RESEARCH REPORT

Bridging Research and Practice
Synthesizing the Literature on Implementing Change in Justice Agencies

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Introduction

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) funded the Bridging Research and Practice to Advance Juvenile Justice and Safety project (Bridge Project) to develop innovative products and dissemination strategies that translate research into policy and practice change.¹ In the first phase of the project, the Urban Institute (Urban) identified areas where research is not fully informing policy and practice. Using a systematic approach, Urban identified a need in the field for practical guidance on how juvenile justice practitioners could incorporate research findings into their daily practices to better respond to the unique needs and strengths of adolescents (Love and Harvell 2016). Building on this work, the second phase of the project focused on bridging research and practice in youth probation and developed tools to help probation officers and agencies align their practices with research on adolescent development and what works to reduce recidivism and improve youth, agency, and community outcomes.² The goal of this phase was to provide concrete strategies for frontline probation staff to align their work with our best knowledge of the unique needs and strengths of youth and what works to promote positive youth development, maximize the efficient use of limited supervision resources, reduce recidivism, and improve public safety (Harvell et al. 2018).

This product is the first in the third phase of the research, and is designed to serve as a companion to the “Bridging Research and Practice in Juvenile Probation: Rethinking Strategies to Promote Long-Term Change” materials. Whereas “Strategies to Promote Long-Term Change” is focused on practice changes supportive of a research-informed approach, this synthesis is focused on how agencies and departments responsible for juvenile probation can support the successful uptake and integration of the practices into their systems. It uses the lens of implementation science (Fixsen et al. 2005; Fixsen et al. 2015)³ to synthesize and translate existing literature and materials to serve as a resource for probation agency management in anticipating implementation needs, suggesting strategies, providing considerations for strategy selection, improving the quality of implementation, and offering suggestions for measuring progress and success. This synthesis contains the following types of information (see the companion Handbook for administrator strategies to use this information in practice):

- a summary of our research-informed approach to youth probation practices
- an introduction to the ways probation agencies may benefit after aligning with these practices, including a conceptual model linking practices and outcomes
an overview of how we extracted information from existing literature to support the implementation and integration of the youth probation practices into probation agencies, including a summary of implementation science

a summary of the characteristics of the research examined and used to extract the implementation and integration themes

a summary of the key themes from which the implementation- and integration-supportive products are being developed

a discussion and identification of the research gaps
A Research-Informed Approach to Youth Probation

Research review and synthesis conducted for this project identified five core probation practices critical to supporting a research-informed approach to youth probation. These practices include: (1) **assessment and structured decisionmaking**; (2) **case planning**; (3) **matching youth to services and promoting positive youth development**; (4) **promoting long-term behavior change**; and (5) **incentivizing success and implementing graduated responses**. A foundation of this approach is adopting validated, developmentally appropriate screening and assessments.

Within a research-informed approach, probation officers would use structured decisionmaking to accomplish a number of things, including screening youth at intake and diverting them from formal system involvement (where appropriate); using validated assessment tools to comprehensively assess risk, needs, and strengths; using risk information to inform recommendations and decisions at key points; and using needs/strengths information to inform case planning. Adopting assessments and structured decisionmaking can help promote efficient uses of resources, distinguish youth who require additional attention from those who do not, and identify specific targets for intervention and services (NRC 2013; Vincent, Guy, and Grisso 2012). A comprehensive, high-quality assessment process including regular reassessment is necessary to tailor system responses for each youth and to account for the ongoing physical, emotional, psychological, and social changes that define adolescence. Careful attention is also required to ensure that tools do not exacerbate bias (for a more thorough discussion on these topics, see discussion in Harvell and colleagues [2018] starting on page 10).

The core of developmentally appropriate youth probation, however, is based in **developing a dynamic case plan**, in partnership with youth and their caregiver(s), to guide supervision goals. This case plan should set clear, targeted, and attainable expectations and goals for each youth (Goldstein et al. 2016; Schwartz 2017). Within a research-informed approach to case planning, probation officers would engage youth and caregivers in the development of case plans, set targeted and limited expectations for youth, and ensure youth and caregivers understand what is expected of them and the consequences of noncompliance. Such plans support a shift away from standard conditions of supervision toward a dynamic approach in which youth and probation and officers jointly set short- and long-term expectations and goals (Goldstein et al. 2016; Schwartz 2017).
Successful case management also requires matching the youth to services that address their unique criminogenic needs and build on their assets to promote positive youth development. Research suggests that whenever possible, a research-informed approach to youth probation would connect youth to culturally responsive and gender-responsive programming; connect youth with evidence-based programs (if available) that target identified criminogenic needs; connect youth with positive adults and mentors in their community; and promote skill building while providing opportunities for youth to apply these skills in their community (Benson et al. 2006; Lerner 2005). By doing this, probation officers can serve as a bridge between youth and their communities, connecting them to the long-term supports and opportunities needed to further their positive development.

At the center of successful research-informed probation is a focus on promoting long-term behavior change within every interaction between youth and probation officers. Research suggests that the best way to accomplish this is by treating youth fairly and consistently and by fostering a genuine, supportive, prosocial relationship with youth and their caregivers. This approach empowers probation officers to act as an intervention in themselves, using each interaction with a youth to review progress toward goals, reassess supervision priorities, and promote long-term behavior change.

Finally, a research-informed approach to youth probation requires incentivizing success through a system of rewards and graduated responses that provide opportunities for youth to experience success and associate positive outcomes with their achievement of short-term goals (Butts, Bazemore, and Meroe 2010; Goldstein et al. 2016; NRC 2013). A research-informed approach embraces restorative justice principles and holds youth accountable for their actions, provides them opportunities to take responsibility for wrongdoing, and authorizes probation officers to impose fair, proportionate responses and sanctions to address noncompliance or misbehavior on supervision. Building a well-developed system of rewards and incentives acknowledges youths’ good decisionmaking and more effectively promotes improved probation outcomes than more traditional punitive responses (Goldstein et al. 2016; NRC 2013).

Ultimately, bridging research and practice in youth probation uses what we know about adolescence to develop strategies that motivate long-term behavioral change, promote healthy development, and decrease the likelihood of future misbehavior. This encourages a more responsive and interactive approach and re-envisions the role of the probation officer as an agent of change in each youth’s life. Such an approach holds significant potential to reduce recidivism, maximize the efficient use of limited resources, promote individual skill development, and improve family functioning, all of which build stronger families and safer communities. These concepts have been widely embraced by leading practitioner membership organizations, including the National Council of Juvenile and Family Court Judges (NCJFCJ) and the American Probation and Parole Association (APPA).
A Win-Win for Juvenile Probation Departments

Implementing a research-informed approach to juvenile probation holds significant promise for agencies and staff as well as youth and family clients. Over the past several decades, research has significantly expanded our understanding of what works to improve outcomes for justice-involved youth. By using what we know about adolescence and effective strategies for improving youth outcomes, probation departments can develop new, more effective strategies to promote healthy development and prevent future delinquency (NRC 2013). If probation practitioners shift their current agency approaches to align more closely with research and they are attentive to the quality of their implementation, they can operate more efficiently and improve agency outcomes (Vincent et al. 2016) in addition to promoting positive outcomes for youth, their families, and the communities they reside in.

As depicted in figure 1, the relationships between the frontline practices of probation officers (shown as Change in Organizational Culture and Frontline Practices); the implementation activities needed to support those practices (Administrative Activities to Support, Improve Quality, and Sustain Changes); and the outcomes for probation agencies, communities, families, and youth are perhaps best captured in a conceptual model. Testing of evidence-based practices and strategies tend to focus primarily on the direct “intervention” (represented here as the frontline practices) and its relationship to the outcomes. Typically, tangential attention is given to the practices and processes highlighted by implementation science—staff competencies, organizational structures and processes, leadership strategies, and how they all work together in a framework of continuous quality improvement spanning multiple years. This conceptual model and this paper draw attention to the necessary supports for successful frontline practices encompassed in the Administrative Activities (staff competencies, organizational structures and processes, and leadership strategies) and the active implementation approach that includes continuous quality improvement (Fixsen et al. 2005; Fixsen et al. 2015). In figure 1, arrows depict a flow of information across the two sets of activities (administrative activities and frontline practices) and from outcomes back to those activities.

The activities and outcomes are also dependent on the inputs, which include the available research to guide actions, the technical assistance and training to learn about the research and understand how to use it, the individuals participating in the system, the agencies and their staff providing services, and program agency resources (including funding). Finally, all of these inputs, activities, and outcomes are
situated in a particular systems and community context, including other change efforts that may be underway and fluid political priorities, as depicted at the top of the framework.

Improving Outcomes for Youth, Families, Communities, and Probation Agencies

Bridging research and practice is particularly important for probation departments, as nearly every youth who comes into contact with the juvenile justice system interacts with one or more probation practitioners (Torbet 1996). Probation officers play a critical role in the justice process and have a unique opportunity to intervene in a youth’s life and help him or her get on track to successful adulthood. Despite this potential, research suggests that probation officers may lack training about important differences between youth and adults and how these differences matter for daily probation practices. For example, a recent study found that only one in three probation officers received any training on adolescent development (AECF 2017). Further, a review of state codes found no differences and those who supervise adults (Steiner et al. 2004). Increasing the use of developmentally appropriate practices in youth probation holds significant potential to improve efficient use of resources as well as promote youths’ healthy development, improve family functioning, and reduce recidivism—all of which build stronger families and safer communities (NRC 2013).

Shifting to embrace research-informed probation practices can significantly improve youth outcomes on a range of measures. Research shows that programs based in positive youth development can help improve youths’ life skills, such as leadership, decisionmaking, dependability, and job responsibility. (Catalano et al. 2004; DSG 2014b). They can also improve job readiness and employment, as youth who participate in research-informed mentoring programs, for instance, have been found to pursue employment at greater rates and report more interest in retaining employment (Karcher and Johnson 2016). Credible messenger mentoring approaches have also been found to improve youth’s engagement in prosocial activities, with youth who participate in such programs reporting higher levels of prosocial values and contributions (Lynch et al. 2018). Programs based in positive youth development can contribute to youths’ overall healthy moral development and better critical thinking and impulse control (NRC 2013). Research-based interventions have also been shown to improve youths’ relationships with their families and other prosocial adults—with an extensive literature base showing that behavioral family interventions can improve relationships and communication styles among youth and adults (Henggeler and Schoenwald 2011; Kumpfer and Alvarado 2003). Finally, adopting research-informed practices that treat all youth fairly and justly can
improve youths’ perceptions of legal authorities and the legitimacy of the law—making them more likely to believe in and obey rules (Fagan and Piquero 2007; Fagan and Tyler 2005; NRC 2013; Tyler and Huo 2002; Woolard, Harvell, and Graham 2008). Collectively, such research-informed interventions hold the potential to improve youths’ life outcomes without deepening their involvement in the juvenile justice system.

Aligning probation practices with research is beneficial not only for youth and their families, but also for communities as a whole. First, developmentally appropriate practices are more effective at reducing recidivism than traditional, more punitive approaches. We know that interventions are best at promoting public safety when the intensity, duration, and type of services address each youth’s unique criminogenic needs (Luong and Wormith 2011; NRC 2013; Peterson-Badali, Skilling, and Haqanee 2015; Singh et al. 2014; Vieira, Skilling, and Peterson-Badali 2009; Viljoen et al. 2012; Vitopoulous, Peterson-Badali, and Skilling 2012) and, ideally, are tailored specifically to a youth’s strengths (Singh et al. 2014; Viljoen et al. 2012).

Furthermore, community-based programming that addresses underlying behavioral health needs, focuses on strength-building, and is responsive to youth’s diverse attitudes, values, and beliefs has been shown to reduce recidivism more effectively than punitive programs (Bonta and Andrews 2007; DSG 2014a, 2014b; Howell and Lipsey 2012; NRC 2013). An emerging research base also suggests that having a positive relationship with a probation officer reduces recidivism (Kennealy et al. 2012; Skeem et al. 2007, 2009; Vidal et al. 2015)—providing support for the idea that probation officers can act as an intervention in themselves. Beyond reducing recidivism, research-informed probation practices can be beneficial for communities because they encourage youth to engage in prosocial activities, such as attending school, pursuing employment, and strengthening their leadership abilities (Catalano et al. 2004; DSG 2014b; Karcher and Johnson 2016; Lynch et al. 2018). Ultimately, such approaches are more effective at promoting youths’ development and improving public safety than more punitive approaches.

Research-informed probation practices can also help improve probation agency outcomes. First and foremost, such practices lead to improved case outcomes, chiefly reduced recidivism. We know that research-informed practices that use a risk-needs-responsivity model can reduce recidivism (Luong and Wormith 2011; NRC 2013; Ogle and Turanovic 2016; Peterson-Badali, Skilling, and Haqanee 2015; Singh et al. 2014; Vieira, Skilling, and Peterson-Badali 2009; Viljoen et al. 2012; Vitopoulous, Peterson-Badali, and Skilling 2012). We also know that using screenings and assessments can promote a more efficient use of resources for probation departments, allowing them to prioritize
resources for youth who need them and limit system involvement for youth who are low risk (Vincent and Perrault 2018; Vincent et al. 2016).

Practices to Support Improved Outcomes

Changes in frontline practices consistent with a research-informed approach have the potential to improve outcomes for youth, families, communities, and probation offices as described above (see also figure 1, under Change in Organizational Culture and Frontline Practices). Juvenile justice professionals, and probation officers in particular, hold the power to improve youth outcomes, promote respect for the law, and promote public safety (NRC 2013). If they shift away from more traditional punitive, surveillance and sanction approaches, they will be better able to support youth during the transition to adulthood, support healthy family functioning, and improve safety within the broader communities where youth reside.

Yet, although juvenile probation officers have the power to change their own interactions with youth, they operate in an environment of policies, procedures, rules, and expectations. Individually, they cannot affect all the types of changes a research-informed approach entails. They need the active support of their department, agency, or office to integrate research-informed practices into juvenile probation operations and systems (figure 1, Administrative Activities to Support, Improve Quality, and Sustain Change).
Conceptual Model Relating Research-Informed Practice in Probation Agencies to Improved Outcomes for Agencies, Communities, Families, and Youth

**Contextual Factors**
- System/Organization
- External Stakeholders
- Judicial Dynamics
- Community Engagement
- Community Resources

**Inputs**
- Research on adolescent development
- Training and technical assistance materials
- Youth
- Supportive adults
- Caregivers
- Probation agency staff and resources

**Administrative Activities to Support and Improve Quality and Sustain Change**

**Staff Competencies**
- Identify needed knowledge, skills, attitudes, and behaviors
- Communicate and assess competencies
- Support attainment of new competencies
- Recognize that learning new competencies takes time and active engagement (training alone is not enough)
- Revise job descriptions and align performance expectations

**Organizational Structures and Processes**
- Create multiple avenues supporting communication
- Engage staff from all levels
- Develop decision-support systems that facilitate data tracking and feedback loops
- Engage external stakeholders early and often
- Align policies and procedures with the new approach

**Leadership Strategies**
- Demonstrate commitment to the change
- Anticipate the time needed to make the changes
- Allocate resources to support the change
- Foster and generate staff enthusiasm
- Recognize the importance of supervisors as leaders
- Promote the change throughout the community

**Change in Organizational Culture and Frontline Practices**
- Assessment and structured decisionmaking
- Case planning
- Matching services and promoting positive youth development
- Promoting long-term behavior change
- Incentivizing success and implementing graduated responses

**Outcomes**

**Probation Agency Outcomes**
- Meaningful interactions with youth
- Reduced recidivism
- More efficient resource use

**Community Outcomes**
- Improved public safety
- More youth engaged in prosocial activities
- Stronger workforce

**Youth Outcomes**
- More/healthier relationships with adults
- Improvements in critical life skills
- Increased engagement in prosocial activities
- Better critical thinking and impulse control
- Improved academic engagement and achievement
- Improved job readiness and employment
- Improved perceptions of legal authorities and legitimacy of law

**Family Outcomes**
- Increased family engagement
- Improved communication cohesion, and family functioning
Implementing Change in the Juvenile Justice Context

As agencies consider efforts to change practices, it is important to acknowledge the considerable variation in juvenile justice systems across the United States. At their core, juvenile services are local and there are thousands of juvenile probation agencies across the country whose missions, responsibilities, and discretion vary considerably. Here we discuss three important dimensions to consider when implementing a research-informed approach to juvenile probation: system configurations, external stakeholders, and staff competencies.

