Risk and Needs Assessments in Prisons

Identifying High-Priority Needs for Using Evidence-Based Practices

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EXECUTIVE SUMMARY

Despite a slight decline in the prison population in 2017 and 2018, significant concerns remain about the cost and effectiveness of U.S. prisons and rehabilitation efforts for incarcerated individuals. As of 2018, nearly 1.5 million individuals were incarcerated in U.S. prisons (Carson, 2020), and recidivism rates in the years following release from prison remained high for both state and federal inmates. Over the past three decades, a body of research has developed on correctional programming that is effective in reducing recidivism (Bonta and Andrews, 2007). Rehabilitative interventions that are commensurate with an inmate's risk level, target *criminogenic needs* (i.e., inmate characteristics that contribute to the likelihood of recidivating), are cognitive-behavioral, and are delivered in a manner consistent with an inmate's learning style and other relevant individual characteristics can lead to reductions in recidivism. These principles form the basis for evidence-based practices (EBPs) for correctional treatment. Corrections agencies are increasingly applying this knowledge to their operations.

Implementing EBPs begins with the utilization of a valid risk and needs assessment (RNA) tool. In a prison setting, RNA tools allow staff to make informed decisions about inmates in their charge, such as decisions about providing recidivism-reduction programming and services based on an inmate's risk and needs. Although the Risk-Need-Responsivity model discussed in Bonta and Andrews, 2007, and the use of RNA tools have consistently demonstrated effectiveness in controlled research environments, successful implementation in the real world (in this case, corrections environments) can be challenging.

Prison systems are highly complex and often underresourced organizations. Many prison systems may lack the internal capacity and infrastructure to effectively implement EBPs in their operations. Furthermore, it can be difficult to change institutional culture to accept an EBP approach in an environment in which custody objectives are paramount. Understanding the science and methods underlying RNA tools also can be difficult for many agencies. Finally, many prison systems struggle to maintain an adequate complement of qualified assessment and treatment staff. This

SELECTED PRIORITY NEEDS

RESULTS

Organizational issues

- Training and guidebooks should be developed for leadership on the state of knowledge of RNA principles and how EBPs can enhance institutional security.

- A mechanism should be developed for the regular dissemination of useful information in digestible formats (e.g., trade magazines, journals).

Selection and implementation of RNA tools

- A consumer guide should be developed to assist agencies in determining which questions to ask when considering acquiring and implementing a new RNA tool.

- A research organization (e.g., the National Academy of Sciences, National Institute of Justice [NIJ]) should convene a "state-of-the-science" forum to examine and assess RNA methods.

- NIJ should evaluate RNA tools in the same way that it evaluates such technologies as body armor and body-worn cameras.

Administration of assessments

- Research should be conducted to evaluate the effectiveness of various approaches, including training, continuous quality improvement, proficiency monitoring, and RNA audits.

- Research should be conducted to examine and assess the techniques and approaches that can improve the validity of assessment results.

Programming

- A taxonomy of correctional programming should be developed along with potential outcome measures to evaluate program integrity.

- Criteria (e.g., minimum qualifications) should be developed for curriculum facilitators.

deficit can undermine a prison's ability to deliver programming as intended.

To examine these issues, NIJ, supported by the RAND Corporation in partnership with the University of Denver, hosted a two-day workshop on August 28 and 29, 2019. The workshop brought together an expert panel of 15 prison administrators, institutional researchers, assessment and treatment staff, and corrections scholars to explore what challenges exist around the use and effective implementation of RNA tools in prisons and how to overcome these obstacles.

Discussions resulted in the identification of 50 *needs* (i.e., problems or opportunities and accompanying solutions), which were prioritized by the participants. Four major themes emerged from the list of identified needs: organizational issues, selection and implementation of RNA tools, administration of assessments, and programming. These results should be of interest to prison administrators, correctional assessment and treatment staff, RNA technology providers, and others in the research community.

WHAT WE FOUND

Of the 50 needs identified, 15 were ranked by workshop participants as high priority. The greatest concentration of high-priority needs (six of 15) was related to selecting and implementing appropriate RNA tools. This speaks in part to the complexity of the science behind the tools and agency capacity to gather and digest relevant information to make informed decisions. Participants reported that correctional agencies need more objective, comparative information about available RNA tools, their underlying methodologies, issues related to implementation, and how the tools perform (e.g., accuracy and reliability) when implemented correctly. Consumer guides also are needed to help agencies iden-

tify the critical questions to ask and issues to consider (e.g., need for local validation, resources needed to administer the assessment, information technology implications) before investing in an RNA tool.

Delivering effective interventions or programming to address the criminogenic needs of inmates as identified by RNA tools accounted for five of the high-priority needs. The importance of maintaining program integrity—delivering interventions as intended—was a common theme. Research suggests that when evidence-based programs are not implemented as intended, effectiveness diminishes (Duwe and Clark, 2015; Lowenkamp, Latessa, and Smith, 2006). The need to create a taxonomy of correctional programs with established standards for how interventions are delivered, including requisite qualifications of the staff delivering the services, was a core theme. Participants called for research about process evaluations to examine how interventions are implemented in the institutional setting and about outcome evaluations to gather evidence about promising programs as they emerge. Finally, participants discussed the challenges associated with applying the principle of *specific responsivity* (i.e., adapting interventions to individual inmate characteristics, such as gender, culture, language barriers, learning style, and motivation or readiness for change) in practice. Research is needed to identify the specific factors that are most likely to present barriers to treatment and techniques to accurately measure such factors.

Organizational issues accounted for two high-priority needs. Implementing RNA tools in alignment with the Risk-Need-Responsivity principles often requires a significant cultural change within an agency. Guidance is needed to help agency staff at all levels understand the principles, why they are important, and how they align with an agency's overall mission. Agency leaders also struggle to keep up with emerging research on RNA tools and correctional programming. There is a need for regular dissemination of relevant research findings in a format that is easily digestible by nonacademics.

Two high-priority needs were associated with administering assessments reliably. Scores can be skewed based on such factors as the skills and qualifications of the interviewer, communication or language barriers, and gender or cultural differences. Furthermore, achieving a high level of interrater reliability is a major challenge. Research is needed to determine the most effective approaches and techniques to improve the quality and reliability of assessment results.

Participants discussed the challenges associated with applying the principle of *specific responsivity* (i.e., adapting interventions to individual inmate characteristics, such as gender, culture, language barriers, learning style, and motivation or readiness for change) in practice.

INTRODUCTION

As of 2018, nearly 1.5 million individuals were incarcerated in U.S. prisons (Carson, 2020). Although the prison population has slightly declined in 2017 and 2018, significant concerns remain about U.S. reliance on incarceration as a sanction and the associated social and economic consequences. It is expensive to maintain a correctional system of such size and scope. The estimated annual cost to fund public corrections agencies exceeds $80 billion (Wagner and Rabuy, 2017). These significant investments in the correctional system have not translated into sustained behavioral change, and efforts to rehabilitate inmates have been generally ineffective. Indeed, after their release, 49 percent of federal inmates and 83 percent of state inmates were rearrested within eight and nine years, respectively (Alper, Durose, and Markman, 2018; Hunt and Dumville, 2016). The rearrest rate is not a perfect measure of recidivism, because it excludes unreported offending behavior and may overcount for arrests that do not lead to reconviction and reincarceration, but these statistics nevertheless show a troubling trend. These and other factors have combined to support an increased focus on correctional programming and reentry services to achieve better offender outcomes. Criminal justice reform efforts on the national, state, and local levels have had bipartisan support; for example, in 2015, comprehensive legislation was introduced in the U.S. Senate to help reduce recidivism (American Bar Association, undated). The public, justice system stakeholders, and legislators all support and deserve a correctional system that can protect citizens by reducing future criminal behavior (Kragie, 2018).

