass of PBIS strategies and components so that the interventions become seamlessly incorporated into the fabric of the school and district culture. In Oregon, these PBIS strategies have become so embedded in the culture of the schools and districts that they have become "district initiatives that are not going away." In the case of WA-2, even though the district faced budget cuts and personnel changes, there appeared to be little question of whether the intervention would be sustained because it had become part of the district's culture. As the Washington PI emphasized, "Systems are key."

Similarly, when describing the impact of systems on the spread of an intervention across districts, support from a statewide PBIS network appears to be critical. Illinois has the greatest advantage in this respect because the ILPBISN had been motivated from the start to promote systems-level change. As the PI explained, "Leadership planning teams, data systems, progress monitoring...these are parts of the model that are about changing existing habits....Changing habits requires systems-level change, and the challenge is findings ways to make those changes happen." She further remarked, "The biggest learning from the demo sites is that intensive interventions with kids who have the most intensive needs cannot be done in isolation...it must be done within a system."

In both Oregon and Washington, the efforts to spread the behavior intervention model are being led by the Northwest PBIS Network, although at this point the Oregon MDP continues to lead most efforts to promote the model "district by district." The Washington MDP staff members indicated that instead of attempting to extend their model to other districts, they have concentrated on increasing ease of implementation and model efficiency in an effort to make it

easier to scale up in the future. For them, the NWPBISN has been “a key factor in the success of sustainability in both of our MDP districts by providing two regional conferences each year as well as professional development opportunities throughout the year for school and district personnel interested in systems, coaching, and implementation of PBIS in schools.”

Compatibility

During the MDP implementation years, the compatibility of an intervention referred to the fit of its core intervention components with the priorities, values, and culture of the implementing schools, districts, and states. During the model demonstration, it appeared that the responsibility of ensuring the appropriate fit and compatibility of an intervention rested with the purveyors who created it, trained the school and district staff on its implementation, and then oversaw implementation to ensure that fidelity was achieved and maintained. In considering model sustainability, the responsibility has shifted from the purveyor to the destination organization itself, the districts and schools.

Affirming this, findings from the follow-up interviews and focus groups revealed that schools and districts that have continued to implement the model have a sense of ownership and are comfortable enough with their knowledge of it and its execution to begin adapting it to their particular preferences, needs, and cultures while attempting to remain true to the essence of the original model. Indeed, across districts, continued sustainability seemed synonymous with this sense of ownership and tendency to adapt the model to suit the context, where “schools have come up with their own strategies to increase successful outcomes.” For instance, although all the districts that sustained a model continued to have regularly scheduled data-based decisionmaking meetings, those meetings were modified to accommodate the needs of that district or school, such as changing the composition of attendees or meeting frequency in recognition of the available time, budget constraints, and purpose of the meetings.

The PIs from each of the three MDPs participating in the follow-up study acknowledged that there was a fine balance between taking a step back as the purveyor so that the schools and districts can become empowered to take ownership of an intervention and ensuring that the integrity of the intervention remains intact. The Illinois PI acknowledged that “we need to be flexible and see this as innovation and be able to step back.” At the same time, however, the districts and schools could be encouraged to use techniques and strategies such as the “guiding questions” developed by the purveyor to help facilitate discussions so that they remain aware of the original intent of the intervention and maintain its integrity.

Complexity

The follow-up study of the first cohort of model demonstration grantees found that the complexity of the elementary reading interventions did not seem to be a factor in the sustainability or spread of those models (Wagner et al., 2011). Complexity was not suggested as an issue during the C2 implementation years either; in fact, in the Illinois MDP the complexity of engaging in multiple teams proved to be beneficial because it meant multiple opportunities to reeducate staff and provide booster sessions that furthered the knowledge and understanding of the behavior intervention model among the districts and schools (Yu et al., 2011). However, in terms of model sustainability and spread, the Illinois PI agreed that complexity would hinder the ability to sustain their model and to maintain fidelity once the MDP teams ended their involvement with the participating districts. Complexity also might hinder other districts from

implementing the model, limiting the potential for spread beyond the demonstration sites. The PI's concern about complexity did not appear to be enough to suggest simplifying the model's process and procedures. However, the Illinois MDP did attempt to clarify and simplify language in many of its materials so that it followed RtI language more closely because RtI language is more universally understood by district and school leaders.

Factors Reported to Hinder Model Sustainability and Spread

While all three concepts derived from Rogers' theory diffusion of innovation help to explain the factors that promote model sustainability and spread, the primary factors that appear to prevent the sustainability and reach of the model appear to be associated only with the relative advantage of the model, specifically, a lack of systems-level support by district leaders reflected in budget cuts and competing initiatives.