System Configurations

How juvenile justice services are organized varies significantly across the country, and that context has important implications for implementing a research-informed approach to juvenile probation. Each state has its own service delivery system for justice-involved youth (which can involve both state and local control of specific services), as well as agencies in both the executive and judicial branches of government. Although 22 states centralize probation services at the state level and an additional 9 are mostly state operated, community supervision is coordinated at the local level in 20 states (see Juvenile Justice Geography, Policy, Practice, & Statistics for an overview on this topic). Examples of configurations follow below:

- **State operated:** In Florida, a single executive-branch agency, the Florida Department of Juvenile Justice, administers probation, reentry, and commitment to state facilities. Juvenile probation officers only supervise youth and are responsible for those who are adjudicated to probation, as well as those in aftercare following release from a residential placement.

- **Mostly state operated:** In Louisiana, community supervision for most youth is administered by an independent state agency, the Office of Juvenile Justice, but nine juvenile courts independently administer supervision services. In Tennessee, community supervision is overseen by both the Department of Children’s Services’ Division for Juvenile Justice and local juvenile courts.

- **Locally operated:** In California, each county administers juvenile services, and probation departments supervise both youth and adults and are accountable to the county Board of
Supervisors. In Colorado, probation is administered locally in 22 judicial districts under the Office of the State Court Administrator.

These variations impact who oversees probation services for youth and relationships with external stakeholders. Further complicating things, the authority that probation officers have to make important case processing and supervision decisions also varies from state to state and locality to locality. As noted in Harvell and colleagues (2018), probation officers may have significant discretion to make decisions about diversion, develop and adjust case plans, respond to youth behavior with incentive and sanction options, and limit the circumstances in which cases must be sent back to court for review or revoked. But in some jurisdictions, probation officers may have no involvement in precourt diversion decisions, be required to use a laundry list of standard supervision conditions, have limited options to incentivize youth or reward progress, and have strict orders from the court to revoke youth even for minor infractions. These differences have important implications for implementation, particularly as agencies identify critical external partners and the policy and procedure changes necessary to shift toward a research-informed approach to probation.

External Stakeholders

Implementing a research-informed approach to juvenile probation requires the buy-in, cooperation, and contributions of many external stakeholders. Key partners can be found in other parts of the justice system, the child welfare system, community-based service agencies and other organizations (both secular and faith-based), community members at large, and politicians. The literature suggests that identification and engagement of stakeholders early in the implementation-change process can support implementation by strengthening problem solving, improving program design, and reducing resistance to a new approach (Brennan 1999; Vincent et al. 2018). In addition to improving implementation processes, collaborating with external stakeholders may lead to cost savings and resource sharing across agencies (Cooley 2010; Palinkas et al. 2014).

Although some agencies have more autonomy than others, the question is not whether involvement of external stakeholders is important. Instead, the questions are who are the important external stakeholders, when would be the best times to engage them, and what strategies promise to most effectively secure and sustain support. Vincent and colleagues (2018) note that whether juvenile justice is locally administered, state administered, or a hybrid, engaging state correction agency officials can be useful in securing broad-based buy-in because they share in serving some of the same youth. Depending on the distribution of roles and responsibilities, the requirements of particular mandates,
and the dynamics of community relationships, it may be important to include certain people within organizations rather than simply ensuring an organization has a seat at the table. Within the justice system, the literature points to judges, juvenile court personnel, prosecutors, defense attorneys, and law enforcement as particularly important partners.

In addition to stakeholders within the formal juvenile justice system, the literature suggests a new approach is more fully supported with the involvement and cooperation of child welfare agencies, community-based agencies, and community members. They need to be on board with efforts to divert youth and engage parents, and they may serve as a resource for the incentive structures available to youth. This type of external collaboration, for example, can create a more robust and effective continuum of care that more effectively reduces recidivism (Joplin et al. 2004). Alternatively, lack of successful engagement can create a bottleneck in plans that seek to support youth outside the justice system rather than in it (Welsh et al. 2015).

Finally, it is important to note that, relative to other implementation drivers, external stakeholder engagement stood out as an area that some organizations were more likely to overlook at the beginning of their change effort. In many cases, the need for external stakeholder involvement was not fully anticipated, and stakeholders were often brought to the table after learning that the planned systems changes could not work without the buy-in and cooperation of those external entities. Thus, the discussion in the Findings section of external stakeholder engagement strategies and the considerations for involvement come from both retrospective reflections on what some organizations wish they had done and the benefits that other organizations saw from the earlier inclusion of stakeholders.

Engagement with a wider range of stakeholders on a wider array of topics and services is one skill set for implementing a research-informed juvenile probation approach. Implementation success is similarly supported by a proactive approach to identifying needed knowledge, skills, and abilities, and approaches to supporting their development in the short and long terms.

Staff Competencies

Effective implementation of a research-informed approach to juvenile probation is supported by staff at each level acquiring, mastering, and refining the relevant knowledge, skills, and abilities (referred to from here forward as staff competencies) to perform the tasks outlined in the framework, and their administrative units supporting them in identifying and obtaining the needed competencies. The time
needed to support the change, the intensity of the supports, and the content to bridge from one set of knowledge, skills, and abilities to another set will vary by department or agency, depending in large part on how different the new approach is from the existing approach. For example, if the existing approach is a more traditional surveillance-based model or staff have not used standardized risk and needs assessments before, then staff will need to learn more and a longer transition period will likely be needed than if some parts of this new model have already been adopted.

In the Findings section, we discuss strategies to support staff in learning these new competencies and to assess how well staff are acquiring the new competencies. It is beyond the scope of this literature review to document the types of competencies needed.
Using Implementation Science to Translate the Research

Overview of Our Approach

Implementation science was developed to improve the implementation of evidence-based programs by systematizing the implementation process. It draws attention to the stages and drivers of implementation, fostering successful integration of programs into organizational structures. Implementation evaluations document the features of program implementation, including identifying key processes, procedures, challenges, and workarounds, as well as any inconsistencies that may threaten program fidelity.

Our team hypothesized that if implementation science delineates the stages and processes integral to successful adoption, integration and sustainability of programs, it would serve as a useful lens for bridging research and practice (Derrick-Mills et al. 2016). We used the National Implementation Research Network’s (NIRN) framework, also known as the Active Implementation Framework (Fixsen et al. 2005; Fixsen et al. 2015), to code and draw themes from source materials and to frame interview and focus group questions with practitioners. As outlined in Derrick-Mills and colleagues (2016), we have used the three implementation drivers (competencies, organization, and leadership) and the stages of implementation to guide our screening for relevance sources, our coding of sources, and the layering and synthesis of the information presented here.

We supplemented the existing literature with several rounds of interviews and focus groups that we conducted as part of the overall project through which this literature synthesis was funded. These interviews and focus groups were classified and coded in the same ways as other sources as indicated below. In Spring 2017, Urban conducted 19 interviews with probation practitioners. Between March and November 2017, researchers also conducted four in-person focus groups and hosted an interactive conference session. After completing these interviews and focus groups, Urban researchers selected two implementation “innovation sites” to conduct six targeted supplemental phone interviews (see more about these interviews and focus groups in appendix C).
Identifying Relevant Sources

Through an iterative process, researchers designed a standardized protocol (set and sequence of processes) to guide the literature search and scanning. The protocol was tested and revised as necessary to ensure the literature search was sufficiently broad to include potentially useful information but targeted enough to avoid irrelevant sources. Most literature included was identified through the criminal and juvenile justice literature scan.

The search was limited to 1990 to 2018, and researchers focused on the databases identified in the protocol—EbscoHost, Google Scholar, and the National Criminal Justice Reference Service. Searches prioritized the following search terms:

- implementation challenges
- implementation barriers
- agency change
- taking intervention to scale
- implementing Intervention

Supplementary search terms were used where necessary to fill in gaps. Additionally, researchers searched for publications and presentations on relevant organizations' websites, as identified in the protocol. These included

- the Georgetown Center for Juvenile Justice Reform and Systems Integration;
- the Robert F. Kennedy National Resource Center for Juvenile Justice;
- the University of Cincinnati Corrections Institute;
- the American Probation and Parole Association;
- the Council of State Governments;
- the Crime and Justice Institute;
- MacArthur Models for Change;
- the Annie E. Casey Foundation; and
- the National Juvenile Defender Center.
Finally, additional sources were added using a snowball approach that drew from the references of key articles or searches for related publications by key authors.

*A total of 302 sources had been identified for screening by the end of this process.*

**Screening the Sources**

Each source was eventually either screened “in”—meaning it would continue to further review—or “out”—meaning it was excluded from the literature coding process. Appropriate sources were those that were generalizable, discussed research findings, provided useful insight into implementation, and were not summaries of other articles already included. Sources included journal articles, dissertations, books and book chapters, evaluation research funded by governments and foundations, and other related resources. Some sources reported on primary research and evaluation, while others were syntheses of literature, research, or other practical resources. *This screen for focal point relevancy excluded 155 sources.*

Senior researchers used the three-step process outlined in Jarjoura, Tyson, and Petrosino (2016) to determine the credibility of the findings in all primary research sources that had been deemed relevant. Senior researchers judged appropriateness and screened out articles that did not meet these qualifications at the source level. *Of the 147 sources identified as relevant in the prescreen process, 106 were ultimately coded and used in this literature synthesis.* See appendix A for more information about the screening process.

**Coding the Sources**

All sources deemed appropriate for the study were coded using NVivo, a qualitative data analysis software with source-level codes tracked in an Excel spreadsheet. A coding protocol was developed for this research translation process covering four broad content areas: overall change and context, implementation science, probation practice, and adolescent development. Codes and subcodes were developed in each area. The implementation science codes were based on implementation drivers and implementation stages with an "other" code available for other features or processes of implementation that emerged from the literature but did not seem to align directly with an existing code. For example, the time needed to implement a change in practice and interactions with external stakeholders did not have obvious implementation science linkages. Four codes (literature synthesis, research synthesis,
practical examples, and tools) were included across all topics and were used to flag relevant information that came from these specific source types to distinguish it from primary research findings. See more information about the coding protocol in appendix B.

Coders were trained on the protocol through group discussions of the purpose and meanings of the codes; group review and feedback through a test article that everyone coded, which was then used to refine the coding structure and instructions; review and individual feedback of early coding attempts; and periodic review and feedback of coded sources. Coders examined the text with all possible codes in mind and coded each relevant piece of text to all applicable codes. Coders specifically looked for key segments of the text that would be useful for the purposes of this project—namely, creating guides and materials for probation agencies to help them change their practices. Coders examined the articles for both facilitators of and barriers to implementation.

Synthesizing the Evidence: Strengths and Challenges

Primary research studies with questionable or low credibility (see appendix A for the rating criteria) were excluded from our synthesis. Within in each key implementation science driver (staff competencies, organizational, and leadership), however, the number and types of sources and the credibility ratings of those sources vary considerably. As seen in table 1A, sources speaking to competency drivers and organizational drivers tended to be more similar in prevalence than sources speaking to leadership drivers, continuous quality improvement, or time. Within the organizational drivers (table 1B), organizational culture and decision-support systems were more frequently discussed in ways that aligned with this analysis than were communication, stakeholders, or policies and procedures.
TABLE 1A
Availability and Credibility of Evidence—Implementation Drivers

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<tr>
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<th>All implementation themes</th>
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<th>Leadership drivers</th>
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TABLE 1B
Availability and Credibility of Evidence—Organizational Drivers

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<tr>
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<th>Decision-support systems</th>
<th>External stakeholders</th>
<th>Policies and procedures</th>
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Very few studies have formally tested implementation strategies. As shown in table 1A, our review includes only six studies with an experimental design and six studies with a quasi-experimental design of the implementation strategies discussed. Just over half of the sources included in our review contain primary research (60 percent) and of these 64 studies, the majority are nonexperimental designs (81 percent). The primary research represents a mix of quantitative, qualitative, and mixed methods studies.
of moderate to high quality as assessed by our review team (see more about the review criteria in appendix A). The small number of studies with more rigorous designs, however, is expected because the processes of implementing programs or the managerial support functions are not typically tested in the same ways that programmatic outcomes are.

Examining the studies through an implementation science lens helps us to build and layer evidence-informed strategies by providing a systematic frame that supports higher-quality, more consistent implementation. Implementation science sets the stage for the types of processes and elements that are important, but the studies provide possible strategies or options to try out, the contexts in which those strategies have or have not been observed (but not tested) as successful or unsuccessful, and the stages of implementation. Very few of the studies use the frame of implementation science in designing their studies or reporting their results. Inferences of the research team are a necessary part of the process.

Inferences of the research team shape the evidence-informed strategies and considerations reported here in several ways. First, sources included in the study needed to include in their findings or discussions one or more of the implementation science drivers, and to contribute some information about successful or unsuccessful strategies and processes, rather than simply state that they were important (since that was already established by implementation science). Second, the team coded the research designated as “in” using a coding schema derived from implementation science but also allowed for other important implementation features to emerge. Finally, the team synthesized strategies and considerations within the implementation science–supported drivers and subcategories to translate the research for practical use. At each step, the research team had to infer and map the data from within each study into the implementation science frame. In the final step, the team had to map across studies.

Four primary challenges emerged in the coding process. First, distinguishing the implementation stages in the research was difficult and frequently not possible. Studies were more likely to focus on a pilot implementation process and thus more likely to have information about the early stages of implementation, and less about selecting the program or sustaining it. Second, coding processes rather than outcomes was challenging for the team, as most researchers in our environment are used to coding outcomes; this required substantial iterative training and review. Third, as implementation science suggests that drivers are related to each other, we coded to all affiliated drivers rather than select a specific driver. Finally, not all strategies or considerations that seemed important fit into the implementation science lens as we interpreted it. We created codes for those “other” categories separately.
Several challenges emerged at the synthesis stage. First, we had originally planned to report out the findings according to a bifurcated time dimension—planning and initial implementation and sustaining implementation. Because of the challenges of the available research, distinguishing those timing characteristics for the synthesis stage was not possible. Second, the related nature of the drivers and our decision to code to multiple drivers meant that the decision of how to group the information across drivers had simply been moved to this stage of the analysis. We chose to frame the finding into each driver; this means that the same finding may be reported in more than one section, but framed for that section. Third, considering that the drivers of implementation are predefined and the point of this document is to focus more on the details, the level and presentation of the analysis becomes more list-like. A list may not feel like a finished product, but in this case it represents the results. Fourth, one key dimension of the organizational drivers, “policies and procedures,” is so crosscutting that the primary lesson is for every change; an adjustment to policies and procedures needs to be contemplated, but how to communicate, train to it, and track it are covered in other discussions.