Although many individuals engage in criminal behavior following their release from prison, many do not. If recidivism reduction is a primary goal, corrections agencies must be able to identify those inmates most likely to recidivate and dedicate their resources toward rehabilitative programs that are shown to be most effective. Valid RNA tools are critical to this process. The best instruments, when administered by trained staff, can

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Prison systems are highly complex organizations, and change can be difficult.

predict recidivism with approximately 70-percent accuracy (James, 2018). Furthermore, these tools provide the capability to distinguish risk categories with meaningfully different recidivism rates. RNA tools also help identify an inmate's criminogenic needs related to recidivism. This information assists corrections agencies in assigning programming to inmates based on their criminogenic needs, which might result in lower rates of recidivism. Rather than distributing funding equally among all inmates, regardless of risk level, RNA tools allow an agency to allocate resources strategically to achieve recidivism reduction by assigning the right inmates to the right programming (Desmarais and Singh, 2013). This informed resource allocation is critical because evidence suggests that targeting treatment and services toward high-risk offenders can reduce recidivism, but it might have the opposite effect for low-risk offenders (Lowenkamp, Latessa, and Holsinger, 2006).

Several RNA tools are rooted in the Risk-Needs-Responsivity (RNR) model, which is a set of EBPs (Casey et al., 2014). Formalized 30 years ago in Canada, the RNR model has emerged as the dominant paradigm in correctional treatment (Blanchette and Brown, 2006; James, 2018; Ward, Melser, and Yates, 2007). The core principles are

- **risk principle:** Criminal behavior can be reliably predicted, and treatment should focus on higher-risk offenders.
- **need principle:** Criminogenic needs should be assessed and targeted in treatment.
- **responsivity principle:** Maximize the offender's ability to benefit from intervention by providing cognitive behavioral treatment and tailoring the intervention to the learning style, motivation, abilities, and strengths of the offender (Bonta and Andrews, 2007; Bonta and Andrews, 2017).

Although the RNR model includes three core principles, additional principles have been added to the model over the years. Since 1990, principles related to staff and organizational factors have been added to strengthen the design and imple-

mentation of effective interventions. For example, Bonta, 2019, refers to an "expanded RNR model" as the evidence continues to develop.

The RNR model represents EBPs. Correctional programs—whether based in the community or in institutions—that adhere to the RNR model are more effective in reducing recidivism than those that do not adhere to the model (Andrews and Bonta, 2006; see Figure 1). Implementing EBPs begins with the use of a valid RNA tool. Correctional agencies are increasingly using these tools to make empirically based decisions about inmates in their charge and the provision of programs and services. Indeed, in many cases, legislative initiatives at the state and federal levels are driving the use of RNA tools in correctional agencies. These initiatives often are part of larger, comprehensive reform packages that are designed to reduce prison populations and recidivism. Legislation in several states, such as Kentucky, Ohio, and Tennessee, requires the use of RNA tools in prison systems (National Conference of State Legislatures, 2012). More recently, the First Step Act of 2018 mandated the U.S. Attorney General to develop an RNA tool to determine the risk of recidivism for inmates in Federal Bureau of Prisons (BOP) custody and the type, amount, and intensity of evidence-based programming required to address inmates' criminogenic needs (James, 2019; Pub. L. 115-391, 2018).

Although EBPs have demonstrated moderate effectiveness under controlled research environments (Campbell, French, and Gendreau, 2009; Yang, Wong, and Coid, 2010), successful implementation in the real world can be difficult. To explore the challenges and opportunities in deploying RNA tools in prisons, project staff assembled an expert panel of administrators, researchers, assessment and treatment staff from corrections agencies, and academics to explore the challenges and opportunities in deploying RNA tools in prisons. In the following sections, we describe some of the key challenges and issues discussed during the workshop and the methodology for the workshop itself. We also present the results from the workshop and accompanying context from participant discussions.

Organizational Culture

Prison systems are highly complex organizations, and change can be difficult. The organizational changes required (e.g., the adoption and implementation of an RNA tool, investments in staff training, the development of effective programming) cannot be successful without the support of leadership at all levels (Domurad and Carey, 2010). Despite the compelling research

about the utility of RNA tools, agency executives often have varying levels of commitment to EBPs. There is a continuous struggle to balance custody and treatment objectives, and it can be difficult to prioritize EBPs in a field where a security lapse resulting in a high-profile incident (and not increasing recidivism rates) can derail an administrator's career. Security, logistics, and behavior-management strategies might interfere with effective programming, such as when an inmate is transferred to another institution and services are discontinued because of security reclassification or fluctuations in inmate numbers across a state, or if programming is discontinued as a punishment for infractions.

Leaders might be familiar with the jargon of EBPs, but few have a deep understanding of the principles and how to apply them. Furthermore, even in cases in which leaders are knowledgeable and fully engaged, discontinuity in personnel can make it challenging to sustain EBP initiatives. For example, the average tenure for a state corrections agency executive is less than four years (Innes, 2015). In the BOP, wardens are frequently transferred between institutions by design. Although executive leadership is important, commitment is also needed from middle management and line supervisors. Indeed, all staff need to "buy in" to the importance and value of RNAs, but additional efforts should be made to engage line staff, because correctional officers likely spend more time with inmates than any other staff. Despite research outlining the importance of employing core correctional practices in effective correctional treatment (e.g., effective use of authority, effective use of community resources, quality of interpersonal relationships), research has shown that these techniques are rarely used in programming (Andrews and Kiessling, 1980; Dowden and Andrews, 2004). Most officers are not trained on EBPs and therefore lack an understanding of how they are part of their job description in support of the agency mission. Furthermore, without training, these officers are not able to apply other skills, such as motivational interviewing techniques, in their daily interactions with inmates.