Indeed, one could expect that the absence of an **active promoter** of model sustainability and spread would be a hindrance to achieving those outcomes. For example, considering the lack of support by WA-1's district leaders during MDP implementation, it is not surprising that a continued lack of time, resources, and support at the systems level hindered the ability to sustain any tier of PBIS consistently across schools in that district. The Washington MDP also reported that state-level systems support was not available, perhaps because of "the relative youth of the NWPBIS Network, [which] prevented more districts and schools from adopting schoolwide and tier 2/3 supports."

In addition to the absence of promoters of sustainability and spread, the primary factor reported to have seriously hampered model sustainability and spread was **budget cuts**. The MDP PIs agreed unanimously that a shortage of resources has been a significant challenge to model sustainability and spread over the last 2 years, one that is only expected to intensify as all districts and schools experience additional budget cuts. These financial constraints affected model sustainability by limiting the type and number of resources available to existing staff for implementing the intervention with fidelity.

The limited budget also influenced another factor that the MDPs believed hindered model sustainability and spread—**staff turnover**. In the case of WA-1, tier 3 was never really established because a "continual change in leadership" resulted in a lack of district-level support for the tiered behavior model. As the IL MDP staff members explained, the restricted budget often resulted in "cuts in staff and shuffling people to different buildings every year." One specific concern that arose because of high staff turnover was the resulting lack of understanding of job expectations. As the IL PI explained, "Implementing PBIS at all three tiers should be an expectation that holds building administrators accountable." Yet high staff turnover often resulted in "not having job descriptions supporting that expectation."

Finally, **competing initiatives** also were cited as a cause of concern for implementation, sustainability, and spread. This was particularly noteworthy in WA-1, where the "large number of initiatives with overlapping goals" made it difficult to maintain a "systematic, sustainable framework that supports a continuum of behavior interventions." Moreover, budget cuts possibly exacerbated the problems created by competing initiatives by limiting the resources needed to successfully implement more than one at a time. Competing initiatives also can cause confusion among staff who are responsible for implementing more than one initiative in their schools and classrooms. For instance, an academic RtI model and a tiered behavior support model should be fundamentally similar and even complementary. Yet IL-1's persistent focus on RtI over PBIS

reportedly contributed to some teachers and staff becoming frustrated and confused by two seemingly disparate and competing models and ultimately choosing to abandon the behavior model and maintain the academic RtI initiative in that district.

4. Summary

Two years after leaving their MDP districts and schools, MDP staff found important differences in the extent to which their tiered behavior intervention models had been sustained and had spread within and outside the original participating districts. The differences they observed were attributed to several factors related to the core intervention of the models and the district contexts in which they had been implemented.

- **Relative advantage** of models that improve the ability to identify and address behavior problems and have the potential to improve student outcomes via progress monitoring and data-based decisionmaking appeared to be more sustainable.
- **Systems-level support** provided by district leaders was reported to promote sustainability and spread within the district. Furthermore, systems-level supports from statewide networks were reported to have further promoted spread of the models across districts throughout the state.
- **Strong compatibility** between the model and school/district priorities promoted a sense of ownership on the part of the school and district. That sense of ownership, in turn, encouraged school and district leaders to adapt and change the model to best suit their specific needs, culture, and resources, ultimately ensuring an ongoing compatibility between model and context and the greatest chance of sustainability and spread.
- **Complexity of a model**, on the other hand, may hinder a model's sustainability and spread. Therefore, reducing complexity by providing more simplified language in training materials or offering professional development opportunities to adequately train providers on the model are thought to be important strategies that may increase a district or school's interest in pursuing a model that would otherwise appear too complicated and intimidating.
- **Budget cuts** across all MDPs also caused grave concern about the sustainability of the models and their spread going forward. Budget concerns also exacerbated two other factors that had the potential to severely limit the ability to sustain the model in each of the MDPs—staff turnover and competing initiatives.

These findings about C2 model sustainability and spread, combined with the results of follow-up studies in cohort 1 sites, add a valuable longer term perspective for understanding the model demonstration processes of MDP grantees. Conducting similar follow-up studies with MDP grantees from cohorts 3 and 4 over the next several years will enable us to gain further insights into factors that may promote or hinder model sustainability—insights that may help future cohorts of OSEP model demonstration grantees plan for, implement, and sustain models that will improve services to and the outcomes of infants, children, and youth with disabilities.

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