Finally, because the studies are not tests of effectiveness of strategies or statistical analyses estimating the importance of one variable over another, determining the right language for presenting the materials was challenging. This is why we have chosen the language of possible strategies and considerations. The categories of what to focus on are research-informed through the implementation science lens, but the strategies and considerations from the literature are not themselves tested. At the same time, lessons learned from these studies can build knowledge and give administrators a place to start. In the Discussion section of this report, we contemplate some research gaps identified through this study.
Findings

Organization of This Section

In this section, we use subsets of the implementation science drivers to describe the ways the organizations can prepare for and implement change. Because the type of change that the Bridge Project has focused on supporting is a culture change, rather than implementation of a particular program, we begin the findings with a discussion of organizational culture. Next, we discuss the roles of leadership in supporting the change, followed by considerations of and supports for staff competencies. Then, we discuss the organizational tools and processes that facilitate or become barriers to implementing the change: communication systems, data systems, and external stakeholders. Within each section, we organize the information into three sections:

- Characteristics and Processes
- Possible Strategies
- Considerations

Characteristics and processes describe the key elements or features of the organizational dimension under discussion. This section describes what is included in this dimension and why it is important in the implementation process.

Possible strategies include the strategies and actions supportive of successful change and implementation, including strategies to support start-up, daily implementation, and sustaining the integrity and quality of implementation over time. They are framed as possible strategies because the context and resources of each organization are different. Not all organizations will be able to implement all strategies, and it is not clear from the literature that it would be desirable to do so.

Considerations highlight the differing contexts of organizations, staffing, resources, and the relationship to the justice system in their communities that are likely to constrain or support the
success of the strategy choices. This section highlights considerations for specific populations and related issues relevant to implementing a change effort.

Organizational Culture

CHARACTERISTICS AND PROCESSES

Organizational culture is commonly referenced as the way things work around here. In the research literature on human and criminal services a distinction is sometimes made between organizational culture and organizational climate. For example, Hemmelgarn, Glisson, and James (2006, 74) assert that culture and climate are “two key elements of an organization's social context...which mold the work attitudes and behavior of the members of the organization and, as a result affect the organization’s performance and success.” The literature is not in agreement as to whether culture and climate are two different dimensions of the ways organizations operate, but it tends to agree that various organizational norms and values, and the staff perceptions of those norms and values, are important in determining the success of organizations enacting changes to their operations. Thus, we discuss all of these organizational dimensions here and refer to them all as culture.

A research-informed approach to probation emphasizes a change-making approach focused on positive youth outcomes, which is a shift away from the more traditional law enforcement and control model (Harvell et al. 2018; Yamatani, Engel, and Spjeldnes 2009). An organizational culture resistant to change can derail implementation, so agencies should take particular care in assessing their organizational culture and addressing any concerns before beginning a change effort (CJCA 2017). On the flip side, an organizational culture open to change can help the agency overcome implementation barriers that might otherwise be inhibitory. Successful implementation is generally supported by a culture of

- **organizational commitment** (Brennan 1999; Rudes, Lerch, and Taxman 2011; Viglione 2015; Viglione, Blasko, and Taxman 2017),
- **staff support** (Austin 2013; Bertram, Schaffer, and Charnin 2014; CJCA 2017; CSAT 2009; Flynn, Hanks, and Bowers 2003; Jacobs et al. 2006; Levin et al. 2016; Mihalic et al. 2004; Viglione 2015; Viglione, Blasko, and Taxman 2017; Young et al. 2006),
inclusivity (Brennan 1999; Cissner and Farole 2009; Ford 2007; Hochstetler, Peters, and Copes 2017; Jacobs et al. 2006; Mihalic et al. 2004; Scott 2006; Steiner, Travis, and Makarios 2011; Vincent, Guy, and Grisso 2012; Visher et al. 2015; Young 2004; Young et al. 2006),

shared decisionmaking (Adamson and Deverell 2009; Durlak and DuPre 2008), and

equity and respect (CSAT 2009; Rengifo, Stemen, and Amidon 2017; Rudes, Lerch, and Taxman 2011; Young 2004).

Within this model for a supportive organizational culture, readiness for change is a critical component. Organizations can enhance buy-in for change from staff, supervisors, and administrators, and all levels are important (Vincent, Guy, and Grisso 2012). Organizational characteristics that impact readiness for change include (Prendergast et al. 2016):

- agreement and understanding of organizational mission,
- staff cohesion,
- leadership and management support of the change,
- internal communication,
- openness to change,
- understanding the benefits of the change,
- staff turnover, and
- agency resources

POSSIBLE STRATEGIES

All of the Findings sections include strategies that support a culture change. Additional strategies include the following:

- Identify and acknowledge the current culture of the organization.

  » Conduct a culture assessment to better understand the current culture in the organization (Austin 2013; Bertram, Schaffer, and Charnin 2014; CJCA 2017; Ford 2007; Young et al. 2006). Ensure each level of the organization provides input. (See suggestions below in Continuous Quality Improvement and Measuring Progress section.)
» Openly acknowledge the history of change at the organization, including addressing any problematic past implementation efforts and demonstrating how this effort will be different (Viglione 2015).

- **Provide staff the resources they need to do their jobs** (see also the Staff Competencies section below).
  
  » Adjust caseloads (Bertram, Schaffer, and Charnin 2014; Prendergast et al. 2016).
  
  » Provide coaching and training opportunities (Prendergast et al. 2016; Young et al. 2006).

- **Enhance buy-in through active engagement of staff at all levels.**
  
  » Involve staff in the decisionmaking process from the beginning (Vincent et al. 2018). One successful model involves (1) creating a group that includes representation from each level of the organization, (2) clearly communicating those plans throughout the organization, and (3) creating an avenue through which staff who were not members of the planning group can give input and express concerns (Cissner and Farole 2009).
  
  » Enlist “champions for change” within the organization at multiple levels (CSAT 2009; Lerch et al. 2009; Mihalic et al. 2004; Urban 2008; Viglione, Blasko, and Taxman 2017).
  
  » Involve staff directly in the revisions and rewriting of policies (Ford 2007) or in development of new instruments (Young et al. 2006). Consider creating a committee with representation from each level charged with revising policies to align with new values (Ford 2007). Include staff who have differing views on the value of the new initiative (Ford 2007).
  
  » Share data demonstrating successes with staff (Bertram, Schaffer, and Charnin 2014; Joplin et al. 2004; Kapp et al. 2013).

- **Explain to staff how the change will help them be successful.** For example, Young and colleagues (2006) found that staff realized the value of change once they understood that the new tools could initiate early services that would prevent future punitive sanctions.

- **Listen and respond to staff concerns about the new changes.**
  
  » Provide avenues for staff to express concerns (CSAT 2009; Flynn, Hanks, and Bowers 2003; Jacobs et al. 2006; Rudes, Lerch, and Taxman 2011).
  
  » Look for signs of resistance and respond quickly (Levin et al. 2016; Young et al. 2006). Signs can include not taking paperwork seriously or forgetting aspects of the new program (Austin 2013).
» Improve internal perceptions of equality and fairness. Avoid preferential treatment of any specific group of staff (Rengifo, Stemen, and Amidon 2017).

- **Demonstrate commitment from the highest levels of the organization** (Austin 2013; CSAT 2009; Taxman and Belenko 2011; Young et al. 2006). Tangible actions from leadership more effectively demonstrate commitment to the initiative than voiced support (Mihalic et al. 2004; Vincent et al. 2018), although verbal support is also a key component. (See also the Leadership section below.)

**CONSIDERATIONS**

- **History of change at the organization.** Staff, particularly those who have been at an organization for many years, are influenced by their experience with past change efforts as they react to new initiatives (Warner 2015; Young et al. 2006). Understanding those feelings and addressing them transparently can reduce staff resistance and facilitate implementation (Viglione 2015).

- **Current culture,** especially as it relates to each of the dimensions outlined in the Characteristics and Processes subsection under Leadership below. Pay particular attention to culture among staff who will be implementing the change on a daily basis.

- **Fear tools will replace expertise.** Sometimes probation officers are concerned that new tools will replace their expertise (Hochstetler, Peters, and Copes 2017; Vincent et al. 2012), but some studies have shown that once they start using the tools those concerns are ameliorated (Vincent et al. 2012).

- **Philosophy that governs practices within the agency.** Institutionalized practices, policies, and organizational foundations rooted in the “old model” can be in contradiction with the vision of the new model.

- **Organizational norms.** This includes acceptable ways to interact with supervisors, talk with clients, and behave in group settings. Norms are hard to identify, and simple observation is sometimes not sufficient, but understanding an organization’s norms can help leadership anticipate and counteract resistance (Lerch et al. 2009).
Leadership

CHARACTERISTICS AND PROCESSES

Strong and supportive leadership within an organization is critical in facilitating culture change. The involvement of leadership in initiating a change effort has been linked to successful implementation (Ellickson and Petersilia 1983), but leaders also plan an important role in sustaining change (Asgary-Eden and Lee 2012; Ford 2007; Visher et al. 2015). Communication from leadership about the vision, along with demonstrated commitment, can be a driving force in generating staff enthusiasm (Mihalic et al. 2004) and securing staff buy-in. In addition to demonstrated support, leaders play an important role in anticipating and addressing challenges (Taxman and Belenko 2011; Young 2004), outlining goals and timelines (Cissner and Farole 2009; Taxman and Belenko 2011), and engaging with external stakeholders (Ellickson and Petersilia 1983). Last, leaders are in charge of allocating resources to the change process (Brennan 1999; Jacobs et al. 2006; Mihalic et al. 2004), including allocating staff time (Brennan 1999; Taxman and Belenko 2011); the distribution of those resources can send powerful messages about the change effort.

Alternatively, uncommitted or unenthusiastic leadership can undermine implementation efforts. The research is mixed on whether a single committed project leader or a group of dedicated leaders is more effective, but it is clear that ambiguity or a lack of clarity regarding authority figures is a barrier to implementation (Cissner and Farole 2009; Mihalic et al. 2004). Similarly, both top-down and bottom-up approaches have been linked to success (Larsen and Samdal 2008; Taxman and Belenko 2011; Urban 2008), but rigid top-down approaches are generally ineffective, particularly because they tend to alienate entire groups of staff (Astbury 2008; Maupin 1993). The turnover of leadership during a change effort can interfere with implementation (Ford 2007; Mihalic et al. 2004), but it doesn’t necessarily have to; maintaining supportive leadership overall can mitigate the negative effects of one departure (Ellickson and Petersilia 1983). Additionally, leadership that fails to deliver on promises has been shown to be a barrier to implementation (Jacobs et al. 2006; Young 2004).

It’s not only what leaders do, but also what qualities they have, that can facilitate implementation. Research suggests that effective change-management leaders are:

- **skilled communicators** (Ford 2007; Mihalic et al. 2004; Taxman and Belenko 2011; Urban 2008);
- **visionary** (Ford 2007; Joplin et al. 2004; Taxman and Belenko 2011);
- **creative and innovative** (Becan, Knight, and Flynn 2012);
- well-liked by staff at all levels of the organization (Aarons 2006; Farrell, Young, and Taxman 2011);
- receptive to new ideas (Urban 2008);
- motivating (Mihalic et al. 2004; Smith et al. 2012);
- skilled at developing positive internal and external relations (Ford 2007); and
- committed to the change (Austin 2013; Taxman and Belenko 2011).

It is important to have leadership at multiple levels of the organization who are strong supporters of the change effort (Clodfelter et al. 2016; Gopalan et al. 2014; Vighione 2015; Vighione, Blasko, and Taxman 2017; Young et al. 2006). Top-level leadership is a necessary component, particularly in defining and communicating the vision, but failure to assure that mid-level leadership is onboard and actively promoting the change can derail implementation regardless of senior leadership commitment. Ensuring the support of supervisors is particularly important because of their frequent contacts with and influence on line staff (Aarons 2006; CSAT 2009; Farrell, Young, and Taxman 2011; Taxman and Belenko 2011). Assessing the capacity, styles, and skills of leadership before implementation can provide information on strengths and weaknesses (Joplin et al. 2004).

POSSIBLE STRATEGIES

- Anticipate length and complexity of the change-management endeavor.
  - Recognize that change is likely to be a long-term endeavor that will involve identifying all the supporting activities and infrastructure needed to enact the change (Ford 2007; Mihalic et al. 2004; Visher et al. 2015; Young 2004), altering work routines (Mihalic et al. 2004; Young 2004), and training staff (Ford 2007).
  - Consider piloting parts of the change with subsets of staff to build success and buy-in (Ellickson and Petersilia 1983).
  - Articulate clear, measurable objectives and outline timelines for achieving them (Cissner and Farole 2009; Taxman and Belenko 2011).

- Coalesce agreement and consistency of efforts across leaders with the organization.
  - Before initiating the change, ensure leadership agrees on the values, goals, and vision (CJCA 2017; Paparozzi and Gendreau 2005). This includes mid-level leadership and supervisors (Jacobs et al. 2006; Vighione 2015).
» Ensure that leaders fully understand the change, its purpose, and its benefits before asking the organization to engage in a change effort (Lerch et al. 2009; Taxman and Belenko 2011).

» Ensure that all levels of leadership are aligned in the messages they are communicating (Viglione 2015; Viglione, Blasko, and Taxman 2017).

» Consider the roles of supervisors as leaders and provide them with meaningful ways to contribute in leading the change (Young et al. 2006).

» Identify an internal project director or program champion, and ensure clarity on who that person is (Cissner and Farole 2009). Alternatively, having a group of dedicated leaders—particularly one that spans multiple levels (Mihalic et al. 2004)—can be effective (Brennan 1999; Ford 2007; Mihalic et al. 2004), as long as it is clear who the leaders are and there are not too many (Cissner and Farole 2009).

- **Demonstrate commitment to the change** (Mihalic et al. 2004; Taxman and Belenko 2011), particularly through actions and not just words (Mihalic et al. 2004). Maintain demonstrated commitment over time (Visher et al. 2015).

  » Ensure that promises for resources are delivered (Jacobs et al. 2006; Young 2004).

  » Clearly and consistently communicate rationale, purpose, vision, and progress\(^7\) (Clodfelter et al. 2016; Joplin et al. 2004; Larsen and Samdal 2008; Viglione 2015). Maintain sustained, vocal support from leadership (Young et al. 2006). (For more information, see the Communication section.)

  » Actively investigate what strategies are succeeding and what could be improved (Brennan 1999; Ford 2007).

  » Sufficiently support staff training (e.g., time to attend) (Prendergrast et al. 2016) and resources (e.g., travel time and reimbursement), and adjust as needed (Collins, Amodeo, and Clay 2007).