Resource Constraints

Many prison systems are severely underresourced, which can negatively affect their ability to implement EBPs, including RNA tools. This manifests in several ways. For example, some agencies might struggle to maintain adequate staffing levels of personnel who are responsible for administering RNAs and/or those who deliver programming and interventions. Efficiency might be diminished by inadequate staff access to necessary

Figure 1. Adherence to the Risk-Needs-Responsivity Principles, by Setting
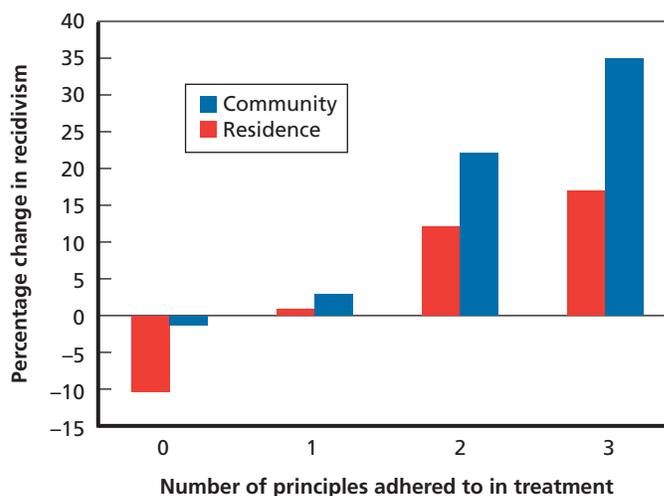
SOURCE: Adapted from Andrews and Bonta, 2006.
NOTE: Negative numbers correspond to higher rates of recidivism. Positive numbers correspond to lower rates of recidivism.

equipment or databases, such as, for example, if staff do not have access to facility computers, cannot acquire state email addresses, or must enter the same data into multiple information systems that share information poorly. Furthermore, agencies might be unable to provide the amount of training needed to perform these roles well. This can result in overwhelming workload demands on staff and diminished job performance.

Physical space limitations within an institution also might affect the ability of staff to perform assessments or conduct group programs. For example, assessments should be conducted in a quiet and private space, whereas group activities require larger, more-open physical spaces. Many prisons, particularly older ones, might suffer from a lack of adequate space.

Resource constraints can mean that necessary programming might not be available in every institution, or they could lead to long waiting lists for individuals who need specific programming. Furthermore, some inmates might be released before they receive important programming, because their maximum term has expired. Others seeking early release via parole might be ineligible until they can access and complete required programming.

Finally, resource limitations might cause prisons to modify the way that programming is delivered. For example, increasing the number of inmates in a group activity or decreasing the number of sessions or the duration of each session can result in drift from program fidelity, which might undermine the effectiveness of the intervention.

Often, resource limitations might cause prisons to drift from program fidelity; however, in some cases, it is likely that correctional leaders do not fully appreciate the relationship between program fidelity and effectiveness.

The Capacity to Evaluate and Implement RNA Tools

It can be challenging for correctional agencies to select and implement an RNA tool properly, particularly for those that lack a strong research unit or partnerships with external entities, such as academic institutions or think tanks. Available tools can vary in several important ways (Casey et al., 2014). For example, many tools are designed to measure the risk of recidivism generally, while others focus on particular types of criminal behavior (e.g., violence, sex offending). Comparable tools often are constructed using differing definitions of recidivism. Tools also might focus on a particular decision point in the justice system (e.g., sentencing, level of community supervision, prison intake, parole eligibility). Some tools assess risk and needs as a composite score, while others separate these scores. There are advantages and disadvantages to each approach. Understanding how the different RNA tools work and the underlying methods and evidence behind them can be difficult for agencies that lack expertise (or access to expertise) in this area. As a result, agencies might not appreciate critical nuances, such as the importance of validating the tool with their population, which can lead to suboptimal outcomes.

Once a tool is selected, effective implementation can be challenging. It can be difficult to achieve a high degree of *interrater reliability* (i.e., assessment results on the same inmate are consistent across different assessors). Interrater reliability is correlated with the predictive validity (and therefore the effectiveness) of a tool in a given setting (Duwe, 2017). Furthermore, some staff might view RNA tools as infringing on their professional judgment and might be more inclined to override the results with respect to an inmate's needs. This might ultimately lower the effectiveness of the tool in that setting. Agencies need to ensure that staff are qualified to administer the assessment and that they receive initial and follow-up training on the tool. Quality assurance methods also can help maintain interrater reliability over time.

Program Implementation

For a variety of reasons, programming that is effective in experimental settings might not perform as well in the real world (e.g., a prison setting). Often, this is because of how the program is implemented. For example, rather than targeting treatment toward high-risk offenders, institutions might preferentially provide services to low-risk offenders simply because it is easier to manage concerns related to security and ease in facilitating group exercises. When programs are not implemented as intended (i.e., with fidelity), they lose effectiveness. For example, Duwe and Clark, 2015, describes the impact of program integrity on recidivism. In this study of a cognitive-behavioral program designed for female inmates, significant reductions in recidivism were observed when the program was implemented with fidelity. Over time, changes were made to the program (e.g., reduction in class time, elimination of role-playing exercises, significant increase in the number of inmates in the class). The modified, low-fidelity version of the program did not produce reductions in recidivism. Often, resource limitations might cause prisons to drift from program fidelity; however, in some cases, it is likely that correctional leaders do not fully appreciate the relationship between program fidelity and effectiveness.

METHODOLOGY

Project staff assembled an expert panel to explore the challenges and opportunities in deploying RNA tools in prisons. A pool of candidate participants was identified in consultation with NIJ. The BOP was selected for participation because of the ongoing implementation of the First Step Act of 2018 and, specifically, because of the forthcoming implementation of a new RNA tool to determine the risk of recidivism for each inmate and the type, amount, and intensity of evidence-based programming required to address each inmate's criminogenic needs. Because of this important initiative and the size and scope of the agency,

the BOP was represented by four participants from agency headquarters and institutions across the United States. Four state prison systems also were selected to provide their unique perspectives. Each state identified two individuals to participate in the panel: a staff member who engages in research or treatment services administration and a staff member who is responsible for administering the RNAs to inmates and using the results to inform programming decisions. Project staff also selected researchers with expertise in the development or implementation of RNAs and those supporting NIJ's role in the implementation of the First Step Act. Ultimately, a group of 15 experts was convened (see the Participants box for a full list of names and affiliations).

The participants were brought together for a two-day workshop. During the morning of the first day, project staff outlined the process and goals of the workshop. Each of the five prison system representatives provided a brief overview of their approach to RNA and discussed the general challenges they face. The project team used a structured brainstorming approach to develop a set of needs, where *need* is used to describe a specific potential solution tied to either solving a problem or taking advantage of an opportunity to better address a challenge (i.e., each unique pairing of a problem or opportunity with a potential solution is counted as a need). To organize discussions, project staff identified the following five general topics for discussion based on a review of correctional program evaluation literature related to the use of RNA tools in prisons (see, for example, Duriez et al., 2017):

- organizational issues: What are the high-level challenges that a prison system faces to fully engage and leverage the RNA process (e.g., cultural or leadership issues, change management issues, lack of motivation or resources)?
- selecting or developing appropriate RNA instrument(s): What are the challenges associated with selecting RNA tools to use in a prison system (e.g., lack of understanding of purpose, capabilities, and limitations; general predictive validity; predictive validity across subgroups; coordinating multiple instruments; planning for periodic revalidation of the instrument)?
- administration of assessments: What are the specific challenges around administering assessments on inmates (e.g., access to data sources, access to technology, staff qualifications or training, staff capacity, time required to complete an assessment, interrater reliability, overrides, reassessment frequency)?

- tying needs assessment to case planning and programming: What are the specific challenges around putting RNA results to use with respect to programming (e.g., determining appropriate programming for each inmate, applying the responsivity principle to programming approaches, availability of programming, optimal timing and sequence of programming, program quality, program fidelity)?
- other: What are some of the important issues that are not sufficiently covered in the other areas (e.g., auditing and quality assurance, using trend data to identify current or future programming needs)?