  » As staff get used to new practices, respond to initial mistakes with collaborative problem-solving efforts rather than disciplinary action (NCJJ 2002).

  » Engage supervisors in actively checking in with staff about use of new practices, challenges they are facing, and inconsistencies in following new procedures. Vincent and colleagues (2018) found that staff viewed the lack of these practices as a sign that leadership was not supporting them in the change.

- Foster and generate staff enthusiasm (Mihalic et al. 2004).
» Engage with line staff on the ground. Acknowledge the complexity of their jobs and the impact of the change effort (Taxman and Belenko 2011).

» Actively involve nonmanagement staff in decisionmaking. This could include providing a forum for line staff to contribute insights (Cissner and Farole 2009) or holding regular meetings with open discussion (Austin 2013). (For more information on shared decisionmaking, see the Decision-Support Systems section.)

» Select lower-level staff to step into leadership roles or serve as internal champions (Aarons 2006; Lerch et al. 2009; Mihalic et al. 2004; Taxman and Belenko 2011; Viglione, Blasko, and Taxman 2017; Visher et al. 2015).

» Internal staff can serve as coaches to train coworkers (Viglione 2015, 2017) or as boundary spanners to facilitate communication between line staff and management (Kapp et al. 2013; Lerch et al. 2009).

- Promote the change not only within the agency, but also throughout the community (Ford 2007).

» Build credibility with external organizations and solicit their support for the change (Joplin et al. 2004; Taxman and Belenko 2011; Young et al. 2006). For example, talk with political figures about the change (Taxman and Belenko 2011) or meet with judges (Ellickson and Petersilia 1983; Vincent et al. 2018).

» Engage external stakeholders as champions or leaders of the change (Joplin et al. 2004; Novins et al. 2013; Prendergast et al. 2016). Such stakeholders might include policymakers (Novins et al. 2013; Prendergast et al. 2016) and judges (Belenko and Logan 2003). (For more information on engaging external partners, see the External Stakeholders section.)

CONSIDERATIONS

- **An active role for leaders in change efforts.** Successful leaders learn how to “make it happen” as opposed to “letting it happen” (Taxman and Belenko 2011; Visher et al. 2015).

- **Dedication to the change among leadership.** Leaders’ dedication to and ownership of the change is key to successful implementation (Ellickson and Petersilia 1983; Henderson et al. 2009; Joplin et al. 2004), so their commitment and support should be established before initiating a change.

- **Appropriate messaging from leadership to staff,** which can play a significant role in establishing buy-in from staff. Communication from leadership should be clear, consistent, and
ongoing (Cissner and Farole 2009; Flynn, Hanks, and Bowers 2003; Joplin et al. 2004). Successful leaders consider their audience and tailor the delivery of key messages accordingly.

- **Leadership capacity, styles, and skills.** A variety of leadership qualities have been linked to successful implementation efforts. Leaders' perception of the broader criminal justice system and goals can also impact change efforts (Henderson et al. 2009). Assessing leadership capacity for change management and providing supports can facilitate a change effort.

- **Potential champions at multiple levels of the organization.** Consider people at multiple levels that could be champions of the change and facilitators of communication⁸ (CSAT 2009; Lerch et al. 2009; Mihalic et al. 2004; Urban 2008). These people should demonstrate skill and enthusiasm for the program and be well-respected in the organization.

### Staff Competencies

Effective implementation of a research-informed approach to juvenile probation requires that staff at each level have the relevant knowledge, skills, and abilities (i.e., staff competencies) to perform the tasks outlined in the framework (Harvell et al. 2018). The requirements of this new approach may be different from those needed in a more traditional surveillance-based model. Thus, successful implementation requires that agency administrators have a clear understanding of the competencies required in the new approach and a system to take stock of the skill set of current staff, develop a training plan to promote new skill attainment where necessary, and align hiring and performance review processes with these new requirements. In this section, we provide insights for managers and administrators about characteristics and processes, possible strategies, and considerations for supporting staff in attaining new competencies.

Addressing any limitations in staff competencies before implementation can increase the likelihood of successfully adopting and sustaining the new approach (CSAT 2009; Prendergast et al. 2016). Helping staff attain new competencies and ensuring the probation department prioritizes appropriate competencies is supported by five key processes (figure 2): (1) identifying the competencies staff need (2) assessing the extent to which current staff or potential candidates have needed competencies; (3) setting and communicating clear expectations around these new competencies; (4) creating systems to support competency attainment and growth; and (5) continuously examining, reflecting on, and adjusting these systems to sustain and strengthen implementation over time. The literature suggests possible strategies for each of these processes.
Identifying and Assessing Staff Competencies

CHARACTERISTICS AND PROCESSES

One of the first steps toward implementation of a new approach is assessing current staff skills and competencies to see how they align with the required competencies. It may be that current staff were hired for a different type of work and therefore have a different set of strengths and skills than what is newly required (Furniss and Nutley 2000). Ensuring that skills are aligned with job responsibilities can lead to greater satisfaction among staff, less staff turnover, and increased success when implementing new programs (Mihalic et al. 2004; Taxman and Belenko 2011). While there may be a general understanding of current staff competencies, conducting a comprehensive staff skills assessment can help inform an organization’s readiness for change and help them target specific training and hiring needs. An ongoing study from the University of Cincinnati (Vincent at al. 2018) has found that staff perceptions about the usefulness of assessment tools, for example, predict how well they use the tools, suggesting that assessing staff perceptions is one key element in identifying both readiness for change and the supports needed for attaining new competencies.
POSSIBLE STRATEGIES

- Select assessment instruments and tools that examine a range of staff proficiencies with the new competencies.
  - Include technical knowledge, skills, and abilities as well as staff attitudes toward requirements, motivation to learn, and general openness to change in assessments (Maass 2017; Taxman and Belenko 2011).
  - Include skills that are difficult to train, to enable better targeting of resources to staff with the greatest needs (CSAT 2009; Pierce-Danford and Guevara 2010; Taxman and Belenko 2011).

- Conduct staff competency assessments which can be done in a variety of ways, such as through surveys (both already validated and newly created tools), focus groups, and direct observations (Taxman 2002).

- Include assessment of staff perceptions of the proposed changes to understand what messages training needs to include to motivate staff in making the change (Vincent et al. 2018).

- Observe interactions between probation officers and youth and family clients, which can provide insights that other methods lack (Austin 2013; Viglione 2015).

CONSIDERATIONS

- Which competencies are the most critical for staff to have in their new responsibilities and how these competencies will be assessed (Pierce-Danford and Guevara 2010).

- How communications will clearly transmit the purpose of any formal or informal skills assessment and how results will be used, to help ensure staff do not feel that their job is threatened (Crime and Justice Institute at Community Resources for Justice 2010).

- How to ensure that assessment procedures are fair and consistent (e.g., across supervisors) (Austin 2013; Viglione 2015).

- Ways that workloads can also be assessed to provide information needed to align workloads with the demands of the new approach (Astbury 2008; Mihalic et al. 2004; Taxman and Belenko 2011; Yamatani, Engel, and Spjeldnes 2009).

Setting and Communicating Expectations about New Staff Competencies

CHARACTERISTICS AND PROCESSES

Setting and communicating clear expectations about new competency requirements and job responsibilities is also critical to successful implementation. For some juvenile probation agencies, implementing a research-informed approach will require a significant shift in the skills staff will need to have or attain, as well as the day-to-day responsibilities of their jobs. Clearly communicating to current staff what the new requirements and expectations are, what opportunities they will be offered to build necessary skills, and how the shift will impact performance assessments can mitigate any concerns or fear about new responsibilities (for more on communication, see Communications section below) (Cissner and Farole 2009; Urban 2008). Effectively setting and communicating expectations includes writing down and sharing the knowledge, skills, and abilities required and key responsibilities for each staff position (Cissner and Farole 2009). It also requires agency leaders to align performance standards, criteria, and processes for review and feedback with the new competencies and expectations (Brennan 1999; Schlager 2009; Taxman and Belenko 2011; Viglione 2015).

In addition, as noted above, some of the competencies critical to implementing a research-informed approach are difficult to teach (e.g., an ability to build trust with youth and caregivers, communication skills, cultural competence, and a commitment to ongoing learning), so it is important that job descriptions for new hires are updated to reflect new competencies and that leaders identify—and associated hiring practices screen for—them during the hiring process. Notably, research has shown that a persons’ motivation to learn is the strongest predictor of their level of understanding of evidence-based practices following training in a supervision context, which underscores the importance of this specific orientation (Maass 2017). Emerging research also shows that staff who do not perceive a need for or disagree with the research-informed practices selected are less likely to perform the practices to fidelity (Vincent et al. 2018).

POSSIBLE STRATEGIES

- **Formalize new job roles, responsibilities, and requirements.** Formalizing roles and responsibilities for all staff positions is an important early step in implementation⁹ (Cissner and Farole 2009; Levin et al. 2016; Visher et al. 2015).

- **Create specialized positions.** Sometimes creating positions that either support particular populations of youth (Viglione 2015) or that specialize in particular parts of the process (e.g., intake) (Bazemore 1993) can better support the new approach.
**Revise hiring practices.** To maximize fit when hiring new staff, revise job opening descriptions for new hires to align with new roles and expectations and to ensure that hiring processes screen for the relevant competencies, particularly those that are difficult to teach (Taxman and Belenko 2011; Urban 2008).

**Update performance review criteria and processes.** To facilitate adoption and commitment to a new approach, set new performance requirements, and align review processes and incentives (e.g., raises, bonuses) with the new expectations (Brennan 1999; Schlager 2009; Taxman and Belenko 2011; Viglione 2015). This could include the following:

- Developing written policies guiding performance review, feedback, and reinforcements to clarify expectations for staff and promote implementation of reform tasks or making sure that existing policies are rewritten to align with new parameters (Viglione 2015).
- Tying performance reviews and raises directly to policy and practice changes associated with a research-informed approach to juvenile probation (Schlager 2009; Viglione 2015). If these elements remain tied to the old policies and procedures, that incentivizes the status quo rather than a shift to embrace the new approach.
- Including regular assessments of staff performance—research shows this leads to greater fidelity to program design, service delivery, and outcomes (Azrin et al. 1982; Dilulio 1993; Gendreau, Little, and Goggin 1996; Hanson and Harris 1998; Hogue et al. 1998; Joplin et al. 2004, citing Henggeler et al. 1997; Meyers et al. 2002; Meyers and Smith 1995; Mihalic and Irwin 2003; Miller 1988; Miller and Mount 2001; Waltz et al. 1993).
- Including regular feedback to staff, which promotes accountability and is associated with improved motivation to change, lower attrition, and better outcomes (Agostinelli, Brown, and Miller 1995; Alvero, Bucklin, and Austin 2001; Baer et al. 1992; Bogue et al. 2004, citing Miller 1988; Decker 1983; Elliott 1980; Ludeman 1991; Zemke 2001).
- Implementing incentives on an ongoing basis to promote sustainability (Taxman and Belenko 2011 citing Ash 1997) and potentially including a “pay for performance” model that has shown promise in other jurisdictions (Taxman and Belenko 2011 citing Andrzejewski et al. 2001).
- Clarifying and emphasizing that review is used to learn from and improve practice, not to identify poor performers (CSAT 2009).

**Create a formal process for transferring responsibility following staff departures.** Because turnover is often high, creating a formalized system for transferring responsibility following
staff departures—particularly those in leadership—is important for sustaining change (Bertram, Schaffer, and Charnin 2014; Scott 2006).

**CONSIDERATIONS**

- **Staff receptivity may vary by level of experience.** Some studies noted that more experienced staff were less likely to report changed behaviors (Vincent et al. 2012).

- **Staff who perceive that change is not needed or that evidence is less valid** for the specific populations they serve may be less likely to implement changes to fidelity despite extensive training (as found in Vincent et al. 2018).

- **Job requirements and responsibilities may differ** depending on the specific role (e.g., line staff versus supervisors versus senior administrators) (Brennan 1999; Furniss and Nutley 2000).

- **How to tailor requirements to staff level**, as appropriate (Brennan 1999; Furniss and Nutley 2000).

- **How to update structures and processes for supervisory roles**, which is particularly important to institutionalizing new procedures and promoting acceptance of a new way of doing things (Brennan 1999).

- **Setting up systems of review and reinforcement at the outset** rather than waiting until after an initial pilot phase, as this also sends a message to staff about new values and expectations (Taxman and Belenko 2011; Urban 2008; Viglione 2015; Young et al. 2006).

- **How best to communicate about goals and processes** related to monitoring and performance measurement, which is less threatening if goals are clear (NCJJ 2002). For more on communication, see organizational systems and culture below.

- **What incentives will be strong motivations** for staff (CSAT 2009; Flynn, Hanks, and Bowers 2003; Viglione 2015).

- **How caseload levels impact ability to change practices** (Hochstetler, Peters, and Copes 2017).

**Supporting Attainment of New Staff Competencies**

**CHARACTERISTICS AND PROCESSES**

Agencies will also need to consider how to facilitate the attainment of new staff competencies. Training is a core component but should be accompanied by coaching and individualized feedback (Fixsen et al.
2015). Supporting the attainment of staff competencies will likely involve group training, coaching sessions, and other personalized feedback mechanisms. It is important to clearly define the goals for each phase of training to demonstrate long-term commitment to the attainment of staff competencies (CJCA 2017). Additionally, research suggests that training and coaching are most effective when they take into account individual characteristics, such as when someone was hired or what level of staff they are (Bazemore and Umbreit 2001; CJCA 2017; Collins, Amodeo, and Clay 2007; Novins et al. 2013; Rudes, Viglione, and Taxman 2017; Taxman and Belenko 2011; Viglione 2015). Studies suggest that training alone may help improve knowledge, but it is less likely to alter the behaviors of justice professionals. The studies suggest that justice professionals need the opportunity to ask questions after they have tried to use their new knowledge, to gain confidence in how to use it appropriately (Smith et al. 2012).

**POSSIBLE STRATEGIES**

- **Regularly review data to determine where retraining or adjusted training is needed.** Data systems allow for tracking use of tools and actions, which may or may not reflect expectations and point to additional training needs (Urban 2008; Young et al. 2006).
  - **Assess consistency of applying new approaches across staff.** If staff are being trained on using screening or assessment instruments, for example, have multiple staff conduct the same rating and interpret how to act on that rating. This helps to create greater consistencies in ratings across staff, sometimes referred to as *interrater reliability* (Vincent et al. 2018), and has important implications for fair treatment.
- **Plan and implement phases of training and coaching.** Staff development efforts should include phases of training and coaching (Saldana et al. 2007; Smith et al. 2012); while training alone may improve knowledge, coaching and individualized feedback are needed to effect behavior change (Fixsen et al. 2015).
  - **Follow up an initial group training with ongoing coaching and booster sessions** (Vincent et al. 2018). One example is the Strategic Training Initiative in Community Supervision, which includes a three-day training based on 10 modules followed by ongoing skill maintenance (Bonta et al. 2010).
  - **Define goals in each phase to demonstrate long-term commitment** (CJCA 2017) and create consistency in structure and content over time (Smith et al. 2012). Such goals might include the following:


- **Changing attitudes and developing buy-in** (Cleaver and Walker 2004; Collins, Amodeo, and Clay 2007; CSAT 2009; Mihalic et al. 2004).

- **Structure training sessions to promote translation of knowledge into practice.**
  - **Prioritize active learning.** Move beyond information sharing to encourage behavior change, not just knowledge acquisition (Durlak and DuPre 2008; Ross, Buglione, and Safford-Farquharson 2011; Taxman and Belenko 2011; Viglione, Blasko, and Taxman 2017; Williams et al. 2014).
  - **Demonstrate the application of skills and principles** in various settings and interactions (Viglione, Blasko, and Taxman 2017).
  - **Structure training to integrate new activities and expectations** into the existing work environment and sets of practices (Hochstetler, Peters, and Copes 2017).
  - **Begin training programs with initial discussions** on topics such as the foundations and research basis for the new program and why it is being adapted.
    - For example, EPICS Officer Training includes a three-day training period on the Effective Practices in Community Supervision model. The first day is dedicated entirely to introducing the rationale and development of the model, the model structure, and the general importance of the relationship between probation officers and the youth they supervise (Labrecque and Smith 2017).

- **Plan for new hires.** Plan ahead for developing new staff competencies and have a training plan specific to new hires.
  - **Develop an explicit strategy** for training new hires (Durlak and DuPre 2008; Larsen and Samdal 2008).
» **Build resources into the budget** for training new hires, including multiple initial training sessions (Mihalic et al. 2004; Novins et al. 2013; Yamatani, Engel, and Spjeldnes 2009).

» Provide training before new hires commence work (Astbury 2008).

» **Set reasonable expectations** for newly trained officers to encourage them to use new skills (Clodfelter et al. 2016).

» Keep training consistent so that new and old hires are using the same approach.¹²

### Develop supplementary training materials

Supplement group trainings with accessible information beyond just what is communicated in the training.

» **Include references to external information sources** (Taxman and Belenko 2011; Viglione 2015), **training manuals** (Austin 2013; Young et al. 2006), **online resources** such as videos and slides from the presentations (Gopalan et al. 2014), and **toolkits** (Skeem, Encandela, and Louden 2003).

» **Provide tools for decisionmaking**, such as a decision matrix or reassessment forms, that serve as a reinforcement or reminder of information provided in the trainings¹³ (Guy et al. 2014; Skeem, Encandela, and Louden 2003; Urban 2008; Viglione 2015; Young et al. 2006).

» Continue to spread information related to the foundational knowledge by circulating brochures, newsletters, or recent journal articles related to adolescent development or evidence-based practices (Burke and Pennell 2001; CSAT 2009).

### Use coaching sessions to promote individualized feedback

Potential strategies include the following:

» **Using audiotapes of client interactions** as an opportunity to discuss and provide feedback to staff (Bogue, Pampel, and Pasini-Hill 2013; Bonta et al. 2010, 2011; Bourgon et al. 2009; Labrecque and Smith 2017; Smith et al. 2012; Taxman and Belenko 2011; Viglione, Blasko, and Taxman 2017), **assessment** (Amodeo et al. 2013, rating; Bertram, Schaffer, and Charnin 2014; Viglione, Blasko, and Taxman 2017, evaluation form), and **reinforcement** (CSAT 2009).
Develop a strategy to support attainment of competencies for working with special populations. Use specialized training—and additional training—for officers working with special populations (e.g., youth at high risk of reoffending, youth with complex needs, youth with developmental disabilities, youth of color, and girls). Potential strategies include the following:

» **Skill-building trainings** that explicitly compare officers’ internalized beliefs to empirically supported methods can address misconceptions, specifically for officers working with special populations (Viglione 2015).

» **More comprehensive, specialized, and longer-term trainings** can be used for probation officers working with special populations (Burke and Pennell 2001; CSAT 2009; Holloway 2015).

» **Training that focuses specifically on gender and cultural competency** (Belenko and Logan 2003).

CONSIDERATIONS

**What different strategies may be required for each staff role.** Training will likely be needed at all levels of organization (Brennan 1999; Furniss and Nutley 2000; Taxman and Belenko 2011), but it may be necessary employ different approaches in timing, content, and intensity for training people at different levels (Bazemore and Umbreit 2001; CJCA 2017; Collins, Amodeo, and Clay 2007; Novins et al. 2013; Rudes, Viglione, and Taxman 2017; Taxman and Belenko 2011; Viglione 2015).

**How to develop tailored strategies for training management and leadership.** Management and leadership will likely benefit from receiving additional training about the foundations and research basis of the practice (Taxman and Belenko 2011). Special considerations for leadership might include

» placing particular emphasis on creating buy-in during training for leadership (Novins et al. 2013);

» training leadership before training line staff (CJCA 2017; Novins et al. 2013);

» encouraging administrators, managers, and supervisors to be present during staff trainings (Mihalic et al. 2004; Taxman and Belenko 2011); and

» training supervisors to serve as coaches (Smith et al. 2012).

**How individual characteristics might impact competency attainment.** Staff development efforts may be more effective if they take into account staff education, prior training, age, motivation to learn, confidence, level of staff, and pretraining knowledge. Research has shown that characteristics affect attainment in the following ways:
People with more education have been observed to be more supportive of evidence-based practices (Branch, Homel, and Freiberg 2012; CSAT 2009; Rudes, Viglione, and Taxman 2017; Taxman and Belenko 2011).

Staff with more years of experience tend to be least likely to follow new practices: Vincent and colleagues (2012) found in regard to juvenile probation officers.

Motivation to learn is predictive of better understanding of evidence-based practices following training (Maass 2017).

Negative perceptions of the usefulness of the approach or the applicability to the particular population being served are correlated with less fidelity in implementing the new competencies (Vincent et al. 2018).

Low confidence can negatively influence an individual’s openness to change (CSAT 2009).

Starting orientation of the extent to which an individual believes in a law enforcement, balanced, or social work approach is a predictor of uptake of information, with balance perspectives being most receptive (Paparozzi and Gendreau 2005).

Young staff can be more flexible and reader for change (Taxman and Belenko 2011); however, juvenile probation officers who are young can have difficulty understanding adolescent development and distinguishing themselves from the youth with whom they work (Ross, Buglione, and Safford-Farquharson 2011).

- **How to incorporate peer discussion and support in training** (Durlak and DuPre 2008; Maass 2017; Viglione, Blasko, and Taxman 2017; Young 2004), particularly to allow officers to raise and address any fears or anxieties they have about the new approach (Lerch et al. 2009).

- **How involvement of stakeholders in planning or delivering portions of the training** may reinforce the important connections between staff and other organizations (Vincent et al. 2018).

- **How changes in the agency’s operating environment may affect the training efforts and implementation efforts.** Training and other professional supports need to occur close to the time of implementation so that staff can begin to practice what they have learned right away. A lag time between training and implementation creates a need for retraining (Vincent et al. 2018).
Communication

CHARACTERISTICS AND PROCESSES

The literature supports the implementation science contention that communication within organizations is important in facilitating or impeding the successful implementation of practices. Establishing a communication strategy for the change effort will facilitate implementation. Additionally, agency leadership can help change efforts by striving for clear, honest, and ongoing communication with line staff. The literature suggests that multidirectional communication strategies are particularly important; that is, information doesn't just flow from the top to the bottom, but information also flows from the bottom to the top and throughout all teams and roles within the organization (Prendergast et al. 2016). Ongoing communication strategies in sustaining the change are also important, although less discussed the in the literature.

POSSIBLE STRATEGIES

  - Review current communication strategy if available (Prendergast et al. 2016).
  - Examine the current channels in the organization through which information usually travels (Lerch et al. 2009).

- **Actively solicit feedback from staff** that will be used to create (Brennan 1999; Cissner and Farole 2009; Clodfelter et al. 2016; Collins, Amodeo, and Clay 2007; CSAT 2009; Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Jacobs et al. 2006; Joplin et al. 2004; Levin et al. 2016; Rengifo, Stemen, and Amidon 2017; Rudes, Lerch, and Taxman 2011; Viglione, Rudes, and Taxman 2015; Vincent et al. 2012).
  - Provide a forum for line staff to voice insights and concerns regarding the planned initiative (Cissner and Farole 2009).
  - Conduct interviews periodically with staff (Vincent et al. 2012).
  - Solicit feedback from individuals or groups identified as particularly resistant (Ellickson and Petersilia 1983).
  - Conduct exit interviews with staff members who resign and track results (CSAT 2009).
  - Conduct 360-degree reviews (CSAT 2009).

- Communicate back to staff how their input is being used to create change (Levin et al. 2016).

- Emphasize that the change is an improvement rather than a complete abandonment of existing practice and explain that the change does not mean staff were not performing adequately (Viglione 2015).
- Ensure that all levels of staff hear the message (Taxman and Belenko 2011).
- Involve staff in the development of the vision (Joplin et al. 2004).
- Be transparent and clear (Jacobs et al. 2006; Joplin et al. 2004) and honest about potential problems (Jacobs et al. 2006).
- Reinforce messages through language in manuals (Young et al. 2006).

Explicitly communicate to staff the roles and responsibilities they will have under the new structure (Durlak and DuPre 2008; Gopalan et al. 2014; Levin et al. 2016; Mihalic et al. 2004).

- Have explicit rules and instructions for staff, especially in the start-up phase (Urban 2008).
- Formalize on paper the roles and responsibilities of each team member (Cissner and Farole 2009).

Formalize goals in a planning document (Cissner and Farole 2009) and demonstrate how the goals are relevant to the audience (Jacobs et al. 2006).

Communicate clear and enduring messages through written policies and procedures that support consistent actions across staff (Urban 2008).

Hold regular meetings bringing together internal staff (Austin 2013; Cissner and Farole 2009; Ellickson and Petersilia 1983; Ford 2007; Jacobs et al. 2006; Mihalic et al. 2004). Avoid overburdening staff with meetings (Austin 2013) and consider decreasing the frequency as implementation proceeds (Ellickson and Petersilia 1983).

- Consider monthly manager meetings (Burke and Pennell 2001), internal meetings to troubleshoot common problems (Mihalic et al. 2004), and informal meetings that give staff time to vent, relax, and seek support from others in their position (Austin 2013; Jacobs et al. 2006).

Hold regular meetings bringing together key external stakeholders and agencies, including agencies, community partners, community members, and other juvenile justice stakeholders (Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Rivard et al. 2004; Urban 2008).
» Consider holding meetings in the community to discuss the change (Rivard et al. 2004).

- **Stay in touch with decisionmakers at each level** to ensure that discussed changes are being translated to action (Joplin et al. 2004). Identify (or select) key players that can facilitate communication at different levels of the organization (CSAT 2009; Lerch et al. 2009; Urban 2008).

- Ensure easy access to digestible information about the change (Levin et al. 2016).

- **Create open channels of communication between agencies involved in supervision** (Adamson and Deverell 2009; Branch, Homel, and Freiberg 2012; Burke and Pennell 2001; Ellickson and Petersilia 1983; Taxman and Belenko 2011).

- **Use a variety of communication channels**, including reports, emails, verbal announcements, and meetings (Brennan 1999).

**CONSIDERATIONS**

- **Groups and types of internal staff that will need information about how to implement the change and how it will affect them.** Consider how these groups will experience the changes, and investigate how these groups best receive information and how they prefer to express their needs (See Staff Competencies section).

- Groups and types of external organizations and stakeholders that will need information about how the changes will affect their interactions with the agency. Consider how these groups will experience the changes, and investigate how these groups best receive information and how they prefer to express their needs. (See the External Stakeholders section.)

- **Formal and informal communication avenues or structures.** Assess what formal and informal communication avenues already exist, strengths and weaknesses of those structures for reaching different groups, and changes that may be needed to better facilitate communication in times of change (Adamson and Deverell 2009; Furniss and Nutley 2000; Joplin et al. 2004; Lerch et al. 2009; Mihalic et al. 2004; Prendergast et al. 2016; Taxman and Belenko 2011).

- **Frequency of formal communication.** Clear and ongoing communication between leadership and staff can facilitate the change effort (Cissner and Farole 2009; Flynn, Hanks, and Bowers 2003; Joplin et al. 2004; Prendergast et al. 2016; Viglione, Rudes, and Taxman 2015). Consider how often to promote particular, distinct messages and also how to foster ongoing communication.
Strategies for surfacing and addressing conflict, anxiety, or discomfort arising from the change. Experiencing challenge and conflict is to be expected, but negative effects can be mitigated by creating communication channels that allow staff to feel like someone is listening and responding (Branch, Homel, and Freiberg 2012; Jacobs et al. 2006; Mihalic et al. 2004; Urban 2008; Viglione 2015).

Decision-Support Systems

CHARACTERISTICS AND PROCESSES
The literature suggests that having strong decision-support systems—including data collection, tracking, and analysis systems—facilitates implementation and can help sustain new programs (Brennan 1999; Howell 1995; Taxman and Belenko 2011; Young et al. 2006). Organizations that have systems in place to collect and analyze metrics that are relevant to the goals of the new program can use that data to track fidelity (Joplin et al. 2004; Miller and Maloney 2013; Taxman and Belenko 2011; Young et al. 2006), demonstrate the value of the program (Gopalan et al. 2014; Kapp et al. 2013; Taxman and Belenko 2011), and establish buy-in from internal and external staff (Furniss and Nutley 2000; Guy et al. 2014; Taxman and Belenko 2011; Walker, Bumbarger, and Phillippi 2015). These systems should be formalized during the planning stages to both troubleshoot issues and establish a baseline of data for comparison (Cissner and Farole 2009). However, the systems should be flexible enough to allow adaptive problem solving based on insights from the data and feedback from staff (Brennan 1999; Cissner and Farole 2009; Kapp et al. 2013).

Beyond data systems, organizations should engage in shared decisionmaking, with representatives from all levels of the organization playing a role and providing feedback throughout the process (Adamson and Deverell 2009; Durlak and DuPre 2008). These decision-support systems can be institutionalized by creating organizational structures, such as steering committees with diverse representation, to guide implementation.

POSSIBLE STRATEGIES

- Generate a list of metrics to track that align with the goals of the change and define success. Involve staff in identifying and vetting these metrics.
  - Some suggested metrics include client outcomes, retention, completion (Taxman and Belenko 2011), performance of staff (Taxman and Belenko 2011), cost (Vincent, Guy, and Grissio 2012), and positive youth outcomes such as education.
Consider sharing some metrics with external stakeholders.19

- **Develop electronic data technology systems that will track identified metrics in the planning stage.** These systems could include a management information system (MIS) (Belenko and Logan 2003; Brennan 1999; Howell 1995; Taxman and Belenko 2011; Young et al. 2006), an online portal system (Gopalan et al. 2014), or data dashboards.20

  - Consider using a single data system that works across all the states’ juvenile justice agencies and counties.21

- **Troubleshoot data technology systems and data collection in the planning stage.** Technical problems can decrease staff morale (Astbury 2008; Vincent et al. 2018).

- **Start planning and tracking data before implementing change;** use what you find to demonstrate the need for change and inform your implementation process (Cissner and Farole 2009; Taxman and Belenko 2011; Walker, Bumbarger, and Phillippi 2015).

- **Where necessary, solicit outside help in establishing a data collection and analysis system** (Kapp et al. 2013; Taxman and Belenko 2011; Vincent, Guy, and Grisso 2012; Walker, Bumbarger, and Phillippi 2015). University partners can be helpful (Vincent, Guy, and Grisso 2012).