Needs identified by the experts during these discussions were recorded and prioritized at various points during the workshop. More details about the methods used to structure the workshop and identify and prioritize needs are described in the technical appendix to this report. In the next section, we describe the results of the prioritization exercise.

RESULTS

Over the course of the two-day workshop, participants identified a total of 50 needs related to the use and effective deployment of RNA tools in prison. The needs were organized into four major themes: organizational issues, selection and implementation of RNA tools, administration of assessments, and programming. The themes reflect the results of workshop deliberations and are therefore labeled and organized in a slightly different format relative to the initial discussion topics and outline. See Figure 2 for the distribution of needs across the four themes.

Figure 2. Total Number of Needs, by Theme

Programming (14) | Organizational issues (11) | Selection and implementation of RNA tools (16) | Administration of assessments (9)
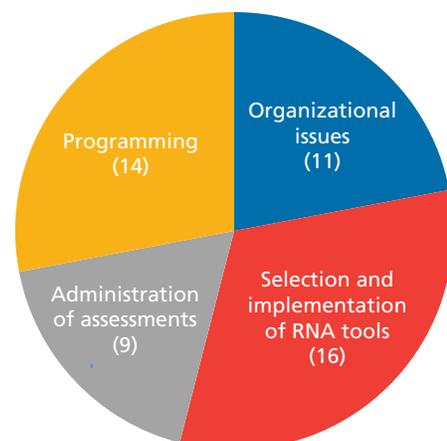
The 50 needs were well distributed across the four themes. During the panel discussion, the workshop participants identified 15 high-priority needs, which are shown in Table 1. For a list of all identified needs, see Table A.3 in the technical appendix.

DISCUSSION
Organizational Issues

According to the participants, an important challenge to fully leveraging EBPs, including the use of RNA tools, is the historical schism between an institution's security and treatment objectives. Invariably, custody concerns take priority over virtually all else. For example, some participants stated that "All staff are trained as corrections workers first and psychologists, nurses, or teachers second." Participants also noted that security and treatment objectives are complementary in nature rather than competing interests. Effective programming cannot take place in an institution that is not safe and secure. It is also true that the proper application of RNA tools, combined with evidence-based programming, contributes not only to a safer, more-secure institution but also to public safety because inmates will be better prepared to succeed in the community upon release.

Part of the problem, according to the participants, is that some correctional leaders have a superficial understanding of RNA tools and EBPs. These leaders might know the

Table 1. The 15 High-Priority Needs

Problem or Opportunity	Potential Solution
Organizational issues	
Many prison systems emphasize institutional security over treatment objectives and fail to recognize that the principles of RNA, effective programming, and security are inextricably linked.	• Develop training and guidebooks for leadership on the state of knowledge about RNA principles and how EBPs can enhance institutional security.
It can be challenging for treatment staff to stay current on new evidence and innovations in RNA tools and programming.	• Develop a mechanism for the regular dissemination of useful information in digestible formats (e.g., trade magazines, journals).
Selection and implementation of RNA tools	
Some agencies assume that an RNA tool's evaluation results will apply equally in their jurisdiction and will forgo additional validation.	• Conduct research to develop evidence-based guidelines to assist agencies in determining the need for tool validation in their settings and recommended revalidation frequency.
Agencies often are unaware of the amount of time and training required to implement and administer a new RNA tool.	• Develop a consumer guide to assist agencies in determining which questions to ask when considering acquiring and implementing a new RNA tool.[a]
The individuals selecting the tools might not have access to digestible empirical research about a tool's methodology and effectiveness.	
Agencies often fail to consider the information technology infrastructure implications when selecting and implementing an RNA tool.	
RNA tools are used to make highly consequential decisions about people's lives and therefore should be thoroughly evaluated before being purchased and deployed.	• Convene a "state-of-the-science" forum led by a research organization (e.g., National Academy of Sciences, NIJ) to examine and assess RNA methods. • Evaluate RNA tools as NIJ does for such technologies as body armor and body-worn cameras.
Administration of assessments	
Maintaining a high level of interrater reliability can be a challenge.	• Conduct research to evaluate the effectiveness of various approaches, including training, continuous quality improvement, proficiency monitoring, and RNA audits.
Assessment results can be skewed by a variety of factors (e.g., tool internal validity issues, interviewer skills, communication or language barriers, gender differences, inmate manipulation).	• Conduct research to examine and assess the techniques and approaches that can improve the validity of assessment results.

Table 1—Continued

Problem or Opportunity	Potential Solution
Programming	
It can be difficult to link needs to programs and then evaluate program integrity and fidelity because of differing descriptions (e.g., no standard taxonomy of programs).	• Develop a taxonomy of correctional programming along with potential outcome measures to evaluate program integrity.
Because the responsivity principle often is not well understood, it is difficult to apply in practice. There also might be factors with potential effects on responsivity that are unknown or not under assessment.	• Conduct research to better understand the factors that influence responsivity.
There is a lack of information about the effectiveness of programs and whether they have been implemented with fidelity.	• Conduct process and impact evaluations so that there is a better understanding of what works and why.
There is an increasing expectation that agencies implement programs that are evidence-based to the exclusion of all others, which inhibits innovation.	• Develop infrastructure for ongoing support for research to produce the evidence around new programs.
Agencies often struggle to achieve the right balance of treatment staff (number and qualifications) to implement effective programming.	• Develop criteria (e.g., minimum qualifications) for curriculum facilitators.

a Each unique pairing of a problem or opportunity with a potential solution is counted as a separate need. Although only 13 unique items appear in the Potential Solutions column, this potential solution is associated with three different problems or opportunities, leading to 15 unique pairings.

talking points and jargon but might not be fully committed to the RNA approach. Indeed, many agencies might not adequately distinguish between true, evidence-based treatment and programs that are simply structured, prosocial activities. Structured activities that keep inmates occupied (e.g., boot camps, pet therapy) might be important for reducing misconduct in institutional settings, but they should not be confused with treatment that is based on EBPs for changing offender behavior (Latessa, Cullen, and Gendreau, 2002). Even those leaders that have a solid knowledge base and genuine appreciation for EBPs might lack the skills and training to apply these practices within their organizations. There are deficiencies in other levels of staff as well. Middle managers, supervisors, and line staff often lack sufficient understanding of what EBPs are, why they are important, and how they connect to an agency's mission. For example, the average correctional officer might lack the training and skills to be able to apply such practices as motivational interviewing in routine interactions with inmates in a cellblock or vocational program setting to produce better outcomes.

To help address these issues, participants called for better training and resources for staff at all levels to be delivered by a nationally recognized entity, such as the National Institute of Corrections.[1] The participants noted that training and resources should clearly demonstrate how the application of RNA tools—and EBPs in general—works to enhance institutional security and safety and improve inmate outcomes. Furthermore, these initiatives must be sustained to account for high turnover rates among staff and to stress the importance of applying RNA tools. There is a need to make the application of EBPs a core competency rather than the "flavor of the month." This kind of broader, national push to adopt RNAs and EBPs in correctional settings would help administrators prioritize them when attempting the challenging task of shifting organizational culture. This national priority-setting could help identify the potential benefits and obtain buy-in at all organizational levels, including from line staff.

The participants also discussed the significant workload challenges that every correctional agency faces. These challenges manifest in many ways (e.g., decreased capacity to administer assessments or deliver meaningful interventions), but one high-priority need focused on the difficulties that agencies face in simply maintaining situational awareness with respect to EBPs. The body of knowledge is continually evolving (Bonta, 2019), and many agencies struggle to keep abreast of new research on RNA tools and correctional programming, which might hinder their ability to apply this knowledge effectively.

To bridge this gap, participants identified the need for an objective entity to periodically compile, summarize, and disseminate relevant research findings related to EBPs. These updates could be published as standing columns in corrections

trade journals. However, some noted that, to be useful, the information must be synthesized into digestible language and formats and be easily accessible to corrections staff who might not have an academic background.

Selection and Implementation of RNA Tools

The participants identified six high-priority needs related to selecting and implementing RNA tools. Four of these needs pertained to the development of guidelines to help agencies with specific issues related to RNA tool implementation, such as tool validation, tool characteristics, and general implementation questions. The remaining two needs called for efforts by an external body to better assess and evaluate the current state of RNA tools and methods. As discussed earlier, RNA tools are used to inform important decisions related to custody levels, prioritization for programming, and eligibility for parole. Therefore, these decisions have significant consequences for public safety and for the inmate whose liberty might be at stake. Given the importance of RNA tools, the participants argued that agencies should have better access to objective and up-to-date information before purchasing and implementing a new RNA tool. Unfortunately, many prison systems lack the internal capacity (or partnerships with external resources) to properly evaluate these tools. The participants made several recommendations to help bridge this gap. For example, to increase the general knowledge base, participants called for a well-respected national research organization (e.g., National Academy of Sciences, NIJ) to periodically convene a state-of-

> Given the importance of RNA tools, the participants argued that agencies should have better access to objective and up-to-date information before purchasing and implementing a new RNA tool.

the-science forum to examine and assess current RNA methodologies and tools and produce a report of their findings. A related recommendation called for the creation of an ongoing test and evaluation program for RNA tools, somewhat akin to NIJ's work in the body armor arena.[2] Such a program would establish minimum performance requirements or standards for RNA tools and objective criteria by which to measure performance, such as various cost measures, data ownership and management considerations, and training or recertification specifications. Agencies would benefit from independent evaluation, which might yield a level of confidence in a tool's fitness for use and allow for better comparison of tools based on standardized testing methods.

According to the participants, agencies also need better information and guidance around establishing the validity of RNA tools. Developers typically create these tools using a sample population in a particular jurisdiction, and a given tool might not be broadly applicable for other environments or populations. Furthermore, these tools are generally designed to assess specific subpopulations of offenders and inform a particular decision point in the justice system (e.g., pretrial release, sentencing, programming, parole). Some agencies, according to the participants, erroneously assume that RNA tools are "plug and play." That is, some agencies assume that a tool developed in or for another jurisdiction will perform equally well in their jurisdiction. Because of this assumption, or, in some cases, because of an inability or reluctance to dedicate the required resources, agencies might forego a local assessment and validation of the tool on their population before implementation. Beyond the fact that not all RNA tools are designed for the same purpose, differences in jurisdictional policy, procedure, or the characteristics and demographics of the inmate population might be significant enough to alter the predictive accuracy of the tool. A validation study with the intended population is often necessary to fine-tune the tool to optimize predictive validity. This additional step can provide agencies and the broader stakeholder community with increased confidence in the tool (Casey et al., 2014). The participants called for research to support guidelines to inform agency policy regarding local assessments and validation.

Participants also discussed issues around the regular revalidation of an RNA tool. This is particularly important in situations in which there have been significant changes in local law, policing practices, community demographics, or other factors that could affect offense rates or alter the common types of offending over time (Casey et al., 2014). In some cases, these

Agencies would benefit from specific guidance on the implications a new RNA tool might have on an existing information technology system infrastructure.

shifts might require adjustments to the items and weights of the tool, along with adjustments to the risk level cutoff scores to maintain confidence in the instrument's predictive validity. Not surprisingly, RNA instrument developers each offer varying guidance on their own tools. Some suggest revalidation studies at periodic intervals of every two to five years, while others indicate that the frequency of revalidation depends more on the type of assessment instrument used and how it was developed (Casey et al., 2014). The participants noted that agencies would benefit from independent research rather than developer recommendations to create guidelines for the recommended frequency of revalidation.

The recommendations discussed by participants would provide prison systems with important baseline information. The participants noted, however, that more-specific guidance is needed. Beyond the stated impacts on public safety and inmate outcomes, selecting and implementing an RNA tool also represents a significant investment for a corrections agency. Participants argued for the development of a consumer guide to help agencies identify the critical considerations and questions to ask before investing in an RNA tool. The guide would address a variety of issues. For example, the participants noted that it can be challenging for correctional administrators to understand the science behind RNA tools because the methodologies behind each tool often are unclear or are otherwise protected by the developers. A guidebook that outlines the evidence about particular tools (e.g., how it was constructed, for what purpose, how it performs) written in easily accessible language would benefit the field. The consumer guide should help correctional systems consider and plan for implementation issues that often are overlooked. Proper implementation of an RNA tool can be resource-intensive, and many agencies are not fully prepared for the commitment required. For example, most commercially available tools require a two- to three-day training package, which provides the minimal training necessary to administer the instrument (Desmarais and Singh, 2013). Refresher or booster training is recommended to help ensure that all staff are administering the assessments in the same way. Furthermore, quality assurance programs are required. Guidance is

needed to help agencies understand the importance of these issues and their implications so that they can better plan for the time and effort needed for successful implementation.

Some RNA tools are fully automated, particularly those that focus on risk, and the software is designed to interface with an agency's existing case management information system. In this way, relevant inmate information can be electronically accessed and autopopulate the assessment instrument for more-efficient scoring. According to the participants, this approach can have unintended consequences. As an example, one participant recalled a situation in which an update to the RNA software caused the agency's entire case management information system to crash. Agencies would benefit from specific guidance on the implications a new RNA tool might have on an existing information technology system infrastructure. The participants noted that this issue will become more important in the future as tools are expected to become increasingly automated.

Administration of Assessments

The participants identified three high-priority needs that are related to administering assessments. The way in which RNA instruments are administered and scored can have a significant impact on instrument performance. This is particularly true with respect to the dynamic risk factors or criminogenic needs that are related to the risk of recidivism. These factors assist in the identification of areas to target with programming. Unlike static risk factors (e.g., age at first arrest) that are not subject to interpretation, dynamic risk factors or criminogenic needs require more-manual administration. For example, correctional staff must gather information from data sources and interviews with inmates to provide the most informed answer for each item on an instrument. Ideally, each staff member administering an assessment would consistently score the same inmate the same way every time, but this might not occur in practice for a variety of reasons. These differences, measured as interrater reliability, might negatively affect the performance (i.e., predictive value) of the tool and programming decisions. According to participants, it can be challenging to maintain a high-level of interrater reliability. The group discussed a variety of strategies

> According to the participants, many agencies believe that they are delivering evidence-based programs, but for a variety of reasons, they fall short and the outcomes are less positive than expected.

to improve interrater reliability, including enhanced training techniques, on-the-job coaching, auditing, and other quality assurance processes to produce more-reliable assessments. Research is needed to help determine which strategies have the greatest positive impacts on interrater reliability because little is known about which approaches are most effective.