  - Choose someone who understands the organization’s practices and policies and is an evidence-based practice expert (Taxman and Belenko 2011).

- **Automate data collection** where possible, or make data input easy and quick (Astbury 2008; Cissner and Farole 2009; Hochstetler, Peters, and Copes 2017; Lerch et al. 2009; Taxman and Belenko 2011; Vincent et al. 2018; Young et al. 2006).

- **Develop mechanisms that allow easy access to the data** at both the individual and program levels (Belenko and Logan 2003; Cissner and Farole 2009; Gopalan et al. 2014; Taxman and Belenko 2011).

- **Use data to assess caseloads,** gather information about the optimum caseload, and set your own caseload standards (Yamatani, Engel, and Spjeldnes 2009).

- **Compile and analyze data regularly,** at least annually. Document and share with stakeholders and staff to inform them of progress (Bertram, Schaffer, and Charnin 2014; Brennan 1999; Joplin et al. 2004; Kapp et al. 2013; Levin et al. 2016; Young et al. 2006).22
- **Create channels for staff at all levels to provide input** (Cissner and Farole 2009; Cooley 2010; CSAT 2009; Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Jacobs et al. 2006; Joplin et al. 2004), especially line users (Brennan 1999; Cissner and Farole 2009; CSAT 2009).

- **Document feedback and track it over time** (Ford 2007; Young et al. 2006).

- **Include relevant groups in the decisionmaking process**; for example, when choosing a risk tool, directly involve the staff that will be using that tool (Miller and Maloney 2013).

- **Establish internal groups that will guide implementation** (Belenko and Logan 2003; Brennan 1999; Mihalic et al. 2004; Viglione 2015; Vincent, Guy, and Grisso 2012; Walker, Bumbarger, and Phillipi 2015; Young et al. 2006), such as a steering committee. Include representatives from all levels of the organization (Mihalic et al. 2004; Viglione 2015).

- **Provide sufficient training on data systems** so that all staff view them as helpful tools. Include information on the technical use of the system, but also how to use the data to support decisionmaking (Hochstetler et al. 2017).

**CONSIDERATIONS**

- **Metrics of interest.** It is often said that “what gets measured gets done” (Taxman and Belenko 2011). Consider what you want the success of the program to be judged on, as well as what will be important to track to ensure fidelity to the program.

- **The current culture and views around data and evidence-based programming.** Sharing data that demonstrate the need for a new program, and the resulting successes of implementation, can help to create a data-driven culture (Kapp et al. 2013). Additionally, addressing the culture around and views toward the importance of data can help sustain the change (Taxman and Belenko 2011).

- **Potential barriers to collecting and sharing information.** Comprehensive information about clients can facilitate informed decisionmaking and case-planning decisions, but legal and other barriers can inhibit the sharing of that information.

- **Key players in decisionmaking, and how the organization can facilitate their involvement.** Decisionmaking should involve representation from all levels of the organization, with opportunities to provide feedback.

- **Lack of alignment between the electronic systems and the new practices.** Disconnects that cause staff to use paper and pencil tracking in addition to the electronic system or that require
extensive work-arounds lower staff morale and lead to more inconsistencies in implementation (Vincent et al. 2018).

External Stakeholders

CHARACTERISTICS AND PROCESSES
Although external stakeholders are part of the context of implementation, as discussed in the early part of this report, the process of engaging with them is a dimension of the organizational work that can either support or impede success. Specifying expectations around who should engage, around what issues or decisions, and around the protocols or rules for engagement (including what information should be shared) is important for shaping the culture of engagement. Research shows that implementation efforts that utilize shared decisionmaking—including collaborations with the community—consistently produce better outcomes (Durlak and DuPre 2008). One cross-site study (Vincent et al. 2016) found that judges who had not bought into the research-informed approach adopted by a probation agency prevented that agency from implementing the approach effectively, whereas it was effectively implemented in the other study sites.

POSSIBLE STRATEGIES
The research suggests the following strategies to improve collaboration can support implementation efforts:

- Communicate with related organizations in the justice system and community. Internal change efforts can have wide-ranging implications. Communicating with impacted partners, involving them in planning, and creating avenues for problem solving can help to prevent conflict (Brennan 1999; CJI 2009; Durlak and DuPre 2008; Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Kapp et al. 2013; Palinkas et al. 2014; Urban 2008; Visher et al. 2015; Young et al. 2006).

- Invite external stakeholders early to become partners (Belenko and Logan 2003; Levin et al. 2016; Taxman and Belenko 2011; Young et al. 2006; Vincent et al. 2012). Later problems may have been avoided by early interactions and joint decisionmaking about shaping the change, as well as about the policies and procedures that guide it (Brennan 1999; Ellickson and Petersilia 1983; Mihalic et al. 2004). Early involvement fosters greater buy-in (Brennan 1999; Levin et al. 2016; Vincent, Guy, and Grisso 2012). One method is to create a stakeholder committee (Vincent et al. 2018).
- **Engage external stakeholders throughout the process** (CJI 2009; Amodeo et al. 2013; Brennan 1999; Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Kapp et al. 2013; Magnabosco 2006; Palinkas et al. 2014; Taxman and Belenko 2011; Urban 2008). Determine key points for feedback or participation. Some partners may be engaged in every step, but others may best contribute at key points. Shared pilot testing of assessment instruments and feedback on their use improves stakeholder buy-in (Vincent et al. 2018).

- **Create sense of shared responsibility with clear division of roles** (Ehrhard-Dietzel, Barton, and Hickey 2017; Joplin et al. 2004; Kapp et al. 2013; Taxman and Belenko 2011; Urban 2008). Building a shared sense of responsibility between partners facilitates change efforts and sustainability (Kapp et al. 2013), but concerns and confusion about roles and equitable distribution of responsibility can cause problems (Ehrhard-Dietzel, Barton, and Hickey 2017; Palinkas et al. 2014). Consider inviting partners to plan and deliver portions of the training to further emphasize shared expertise and roles (Vincent et al. 2018).

- **Establish formal and informal opportunities for communication and collaboration** (Joplin et al. 2004; Kapp et al. 2013; Palinkas 2014). Both informal and formal communication are important to establish strong partnerships and to facilitate learning (Kapp et al. 2013; Palinkas et al. 2014).

- **Create open channels of communication between agencies involved in supervision** (Adamson and Deverell 2009; Branch, Homel, and Freiberg 2012; Burke and Pennell 2001; Ellickson and Petersilia 1983; Taxman and Belenko 2011).

- **Hold regular meetings** bringing together key external stakeholders and agencies, including agencies, community partners, community members, and other juvenile justice stakeholders (Amodeo et al. 2013; Ellickson and Petersilia 1983; Flynn, Hanks, and Bowers 2003; Rivard et al. 2004; Urban 2008).25

  » Consider holding meetings in the community to discuss the change (Rivard et al. 2004).

**CONSIDERATIONS**

- **Existing external stakeholders and agencies.** Consider what partnerships are already in place and how those may need to change. History of previous successful collaboration can ease new collaboration efforts (Zajac et al. 2015).
• **Current external mandates or policies that could affect collaboration.** Mandates can be facilitators to change by prompting collaboration, but competing mandates can create barriers (Palinkas et al. 2014).

• **Sharing of data across organizations with shared responsibility of services** to better support success (Vincent et al. 2018).

• **Qualities of partner organizations, including value systems and assets.** Having a shared set of values can facilitate interagency collaboration (Palinkas et al. 2014; Taxman and Belenko 2011; Visher et al. 2015).

• **Constraints on staff time.** Collaboration requires sufficient time from internal staff to engage in activities. High caseloads can impede collaboration (Prendergast et al. 2016), while greater job autonomy can increase collaboration (Prendergast et al. 2016).

### Policies and Procedures

**CHARACTERISTICS AND PROCESSES**

Policies and procedures codify, set the tone, and demonstrate leadership commitment to changes (Viglione 2015). An agency’s formal policies can facilitate or inhibit the development and sustainability of positive organizational culture that embraces change and is committed to the organization. Formalizing policies can help clarify and solidify an organization’s strategies for communication, decision-support systems, and external engagement. Existing office policies should also be scrutinized and revised where needed to align with the new intervention. For example, one study identified 22 organizational systems and accompanying policies that needed to be aligned within a single organization (Ford 2007). The language of policy and procedure manuals can be used to support a culture shift in the agency by emphasizing the underlying research for, purposes of, and long-term value of the approach and required actions or elements (Young et al. 2006).

Examples of policies include

• the organization’s mission statement (Viglione, Rudes, and Taxman 2015);

• any explicit agency value statements or objectives (Viglione, Rudes, and Taxman 2015);

• criteria for performance appraisals (see Staff Competencies section) (Viglione, Rudes, and Taxman 2015);
- job postings (see Staff Competencies section);
- caseload standards (Hochstetler, Peters, and Copes 2017; Prendergast et al. 2016);
- distribution of the work, including which positions or staff levels make decisions about work or whose recommendations carry more weight (Bazemore 1993); and
- requirements surrounding frequency and content of contacts with youth (Viglione, Rudes, and Taxman 2015) or other programmatic expectations (Cissner and Farole 2009).

POSSIBLE STRATEGIES
Most of the possible strategies for policy-related changes have been summarized in the sections on communications, decision-support systems, and external engagement. Other possible strategies include

- engaging staff in the process of identifying and making recommendations for policy and procedure changes, which helps to distribute the work of making the changes while fostering staff buy-in for the process (Ford 2007);
- assuring policies related to the mission and values of the organization are clear, transparent, and shared with all staff;
- assuring sufficient specificity in policies surrounding strategies for the change (i.e., communication strategies, etc.), so that they provide clear direction but are not so rigid that they are resistant to change where warranted (Belenko and Logan 2003; Ellickson and Petersilia 1983; Young et al. 2006); and
- providing clarity about which staff under what circumstances have the authority to override particular policies or procedures, especially relating to specific intervention practices (Vincent et al. 2018).

Time
CHARACTERISTICS AND PROCESSES
Implementation science divides implementation into four time periods: exploration, installation, initial implementation, and full implementation (Fixsen et al. 2015). Essentially, implementation science recognizes a planning process (exploration), a piloting process (installation), a period when piloting is over and the initiative is running but still ironing out policies and procedures (initial implementation), and, finally, a time period when the initiative is focusing on sustaining quality of implementation for the
long term (full implementation). Recognizing that there are four stages helps in thinking about the intensity of involvement of different staff and partners at different stages of the process, different strategies that might be needed at these different times, and the ways that the process will naturally evolve over time. It also hints that the amount of time involved in making the change is not minimal.

Although these four stages may be the stages that every program transitions through, the nature of introducing change into existing systems means that services cannot pause. This creates a pressure to change service delivery (initial implementation) before the planning stages have fully investigated all the systems-integration needs (exploration and installation). It is for this reason that Vincent and colleagues (2018, 13) recommend that training of staff occur during the pilot phase that “offers an opportunity for staff to adjust to and improve their mastery of the assessment instrument before the official rollout to the remaining staff or jurisdictions.” Similarly, they note the value of a pilot phase to “work through any barriers to implementation, test software and the data-gathering process, and revise relevant policies before advancing the practice to others” (Vincent et al. 2018, 13).

As mentioned before, the literature is less helpful in determining which strategies might best be used at which stages, because the studies tend to focus on a start-up/pilot phase or do not specify a phase. Many of them do, however, reference challenges related to time, including

- the amount of time needed to fully identify, plan, and prepare for changes (Ford 2007);
- the amount of time needed to develop new knowledge, skills, and behaviors of line staff, supervisors, and stakeholders to align with new expectations (Mihalic et al. 2004);
- the amount of time needed to update or develop computerized decision-support systems (Young et al. 2006);
- the different amounts of time needed to complete previously routine tasks or newly required activities, and the challenges posed by unaligned caseload sizes (Gopalan et al. 2014; Mihalic et al. 2004);
- amounts of time needed to change related community provider actions to align with new collaboration expectations (Welsh et al. 2015);
- tension and trade-offs between making change quickly through executive decisionmaking versus garnering more staff buy-in through greater participation; the faster approach may create a technical change without real change taking place (Ford 2007); and
clashing timelines between the ideal period for a carefully planned implementation approach and political pressures to either compress the time period or delay certain stages of the process (Vincent et al. 2016).

Though the amount of time needed to plan for, make, and fully implement changes varies by department and agency, all change requires more or differently used time. Because services cannot simply pause, staff must transition through a period when they need do some of their work according to the old way of doing things and some of their work according to the new way of doing things. It is through these periods and these challenges of time that the role of the committed, persistent leader is particularly important. Leaders can demonstrate that they value both the change and the staff by allocating sufficient time and resources.

Continuous Quality Improvement and Measuring Progress

CHARACTERISTICS AND PROCESSES
Continuous quality improvement, performance measurement and management, and data-informed decisionmaking all refer to organizational processes and functions that use data gathered through a variety of sources (including direct observation) to improve program performance and assess quality of implementation (Derrick-Mills 2015). The continuous quality improvement terminology is grounded in the Plan-Do-Study-Act (PDSA) cycle, which was developed in the business world to quickly test innovation. But as implemented in the public sector, the cycle tends to take on the characteristics of performance measurement and management, which selects indicators or benchmarks of success to measure quality against and then makes improvements if those benchmarks are not met (Derrick-Mills et al. 2014). Although many studies have documented agencies using these techniques to assess compliance rather than to assure learning, assessing compliance and assuring organizational learning and improvement are not the same. Yet some processes are used to accomplish both purposes (Fyffe, Derrick-Mills, and Winkler 2016).

Continuous quality improvement, as adopted into implementation science, places a strong emphasis on the quality of implementation and on assessing the fidelity, over time, of the evidence-based practices an agency has adopted (Fixsen et al. 2005; Fixsen et al. 2015). At the same time, the implementation science approach integrates this continuous quality improvement process throughout the drivers and stages of implementation. Thus, implementation science focuses on the importance of a
continuous quality improvement approach that regularly assesses progress, reflects on challenges and successes, assesses the quality of implementation, and adjusts decisions, processes, policies, and procedures to support a continually improving quality implementation process that can be sustained over time. Implementation literature, however, does not traditionally spend much time covering quality improvement processes, and that is true of most of the literature reviewed here. Some of the sources do talk about quality improvement within the limited time frame of a pilot project.

POSSIBLE STRATEGIES
Supports for continuous quality improvement include the following:

- Staying in touch with decisionmakers at each level to ensure that discussed changes are being translated to action (Joplin et al. 2004).
- Providing ongoing training booster sessions for staff starting six months following the original training (Vincent et al. 2018).
- Planning and tracking data before implementing change; using what you find to demonstrate the need for change and inform your implementation process (Cissner and Farole 2009; Taxman and Belenko 2011; Walker, Bumbarger, and Phillippi 2015).
- Articulating clear, measurable objectives and outlining timelines for achieving them (Cissner and Farole 2009; Taxman and Belenko 2011).
- Creating an ongoing implementation written activity plan that formalizes and specifies goals (Cissner and Farole 2009) and roles and responsibilities as transitions take place over time, then updating the plan regularly to reflect new timetables (Brennan 1999; Cissner and Farole 2009). Similarly, Vincent and colleagues (2018) emphasizes the importance of strong implementation plans, recognizing the three implementation drivers.
- Automating assessment protocols, including affording near real-time monitoring and identification and correction of problems soon after they develop (Young et al. 2006).
- Providing sufficient training on data systems so that all staff know how to use the data to support decisionmaking (Hochstetler, Peters, and Copes 2017).
- Tracking fidelity (Joplin et al. 2004; Miller and Maloney 2013; Taxman and Belenko 2011; Young et al. 2006).
- Identifying sources of confusion and developing solutions to address them such as new trainings and problem-solving matrices (Urban 2008).
Advancing the new approach persistently in the face of resistance and challenges (Ford 2007; Goodstein and Sontheimer 1997).