The participants identified other factors that can skew results. For example, one participant reported that inmates in that participant's prison system self-report their needs. This can be problematic for a variety of reasons. Although inmates should be invested in their own case-management plans, they might not have full comprehension or the best perspective of their needs. Furthermore, over time, some inmates learn how to respond to assessment questions to drive a particular outcome. They might learn that answering in a certain way will increase their chances of getting into a program they might not need for other purposes (e.g., to be in proximity to another inmate or to gain access to a certain program they believe might enhance their chances of a favorable parole decision). Participants also identified deficiencies in the competencies of the assessors. Some staff members lack the qualifications and training necessary to work with inmates during the assessment process, and agencies might not adequately allocate time for staff to complete assessments or access relevant, collateral information. Consequently, staff might not have the skills to circumvent barriers related to gender, culture, or language, and this can be detrimental to assessment effectiveness. Research is needed to identify the most effective techniques and approaches to improve the assessment process.

Programming

The RNR model dictates that the risk and needs of an inmate, as determined by an RNA tool, should drive the assignment of programming designed to address the inmate's criminogenic needs. According to the participants, assuming that the RNA tool accurately and reliably identifies the inmate's criminogenic needs, there might be significant challenges associated with

effective program delivery. Within the theme of programming (i.e., the interventions offered and the manner in which they are delivered), four specific needs were ranked as high priority.

Accurate assessments can be wasted effort if they are not linked with effective treatment (Casey et al., 2014). According to the participants, many agencies believe that they are delivering evidence-based programs, but for a variety of reasons, they fall short and the outcomes are less positive than expected. Indeed, the effectiveness of treatment delivered in real-world settings, such as prisons, is about half that of experimental programs (Andrews and Bonta, 2006). This suggests that implementation in different settings introduces variability, which can affect effectiveness. This variability might manifest in any number of ways (e.g., the qualifications and training of staff delivering the intervention, the methods used, characteristics of the physical space, modification of the duration or dosage of the intervention). These variations equate to a lack of program fidelity, which ultimately affects program effectiveness.

The group argued that the lack of a taxonomy of correctional programs and processes, as well as standards and common terminology, can make it challenging to determine whether programs have been implemented with fidelity and why some programs might be achieving better outcomes than others. Cognitive-behavioral treatment (CBT) programs were discussed as an example. CBT programming has been demonstrated to reduce recidivism, but its implementation can vary greatly. CBT programs might operate under different names or labels across correctional agencies, and program and service delivery requirements might vary considerably from one region or state to another. Some prisons use mental health professionals to deliver programming, and these services are therefore labeled as therapeutic in nature (i.e., cognitive-behavioral therapy). Because of varying service delivery requirements, resources, or other constraints, prisons might use nontherapeutic staff to deliver programming. One participant referred to this as cognitive-behavioral *intervention* versus treatment or therapy. Both cognitive-behavioral interventions and therapy

might be effective, but both require monitoring and coaching of staff, regardless of training background, to ensure correct delivery.

There are several other factors that might affect effectiveness, such as whether group activities are used, whether interventions are in-person or self-paced, and whether a correctional officer is present during the intervention. In some prisons, a counselor or correctional officer might lead a group of inmates through workbook exercises or activities based on the principles of CBT. In other settings, inmates might be provided with the tools to employ a self-directed approach, working on exercises on their own. When each permutation is labeled CBT, it becomes quite challenging to measure program integrity and determine which programs are effective and why. To assist program-evaluation activities, the participants called for the development of a general taxonomy of correctional programs that is supported by common terminology. Furthermore, agencies should uniformly maintain a checklist of the most-critical data (e.g., type of intervention or theory, staffing required, qualifications of staff, duration and frequency of sessions, materials) for each program, which will assist in evaluating program integrity. Some existing documentation, such as consumer guides to selecting cognitive-behavioral therapy curricula from the International Community Corrections Association, could serve as a useful starting point (International Community Corrections Association, 2007).

The participants also reflected on the increasing expectation that prisons implement only programs that are considered evidence-based. An *evidence-based practice* or *program* is one that has been demonstrated to be effective through empirical research rather than through anecdotal or professional experience alone. Indeed, some states have passed legislation that uses funding as an incentive to promote the use of evidence-based programs, while others make evidence-based programming a requirement (Pew-MacArthur Results First Initiative, 2015). Although the participants supported the application of evidence-based programs, some believed that it is unrealistic or overly restrictive to limit programming options to those that have undergone rigorous evaluation. For example, many agencies operate promising programs but typically do not have the resources to conduct evaluations internally. That said, the participants articulated the need for a more robust research infrastructure that is funded to conduct evaluations and produce evidence around promising new programs. Participants stressed the importance of process evaluations; it is not enough to know

whether a program is effective, but it is critical to understand why a program is effective so that it can be replicated.

Finally, the participants discussed the concept of responsivity at length, acknowledging that it is the least understood of the RNR principles. The responsivity principle requires adapting treatment to the individual inmate's learning style, motivation, personality, and strengths. The principle also requires using approaches that are known to be effective to address the needs identified (Bonta and Andrews, 2007). Responsivity has two dimensions. *General responsivity* refers to the use of treatment interventions (e.g., cognitive-behavioral programs) that evidence suggests are effective in changing behavior. *Specific responsivity* refers to adapting the intervention to the individual inmate characteristics (e.g., gender, culture, language barriers, learning style, motivation for change or readiness for change).

According to the participants, the concept of specific responsivity raises challenges. Unlike other RNR principles, there is comparatively little research on specific responsivity (Bourgon and Bonta, 2014). For example, the participants noted that, in general, it is very difficult to measure an individual's motivation or fully understand what motivates them. Furthermore, little is known about the effects that other factors not commonly cited might have on an individual's responsivity to treatment. It might be that the factors related to risk and needs are also correlated with responsivity. To help bridge this knowledge gap, the participants called for more research to guide practice.

Although the participants supported the application of evidence-based programs, some believed that it is unrealistic or overly restrictive to limit programming options to those that have undergone rigorous evaluation.

CONCLUSION

To explore the challenges with effectively deploying RNA tools in prisons, project staff assembled an expert workshop of prison administrators, assessment and treatment staff, and academic researchers. Project staff led workshop participants in a structured brainstorming exercise designed to identify key challenges and needs that, if addressed, would significantly improve the ability of prisons to meet these challenges. The list of needs was prioritized by the participants, and the following major themes emerged:

- Staff at all levels need to understand the principles of the RNR model and how they align with the overarching agency mission.
- Agencies need resources and guidance to help them make better decisions about selecting and implementing RNA tools.
- Research is needed to guide the accurate and reliable administration of RNA tools.
- More information is needed about implementing evidence-based programs with fidelity.

Research has demonstrated that validated tools based on RNR principles can correctly predict recidivism risk (Desmarais and Singh, 2013). Moreover, research has shown that employing demonstrated, effective correctional practices and programming toward individuals at higher risk of recidivism will reduce recidivism rates (Dowden and Andrews, 2004; Duwe, 2017; Lowenkamp, Latessa, and Holsinger, 2006). These findings suggest that correctional agencies that adhere to the RNR principles will show significant reductions in recidivism as opposed to those that do not (Caudy et al., 2013). Therefore, these principles should become core correctional competencies that are as central to operations as key control or inmate counts. Correctional leaders must create a culture in which all staff members understand the principles of RNR and how they work to improve not only inmate outcomes but also institutional safety and security.

RNA tools are highly complex. Agencies need access to resources and training to help them understand how these tools work and how they support the RNR model. Furthermore, independent research and evaluations are needed to help inform tool selection. Also, improvements are needed in the way in which RNA tools are administered. Research is needed to determine the most effective techniques or methods to achieve high levels of interrater reliability. This is critically important because inconsistency or differences in how staff score a tool might negatively affect the tool's ability to predict recidivism and/or assess criminogenic needs. Furthermore, staff need better training and improved skills to work with inmates to overcome barriers to accurately assessing their criminogenic needs.

Finally, there is much work to be done in the area of program effectiveness, with particular focus on implementing programs with fidelity. There is a need for greater organization and structure of correctional programs in the form of a taxonomy and common language. Furthermore, agencies should maintain a minimum level of critical information about their programs (e.g., type of intervention, staffing requirements, duration and frequency of sessions, materials used), which can be referenced when evaluating program integrity.

The use of RNA tools in alignment with the principles of RNR can contribute to significant reductions in recidivism, which improves the lives of justice-involved individuals, strengthens communities, saves taxpayer dollars, and enhances public safety. Implementing these tools in a manner that achieves optimal effectiveness is highly challenging, but the high-priority needs identified by the expert panel provide a roadmap of what must be accomplished to move toward that goal.

TECHNICAL APPENDIX

In this appendix, we present additional details about the workshop agenda and the process for identifying and prioritizing needs. Through this process, we developed the research agenda that structured the topics presented in the main report. The descriptions in this appendix are adapted from those in previous publications of the Priority Criminal Justice Needs Initiative and reflect adjustments to the needs identification and prioritization process implemented at this workshop.

Pre-Workshop Activities

Like in previous workshops conducted as part of the Priority Criminal Justice Needs Initiative, we recruited panel members in consultation with NIJ. The BOP was selected for participation because of the ongoing implementation of the First Step Act of 2018, and specifically because of the forthcoming implementation of a new RNA tool to determine the risk of recidivism for each inmate and the type, amount, and intensity of evidence-based programming required to address the inmate's

criminogenic needs. Because of this important initiative and the size and scope of this agency, the BOP was represented by four participants from agency headquarters and institutions across the country. Four state prison systems (Minnesota, Ohio, Pennsylvania, and Tennessee) were also selected to provide their unique perspectives. Each of these state agencies identified two individuals to participate in the panel: a staff member who engages in research or treatment services administration and a staff member who is responsible for administering the risk and needs assessments to inmates and using the results to inform programming decisions. We also selected researchers with expertise in the development or implementation of risk and needs assessments and those supporting NIJ's role in the implementation of the First Step Act. We then extended invitations to those individuals and provided a brief description of the workshop's focus areas.

We structured the workshop and discussion as shown in Table A.1 based on a comprehensive literature review.

Identification and Prioritization of Needs

During the workshop, we asked the participants to discuss the challenges that they face with respect to the use and effective deployment of RNA tools in prison settings and how to address these obstacles. We also asked them to identify areas where additional research and development investment could help alleviate the challenges. During these discussions, participants suggested additional areas that are potentially worthy of research or investment. Participants also considered whether there were areas that were not included in the existing list and suggested new ones. Although the process of expert elicitation that we describe was designed to gather unbiased, representative results from experts and practitioners in the field, there are several limitations that could affect the findings. The process typically elicits opinions from a relatively small group of experts. As a result, although we attempted to make the group as representative as possible of different disciplines, perspectives, and geographic regions, the final output of the workshop likely will be significantly influenced by the specific group of experts invited to participate. It is possible that the findings from the workshop would vary were a different group of experts selected. Moreover, although the discussion moderators made every effort to act as neutral parties when eliciting opinions from the collected experts, the background and experience of the moderators had the potential to influence the questions they posed to the group and how they phrased those questions. This also could introduce bias that could influence the findings.

To develop and prioritize a list of technology and policy issues that are likely to benefit from research and investment, we followed a process similar to one that has been used in previous Priority Criminal Justice Needs Initiative workshops (see, for example, Jackson et al., 2015; Jackson et al., 2016, and references therein). The needs were prioritized using a variation of the Delphi Method, a technique developed at RAND to elicit expert opinion about well-defined questions in a systematic and structured way (RAND Corporation, undated). Participants discussed and refined problems and identified potential solutions that could address each problem. Each unique pairing of a problem or opportunity with a potential solution is defined as a *need*. In addition, needs could be framed in response to opportunities to improve performance by adopting or adapting a new approach or practice (e.g., applying a new technology or tool in the sector that had not been used before).

Table A.1. Workshop Agenda

Day 1	Day 2
Welcome and Introductions	Summary of Day 1 and Overview of Agenda for Day 2
Initial Discussion of Workshop Functions and Objectives	Tying Needs Assessment to Case Planning and Programming: Challenges and Solutions
High-Level Organizational Issues: Challenges and Solutions	Other Issues
Selecting or Developing the Appropriate RNA Instrument(s): Challenges and Solutions	Review and Final Brainstorming Session
Data Analysis: Challenges and Solutions	Final Needs Prioritization
Administering Assessments: Challenges and Solutions	Panel Review and Next Steps
Review Key Benefits and Challenges Identified During Day 1, Prioritize Discussion for Day 2	

At the end of the discussion of each topic, participants were given an opportunity to review and revise the list of problems and opportunities they had identified. The participants' combined lists for each topic were displayed one by one in the front of the room using Microsoft PowerPoint slides that were edited in real time to incorporate participant revisions and comments.

Once the panel agreed on the wording of each slide, we asked them to anonymously vote using a handheld device (specifically, the ResponseCard RF LCD from Turning Technologies). Each participant was asked to individually score each problem or opportunity and its associated needs using a 1–9 scale for two dimensions: importance and probability of success.

For the *importance* dimension, participants were instructed that 1 was a low score and 9 was a high score. Participants were told to score a need's importance with a 1 if it would have little or no impact on the problem and with a 9 if it would reduce the impact of the problem by 20 percent or more. Anchoring the scale with percentage improvements in the need's performance is intended to help make rating values more comparable from participant to participant.

For the *probability of success* dimension, participants were instructed to treat the 1–9 scale as a percentage chance that the need could be met and broadly implemented successfully. That is, they could assign the need's chance of success between 10 percent (i.e., a rating of 1) and 90 percent (i.e., a rating of 9). This dimension was intended to include not only technical concerns (i.e., whether the need would be hard to meet) but also the effect of factors that might lead prisons to not adopt the new technology, policy, or practice even if it was developed. Such factors could include, for example, cost, staffing concerns, and societal concerns.