Emphasizing the importance of ongoing leadership involvement (Urban 2008; Young et al. 2006).

Considering monthly manager meetings (Burke and Pennell 2001), internal meetings to troubleshoot common problems (Mihalic et al. 2004), and informal meetings that give staff time to vent, relax, and seek support from others in their position (Austin 2013; Jacobs et al. 2006).

Creating a team dedicated to reflection and learning, given the competing demands on time (Ford 2007).

CONSIDERATIONS

The research reviewed here identifies the following threats to continuous quality improvement efforts, in addition to constraints on time (see discussion in Time section above):

- Failing to articulate clear and measurable goals for a project (Cissner and Farole 2009).
- Failing to measure progress over time (Cissner and Farole 2009).
- Staff turnover, especially in key positions (Goodstein and Sontheimer 1997), stakeholder turnover (Goodstein and Sontheimer 1997; Kapp et al. 2013), and lack of recognition that key staff have left a void in assuring certain processes are occurring (Goodstein and Sontheimer 1997).
- Having a compliance-focused approach rather than a problem-solving orientation (Goodstein and Sontheimer 1997; Vincent et al. 2018).
- Carrying high caseloads (Kapp et al. 2013) makes it difficult for staff to learn or implement new techniques, especially techniques to individualize assessments or services.
- Rigidity in new policies and procedures that do not allow change based on identified issues in the system (Brennan 1999).
Discussion and Research Gaps

In December 2016, in the early days of our project, we published two reports establishing the needs for this work, the framework we would use to determine the direction of the project, the ways we would engage with stakeholders (including families of former system-involved youth, former system-involved youth, juvenile justice agency staff, juvenile justice technical assistance and training providers, and researchers who are active in this space), and how we would tap into stakeholders’ expert knowledge to inform the products we developed and reflect on continuing gaps (Derrick-Mills et al. 2016; Love and Harvell 2016). We chose implementation science as our frame for synthesizing and translating the research because it focuses on improving the quality and consistency of practice, and we wanted to ensure that the products developed through this project, *Bridging Research and Practice to Advance Juvenile Justice and Safety*, would do exactly what the title of the project says—create a bridge between research and practice. In our early conversations with stakeholders we heard about the strong need for the information synthesized here, but we also heard that existing research might not provide all the answers. Below we reflect on what we have learned at the end of this project about the current research gaps, and the challenges that practitioners are likely to have in finding and using the existing research. As we said we would do in 2016, we continued to reflect with stakeholders to hear what they thought was missing after this study concluded. Their questions for us helped us shape the research questions in the Other Gaps in the Research section below.

Implementation Science Lens Reveals Challenges in Using Research for Management

The integration of research-informed practices into juvenile probation operations and systems is a multidimensional process. Implementation science suggests that any successful process addresses staff competency, as well as organizational and leadership drivers, and includes mechanisms for continually reflecting and refining implementation across the stages of exploration, installation, initial implementation, and full implementation. Using that lens to review existing academic and grey literatures reveals numerous sources that speak to at least one of those dimensions or processes. However, the synthesis conducted here reveals some of the challenges that agencies would face in attempting to use the existing literature to inform their practice.

First, when searching for implementation-related literature it is hard to screen out sources that vaguely reference that implementation challenges occurred while still including the sources of interest
on particular types of implementation challenges or supports. In our review, the drop from 302 sources based on the initial search to 147 deemed relevant speaks to that challenge. We could not tell from abstracts alone that the initial 302 sources would not provide sufficient information.

Second, not all sources include information about all of the drivers that implementation science indicates managers and administrators should pay attention to. In some cases, we could see that a single study had been divided into multiple journal articles with each one focusing on a specific set of study findings. In those cases, the study itself had been fairly comprehensive but the information was presented across multiple articles or sources, which may be an artifact of the ways that journals operate or the incentives researchers face to publish more articles. In other cases, it appeared that researchers did not examine or report information for all of the implementation drivers. Traditional implementation research has not commonly used an implementation science lens to inform its questions, so it is not surprising that this is the case. It is, however, problematic for the attentive administrator or manager who is trying to learn from the research how to plan for implementation changes.

Third, very few sources included useful information about the dimension of time. It is fairly common across all studies for time to be mentioned as a barrier, but this is not helpful information for the attentive manager who wants to use the research to plan ahead. Implementation science emphasizes that thoughtful implementation takes time and suggests that practitioners should expect multiple stages of the implementation process. The research that we reviewed, however, rarely supplied the time dimension to its findings, making it impossible to determine which sets of strategies or activities should be undertaken at which stage of an implementation process. The research tended to be clearer about helpful strategies and activities to include in a pilot stage and about the barriers that might be encountered later if certain strategies, like stakeholder engagement, are not included early. It appeared that one barrier to describing how strategies and activities might evolve across stages of implementation was that most studies we found were reporting on a pilot stage. If those studies are funded to continue through other stages of implementation, they could report on those; it would then be important to report implementation findings by the stages of implementation and compare findings across stages (e.g., what is more or less helpful at each stage) could be useful to practitioners.

Finally, very few studies formally test implementation strategies. Notably, over the last several years, the National Institute on Drug Abuse (NIDA) has been sponsoring a series of experiments drawing on implementation science to test methods for helping juvenile justice agencies more effectively implement evidence-based practices. The tested implementation strategies include variations on intensive strategies involving multifaceted, on-site technical assistance (Knight et al. 2016); a medium-intensity approach involving variations on implementation teams (Welsh et al. 2015);
and lower-intensity approaches varying training, coaching, and management directive combinations (Taxman et al. 2014). Taxman and colleagues (2014) examined three lower-intensity strategies for helping staff attain and maintain new knowledge and skills: (1) all agencies, including controls, received a one-day training on improving motivational interviewing (control agencies did not receive any other support); (2) some agencies received a three-day training on the evidence-based protocol plus three social/network coaching boosters during the year to create and support internal champions for the protocol use; and (3) some received a three-day training on the evidence-based protocol, supplemented with skill- and knowledge-building coaching booster sessions on the same materials covered in the original training. The Taxman study found that the social/network coaching booster was more effective than the control condition, but that the skill- and knowledge-building coaching booster was no more effective than the control condition. These studies demonstrate it is possible to test implementation strategies and that to do so, studies must be specifically designed with that purpose in mind.

Other Gaps in the Research

Following our synthesis of the more than 100 sources for implementing change in justice agencies, we have identified questions that remain unanswered as we began the process of translating the research synthesis into a handbook for juvenile probation agencies. Many of these questions emerged in reflections from our project’s advisory group based on challenges they have faced in their own system-change efforts, challenges they have seen juvenile probation agencies encounter as they tried to implement change, the very real tensions between available strategies and available resources, and the growing recognition of the importance of engaging families and community stakeholders. We group these questions here by implementation science driver.

Staff Competency Drivers

- When agencies want to redefine job qualifications or seek out new types of job applicants, what role do civil service exams play in supporting or hindering these changes? In what ways do challenges with civil service exams vary across jurisdictions? What are successful strategies for addressing civil service exam challenges?
- When agencies have limited resources to spend on helping staff attain and maintain new competencies, what are the most effective, least costly strategies to focus on?
When agencies have more resources to spend on helping staff attain and maintain new competencies, what are the most effective set of strategies to use?

If agencies are implementing new strategies and they are not part of a research study, what should they be looking for to assure that the trainers and the trainings are appropriate for their staff and community?

What are the most effective professional development strategies to support staff in attaining and maintaining the skills to engage with families respectfully, given the newer research in juvenile justice, in particular, that suggests staff should be engaging with families?

What are the most effective professional development strategies for supporting administrators and managers with engaging judges, attorneys, and other key stakeholders in the change-making process?

Organizational Drivers

Several questions about stakeholders emerge:

- What roles do unions play when agencies want to redefine staff job descriptions and responsibilities? At what stage of implementation would unions be most effectively engaged?

- Beyond establishing buy-in so that community and judicial stakeholders don’t serve as barriers to implementation, what roles do they play in supporting implementation of new practices? How does this vary by system structure and agency purview?

- What are the appropriate roles of families in planning for and implementing new practices?
  What are more or less effective strategies for engaging them?

- What are the appropriate roles of formerly system-involved youth in planning for and implementing new practices?

Leadership Drivers

- What are the most effective types of professional development strategies for helping leaders, including supervisors, prepare for changing organizational culture and implementing evidence-based strategies?
What are the most important roles for supervisors to play when implementing change? Under what circumstances are supervisors a better or worse choice than peer mentors, external coaches, or trainers for supporting staff in making a change?

What are the most effective strategies for establishing bidirectional communication (i.e., communication that flows down to staff and up to leadership) when changes are being planned or implemented? Under what circumstances might these “most effective” strategies vary?

Continuous Quality Improvement

What are the appropriate roles of youth in determining if new strategies are being applied equitably and fairly?

How can agencies examine if their newly implemented practices are having unintended implications, especially those that might disproportionately harm certain types of youth?

What strategies are most effective for sustaining implementation quality over time? What strategies are most important to use when agencies have resource restrictions?
Conclusion and Next Steps

Implementing a research-informed approach to juvenile probation holds significant promise for agencies and staff as well as for youth and family clients. Over the past several decades, research has significantly expanded our understanding of what works to improve outcomes for justice-involved youth. By using what we know about adolescence and effective strategies for improving youth outcomes, probation departments can develop new, more effective strategies to promote healthy development and prevent future delinquency (NRC 2013).

Changes in frontline practices consistent with a research-informed approach have the potential to improve outcomes for youth, families, communities, and probation offices. Juvenile justice professionals and probation officers hold the power to improve youth outcomes, promote respect for the law, and promote public safety (NRC 2013).

Yet, while juvenile probation officers have the power to change their own interactions with youth, it is important to note that they operate in an environment of policies, procedures, rules, and expectations. Individually, they cannot affect all the changes a research-informed approach entails. They need the active support of their department, agency, or office to integrate research-informed practices into juvenile probation operations and systems.

This synthesis provides a start for the research-to-practice translation process to facilitate administrator use of the available knowledge on planning for, leading, and sustaining research-informed change efforts in juvenile justice agencies, especially those efforts focused on changing organizational culture (see companion handbook translating the information for juvenile probation officers and offices, Harvell et al. 2019). It also points to the value of using an implementation science lens to bridge research and practice, both in helping practitioners learn from the research and in helping researchers build a systematic knowledge base regarding implementation practices, features, and considerations. Finally, it suggests future research questions to explore to build broader and deeper implementation knowledge.
Appendix A. Summary of Source Search and Screening Process

OVERALL APPROACH

Urban conducted targeted literature reviews of studies that used implementation science or explored implementation factors for integrating and institutionalizing strategies, practices, and processes. We focused on studies that identify what works and/or identify impediments to implementation. Although our literature scan initially spanned multiple disciplines, criminal and juvenile justice literature makes up the vast majority of sources used in this project, and studies from other disciplines were used to supplement where necessary. The search process included developing protocols (standardized processes to which staff were trained and monitored) to scan, collect, and screen sources.

DEVELOPING SOURCE SCAN PROTOCOLS

Through an iterative process that included input from other experts in the field, researchers designed standardized protocols to guide the literature scan. Separate protocols were developed for several broad topics. The protocols identified the most appropriate time period for each search, search terms to use, databases to search, and the likely journals of interest. Specific protocols were developed to address key topic areas identified by researchers based on existing literature and input from experts. Each protocol was tested and revised as necessary to ensure the literature search was sufficiently broad to include all potentially useful information but targeted enough to avoid irrelevant sources.

COLLECTING THE SOURCES

Researchers used three mechanisms to collect sources. First, researchers conducted a systematic search of key literature databases, government websites, and relevant resource websites. These searches were conducted in accordance with the previously mentioned source scan protocols. Second, recommendations from experts, stakeholders, and senior researchers led to the identification of additional sources. Last, a "snowball" approach was used, in which researchers reviewed sources cited in key literature to identify additional sources.

Researchers conducted the literature scans using common library search databases and following the search protocols outlined above. Initially, researchers also identified key journals in fields outside of criminal and juvenile justice in case the primary search did not yield enough information. These outside
fields include organizational change and management, implementation in child and youth services, and implementation in health care. The sources identified in these other fields were generally not used, however, because the wealth of information available in the juvenile and criminal justice context was sufficient to fill the needs of this project.

The search was limited to 1990 to 2018, and researchers focused on the databases identified in the protocol—EbscoHost, Google Scholar, and the National Criminal Justice Reference Service. Searches prioritized the following search terms (supplementary search terms were used where necessary to fill in gaps):

- agency change
- implementing intervention
- implementation challenges
- implementation barriers
- taking intervention to scale

Additionally, researchers searched for publications and presentations on relevant organizations’ websites, as identified in the protocol. These included

- Georgetown Center for Juvenile Justice Reform and Systems Integration,
- Robert F. Kennedy National Resource Center for Juvenile Justice,
- University of Cincinnati Corrections Institute,
- American Probation and Parole Association,
- Council of State Governments,
- Crime and Justice Institute,
- MacArthur Models for Change,
- Annie E. Casey Foundation, and
- National Juvenile Defender Center.

Information for each article—including search terms and databases used, original sources, and source citation—was documented in a spreadsheet. This information was later compiled into one master spreadsheet and checked for duplicate articles.
SCREENING THE SOURCES

Each article was eventually either screened “in”—meaning it would continue to further review—or “out”—meaning it was excluded from the literature coding process. Appropriate articles were those that were generalizable, discussed research findings, provided useful insight into implementation, and were not summaries of other articles already included. Senior researchers judged appropriateness and screened out articles that did not meet these qualifications. Screening of sources for inclusion or exclusion from our review included assessment of three factors:

1. Appropriate focal point
2. Type of source
3. If primary research, then also
   a. Methods used
   b. Research design
   c. Credibility rating

**Appropriate focal point.** Sources were first screened to determine if the content had the appropriate focal point or level of analysis to contribute meaningfully to the purpose of the review—understanding implementation facilitators and barriers to uptake, adoption, implementation, or sustaining of new methods of service delivery in justice-related or similar settings.

- Three hundred two sources entered this stage; 155 were excluded for one or more of the following reasons:
  1. Source is too field-, project-, or activity-specific and the findings are not generalizable to our work
  2. Source has a theoretical or conceptual focus without discussing actual research findings
  3. Source does not provide enough description of implementation or lessons learned about implementation to be useful for our work
  4. Source provides a summary of multiple works, but the direct research was included in our review rather than the summary
  5. Other.

**Type of source.** Sources were sorted into three categories to determine what type of further screening would be used to assure the quality of information supporting this analysis:

1. Primary data collection
2. Syntheses and reviews

3. Practical guidance

**Source type: primary data collection.** Sources coded as primary data collection provide the background, methods, analysis, and findings of data collection addressing specific research questions. The data may have been collected through single or multiple sources, including interviews, focus groups, surveys, document analysis, administrative data, case file reviews, observations, and the like. Studies included here tended not to be impact analyses because the focus of this review is on implementation, but sometimes an implementation review was paired with an impact review.

**Source type: syntheses and reviews.** Syntheses and reviews are recognized as a type of secondary research. Because these syntheses and reviews focused on what could be learned about implementation across multiple studies, they were not meta-analyses that examine and compare outcomes. They generally were not of the type that would be characterized as a systematic review. They were designed to further build and consolidate knowledge across studies, and the reflection was intentional and systematic in that regard. We further classified these reviews into two types:

1. Literature synthesis: development of themes across previously published studies
2. Research synthesis: summary and reflection of researchers across their own various experiences, drawing from both published and unpublished materials

**Source type: practical guidance.** The practical guidance includes a variety of sources. The sources are classified here because the approach was not designed as a research study to systematically examine or answer a research question. Rather, these sources were focused on helping practitioners improve their practice. They frequently referenced to research literature or used a self-reflective approach to draw out lessons learned and package them for practitioners. Sources include journal articles, resource guides and books, and various assessment instruments (validated and nonvalidated).

Also included in this category is the supplemental data collection the Urban Institute conducted to better understand challenges juvenile probation agencies were facing, challenges surfaced by technical assistance and training providers in supporting practice, and lessons learned by agencies attempting to shift their practices to a more youth-supportive approach. See appendix C for more information about this data collection.
CREDIBILITY RATING OF PRIMARY RESEARCH

Senior researchers used the three-step process outlined in Jarjoura, Tyson, and Petrosino (2016) to determine the credibility of the findings in all primary research sources deemed relevant (see Table A.1 below). The qualitative credibility indicators were used for qualitative studies, the quantitative credibility indicators were used for quantitative studies, and mixed methods studies were assessed in the following way:

- If the findings were drawn primarily from qualitative data or qualitative analyses, and the quantitative data were primarily summary statistics, then the qualitative rating scale was applied.
- If the findings were drawn primarily from quantitative data and analysis, and the qualitative data were primarily used to provide illustrations or expand on the points of the quantitative data, then the quantitative scale was applied.
- If the findings were drawn from a true mixed methods use of qualitative and quantitative data and analyses, then both scales were applied.

Scores were assigned based on a yes (1)/no (0) tabulation on each step of either the qualitative or the quantitative scale, and summed to indicate questionable (0), low (1), medium (2), or high (3) credibility of findings. When both scales were used for true mixed methods studies, then the qualitative and quantitative methods were scored separately and a study was only deemed as meeting acceptable quality if it scored at a minimum of a 2 on both scales.

We defined a true mixed methods approach as an approach in which both qualitative and quantitative data collection and analysis were used to draw conclusions. For example, a study in which conclusions were drawn from qualitative analyses of interviews and focus groups while descriptive statistics were used to provide contextual background would be coded as a qualitative study because the quantitative data were not used to determine findings. A true mixed methods study would draw conclusions from both the results of surveys or assessment tool data, for example, and interview or focus data.

Research with questionable or low credibility (scale rating of less than 2) was excluded from the literature coding. Research with medium or high credibility was screened in. If the first researcher was unsure about a credibility feature, the source was sent to another researcher for re-review, conference, and final decision. In some cases, the study methods did not fully align with the technique assessments provided by the credibility rating system. Some examples include rating of audio or video tapes or direct observation. When the primary screener noted that the scale could not be fully applied, that screener flagged the source...
for a consensus conference in which three senior staff discussed the methods and findings and determined the credibility of the source as sufficient or insufficient for use in the project.

- Of the 147 sources that entered the quality review stage, 106 were eventually included in the synthesis.

All articles collected through any means that were screened in were then coded by another group of researchers. For information on the coding process, see appendix B.

**TABLE A.1**

**Credibility Determination Process**

<table>
<thead>
<tr>
<th>Qualitative data</th>
<th>Quantitative data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Are the findings clearly connected with direct quotes or detailed descriptions of observations, rather than simply being the opinion of the researcher with little connection to the evidence?</td>
<td>Step 1: Are the findings directly connected to a statistical finding and consistent with that statistical finding in terms of statistical significance, direction of effect, and magnitude of effect? (Note that not all will be relevant for all types of quantitative findings.)</td>
</tr>
<tr>
<td>Step 2: Is there an adequate amount of qualitative data to have confidence in the findings, or would additional time in the field have produced different findings? If different methods are triangulated to produce the finding, credibility is higher. If there is no indication of the number of interviews or time spent observing, credibility is weakened.</td>
<td>Step 2: Are findings based on at least 85 percent of the original sample (or 85 percent of the subsample if the finding is based on a subsample)?</td>
</tr>
<tr>
<td>Step 3: Is there evidence of careful qualitative analysis, such as using multiple coders, validation methods, qualitative software, or discussions of data validity?</td>
<td>Step 3: Are clear risks of bias for findings minimized? Things to consider are (1) post hoc nature of finding (i.e., possible “data fishing”), (2) appropriateness of statistical method, (3) selection bias or other internal validity concerns if finding is of a causal nature, (4) poor question wording or measurement construct fit, (5) adequate statistical power if finding is one of no effect, and (6) any other concern that would raise doubt about the finding.</td>
</tr>
</tbody>
</table>

**Source:** Jarjoura, Tyson, and Petrosino (2016).

*Typically, qualitative research quality is judged based on credibility, dependability, and confirmability (Lincoln and Guba 1985; Trochim, Donnelly, and Arora 1999). Creswell (2007) suggests eight possible strategies for ensuring quality in qualitative research, and recommends that researchers use at least two of the strategies in each of their studies. The eight strategies are prolonged engagement and persistent observation in the field; triangulation of multiple data sources; peer review or debriefing regarding methods, meanings, or interpretations; negative case analysis; clarifying researcher bias from the outset of the study; participant feedback on researcher interpretations; rich, thick description of data collection and analysis methods; and, external audits (someone with no connection to the study reviewing the processes and products).*

*If findings are based on an assessment tool(s) or survey instrument, it is important to understand whether (and to what extent) the instruments have been validated or not. I was concerned about some dissertations in which the student developed his or her own instrument and conducted some validation techniques, essentially the only place the survey had been used is in research.*
Appendix B. Coding Protocol

OVERALL APPROACH
Once sources were screened in—meaning they were deemed appropriate and credible—researchers used a standard coding protocol to code information about the source (source coding) and to systematically flag information relevant to the implementation synthesis (text coding). Source coding documented characteristics about the entire document, while relevant portions of the text were coded individually to a series of topic areas. This document describes the coding process for documents screened in; for more information about how articles were identified and selected, see appendix A.

Based on the prescreen of the literature and general content expertise from researchers and other experts, Urban senior researchers developed a coding protocol for all coders to use. The protocol covered both source codes and text codes and included specific guidance on how to approach the research, how much text to code, what should be included in each reference, and a detailed description of each code and subcode. Each coder used this standard protocol to code every article.

SOURCE CODING
For each selected source, researchers recorded a number of characteristics of the article and the research. These source characteristics were outlined in the previously mentioned standard coding protocol and included

1. Type of source (peer-reviewed journal article, book, toolkit, etc.)
2. Government funding (including level of government, if applicable)
3. Foundation funding (including type of foundation, if applicable)
4. Evaluation
5. Field of study

These source characteristics were gathered to better understand the range of sources contributing to our analyses and to understand possible underlying bias in the analysis, especially if one type of funder or approach tended to dominate the findings.

TEXT CODING
After identifying a document’s source characteristics, researchers read the article, identified text that was relevant, and coded the relevant text to a series of topics. The topics, along with text codes and
subcodes related to that topic, were outlined in the coding protocol along with detailed descriptions, specific directives, and examples where needed. The codes covered four specific topics: overall change and context, implementation science, probation practice, and adolescent development. All text coding was completed using NVivo, a qualitative data analysis software.

Coders examined the text with all possible codes in mind and coded each relevant piece of text to all applicable codes. Coders specifically looked for key segments of the text that would be useful for the purposes of this project—namely, creating guides and materials for probation agencies to help them change their practices. Coders examined the articles for both facilitators of and barriers to implementation. Four codes (literature synthesis, research synthesis, practical examples, and tools) were included across all topics and were used to flag relevant information that came from these specific source types in order to distinguish it from primary research findings.

The first set of codes covered the overall change and the context in which it was occurring. These codes and subcodes included the following categories:

1. Change strategies (specific instances)
   a. Transformational
   b. Programmatic
2. Context
3. Related research theory (includes any item cited from another study)
4. Success indicators
5. Lessons learned
6. Other, feels important

The second set of codes covered key elements of the implementation science framework, including both the drivers of implementation and the stages of implementation. The purpose of using this framework was to produce research that was systematic and that successfully identified elements and process that organizational units need to consider, plan for, and routinely monitor to facilitate implementation. These codes and subcodes included the following categories:

1. Implementation Stage (Specific Instances)
   a. Exploration
   b. Installation
c. Implementation

d. Sustaining

e. Literature Synthesis

f. Research Synthesis

g. Practical Examples

h. Tools

2. Implementation Drivers

a. Competency Drivers

   • Assessing Staff Skills (Requirements and Assessment)
   • Hiring New Employees (Requirements and Assessment)
   • Professional Development (e.g., training, education)
   • Literature Synthesis
   • Research Synthesis
   • Practical Examples
   • Tools

b. Organization Drivers

   • Communication Protocols
   • Culture
   • Decision-Support Systems
   • Policies and Procedures
   • External Stakeholders
   • Literature Synthesis
   • Research Synthesis
   • Practical Examples
   • Tools

c. Leadership Drivers

   • Change Management
   • Leadership Strategies
   • Literature Synthesis
   • Research Synthesis
   • Practical Examples
The third set of codes covered text related to implementing a shift in practice related specifically to probation topics. These codes included:

1. Assess Risk and Needs and Use Information to Make Case Decisions
   » Background/Research/Context on Risk and Needs Assessment
   » Implementing Risk and Needs Assessment
2. Develop and Manage Case Plans
3. Provide Active Supervision and Counseling and Track Progress
4. Graduated Sanctions and Incentives
5. Probation Crosswalk/Other

An additional section of codes was used for flagging information that could be helpful for product development. Most of these codes were used on “nonresearch” resources. These codes included:

1. Definitions
2. Visual Representations
3. TA/Training
4. Cultural Sensitivity
5. Gender or Gender-Identification Sensitivity
6. Youth Age Groups
QUALITY CONTROL

Several quality control efforts were employed to ensure that coding across researchers was consistent. At the beginning of the process, all coders participated in multiple team-coding calibration efforts, in which all participants coded the same article, results were compared across coders, and the team met to discuss differences. Based on those discussions, the coding protocols were updated to provide more detailed guidance followed by additional training to ensure a common understanding. Additionally, senior researchers reviewed the text and source coding of many individual articles coded by each coder and provided detailed feedback. This review was heavily weighted toward the beginning of the coding process. The frequency of review and feedback for individual coders was calibrated based on their consistency with the established protocols.
Appendix C. Supplemental Urban Institute Data Collection

At all stages of the Bridge Project, feedback from juvenile justice practitioners, experts, and researchers was an integral component of the research translation process. Between December 2015 and January 2016, researchers conducted four in-person roundtables with 23 participants and interviews with 34 stakeholders (including state and local practitioners, national experts, and researchers) to determine the primary topical area of the Bridge Project—translating research on adolescent development and effective practices for juvenile probation officers. These initial interviews and focus groups were not coded for implementation analysis to inform this publication, but they shaped the focus of the project, our subsequent rounds of stakeholder interviews, and the resulting products.

After determining the focus area, Urban researchers conducted several rounds of interviews and focus groups to guide translation product development. These interviews and focus groups have informed both sets of products—the *Bridging Research and Practice in Juvenile Probation: Rethinking Strategies to Promote Long-Term Change* manuscript and fact sheets and the implementation research synthesis. In Spring 2017, Urban conducted 19 interviews with probation practitioners to identify (1) their familiarity with research on effective probation practice and adolescent development, (2) their current use of research, and (3) examples of jurisdictions implementing innovative probation practices. These stakeholder interviewees were identified in multiple ways, including during our initial round of stakeholder engagement (through suggestions from stakeholders on who else we should speak with), through ongoing scans of innovative probation practices, and through researchers’ knowledge of relevant stakeholders in juvenile probation. They included juvenile probation practitioners, technical assistance providers, researchers, and national experts. Throughout these calls, we used a standardized interview protocol, tailored for a probation stakeholder audience. Between March and November 2017, researchers also conducted four in-person focus groups at probation conferences and national meetings and hosted an interactive conference session at the National Symposium on Juvenile Services to understand similar domains. For focus groups, we used tailored protocols modified slightly for each location.

After completing these interviews and focus groups, Urban researchers selected two implementation “innovation sites” to conduct targeted supplemental phone interviews. These two sites were chosen because stakeholders identified them as jurisdictions innovating in the probation-reform space. Researchers conducted six in-depth calls with probation agency stakeholders in these sites.
focused specifically on implementation barriers, strategies, and successes. In the first site, we conducted one interview with a primary stakeholder involved in the reform effort and realized that this site was not far enough along in implementation to conduct additional calls. In the second site, we conducted five interviews with relevant stakeholders, including Department of Juvenile Justice staff, applied researchers, and probation managers.

In all probation stakeholder interviews (n=19), innovation site interviews (n=6), and in-person focus groups (n=4), members of the research team took detailed notes, which were then hand coded using a coding protocol to identify relevant themes for inclusion within implementation products.
Notes

1 Since 2017, the award has been managed by staff at the National Institute of Justice following transition of research staff into that office.

2 In this document, we use “youth” to refer to people roughly ages 10 to 18. Although research on adolescence suggests that the period extends into the early twenties, and “youth” often incorporates individuals up to age 24, most people under the purview of the juvenile justice system—and those who are the focus of the Bridge Project—are younger than 19.

3 There are multiple implementation science frameworks using different vocabulary to explain the same concepts, including the Interactive Systems Framework (Wandersman et al. 2008), the EPIS Framework (Aarons, Hurlburt, and Horwitz 2011), and what is often referred to as the NIRN Framework (Fixsen et al. 2005; Fixsen et al. 2015). In this paper, we use the vocabulary associated with the National Implementation Research Network (NIRN) Framework, also known as the Active Implementation Framework.

4 For a detailed explanation of each practice, see Harvell and colleagues (2018). For more on the research review and translation process that resulted in these core practices, see Harvell, Love, and Tyson (2018).


6 This theme was also raised in one or more unpublished Urban Institute focus groups and interviews held between early 2017 and early 2018 (see appendix C for more detail).

7 This theme was also raised in one or more unpublished Urban Institute focus groups and interviews held between early 2017 and early 2018 (see appendix C for more detail).

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14 This theme was also raised in one or more unpublished Urban Institute focus groups held between early 2017 and early 2018 (see appendix C for more detail).

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