After the participants rated the needs displayed on a particular slide (i.e., for either importance or probability of success), we displayed a histogram-style summary of participant responses. If there was a significant disagreement among the panel (the degree of disagreement was determined by the research team's visual inspection of the histogram), the participants were asked to discuss or explain their votes at one end of the spectrum or the other. If a second round of discussion occurred, participants were given an opportunity to adjust their ratings for the same question. This second-round rating was optional, and any rating submitted by a participant would replace their first-round rating. This process was repeated for each question and dimension at the end of each topic area. Figure A.1 shows an example of a slide on the importance dimen-

sion, with related issue, need, and histogram. Figure A.2 shows a slide on the probability of success dimension.

Once the participants had completed this rating process for all topic areas, we put the needs into a single prioritized list. We ordered the list by calculating an expected value using the method outlined in Jackson et al., 2016. For each need, we multiplied the final (second-round) ratings for importance and probability of success to produce an expected value. We then calculated the median of that product across all of the respondents and used that as the group's collective expected value score for the need.

We clustered the resulting expected value scores into three tiers using a hierarchical clustering algorithm. The algorithm we used was the "ward.D" spherical algorithm from the "stats" library in the R statistical package, version 3.5. We chose this algorithm to minimize within-cluster variance when determining the breaks between tiers. The choice of three tiers is arbitrary but was done in part to remain consistent across the set of technology workshops we have conducted for NIJ. Also, the choice of three tiers represents a manageable system for policymakers. Specifically, the top-tier needs are the priorities that should be the primary policymaking focus, the middle-tier needs should be examined closely, and the bottom-tier needs are probably not worth much attention in the short term (unless, for example, they can be addressed with existing technology or approaches that can be readily and cheaply adapted to the identified need).

Because the participants initially rated the needs one topic area at a time, we gave them an opportunity at the end of the workshop to review and weigh in on the tiered list of all identified needs. The intention of this step was to let the panel members see the needs in the context of the other tiered needs and allow them to consider whether there were some that appeared too high or low relative to the others. To collect these assessments, we printed the entire tiered list and distributed it to the participants. This step allowed the participants to see all of the ranked needs collected across the day-and-a-half workshop, providing a top-level view that is complementary to the rankings provided session by session. Participants were then asked to examine where each of the needs landed on the overall tiered list and whether this ordering was appropriate or needed fine-tuning. Participants had the option to indicate whether each problem and need pairing should be voted up or down on the list. An example of this form is provided in Table A.2.

We then tallied the participants' third-round responses and applied those votes to produce a final list of prioritized and

tiered needs. To adjust the expected values using the up and down votes from the third round of prioritization, we implemented a method equivalent to the one we used in previous work (Hollywood et al., 2016). Specifically, if every panel member voted "up" for a need that was at the bottom of the list, the collective effect of those votes should be to move the need to the top. (The opposite would happen if every participant voted "down" for a need that was at the top of the list.) To determine the point value of a single vote, we divided the full range of expected values by the number of participants voting.

To prevent the (somewhat rare) situation in which small numbers of votes have an unintended outsized impact—for example, when some or all of the needs in one tier have the same or very similar expected values—we also set a threshold that at least 25 percent of the workshop participants must have voted on that need (and then rounded to the nearest full participant). For this workshop, there were 15 participants, so for any votes to have an effect, at least four participants would have had to have voted to move the need up or down.

After applying the up and down vote points to the second-round expected values, we compared the modified scores with the boundary values for the tiers to see whether the change was enough to move any needs up or down in the prioritization. (Note that there were gaps between these boundaries, so some of the modified expected values could fall in between tiers. See Figure A.3.) As with prior work, we set a higher bar for a need to move up or down two tiers (from Tier 1 to Tier 3, or vice versa) than for a need to move to the tier immediately above or below. Specifically, a need could *increase by one tier* if its modified expected value was higher than the highest expected value score in its initial tier. And a need could *decrease by one tier* if its modified expected value was lower than the lowest expected value in its initial tier. However, *to increase or decrease by two tiers* (which was possible only for needs that started in Tier 1 or Tier 3), the score had to increase or decrease by an amount that fully placed the need into the range two tiers away. For example, for a Tier 3 need to jump to Tier 1, its expected value score had to fall within the boundaries of Tier 1, not just within the gap between Tier 1 and Tier 2. See Figure A.3, which illustrates the greater score change required for a need to move two tiers (one need on the far right of the figure) compared with one tier (all other examples shown).

Applying these decision rules to integrate the participants' third-round inputs into the final tiering of needs resulted in numerical separations between tiers that were less clear than the separations that resulted when we used the clustering algorithm

Figure A.1. Example Slide for Rating the Importance of a Need

6a. How *important* is it to solve this problem?

Issue: In situations in which there are multiple unprioritized risks or needs, it is unclear to staff members which need should be addressed first.

Need: Identify best practices on how to sequence and prioritize the order in which each item should be addressed.

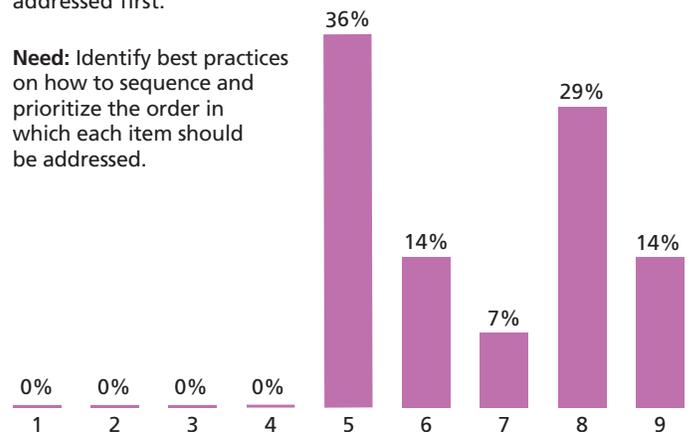| 1	2	3	4	5	6	7	8	9
0%	7%	7%	0%	14%	7%	29%	21%	14%
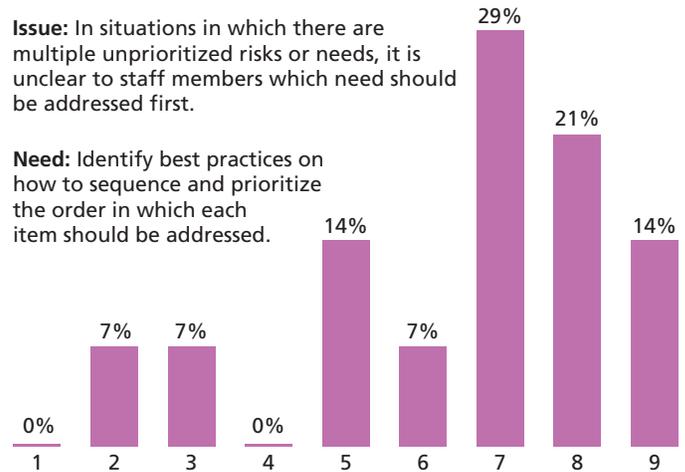
NOTE: Percentages on each question did not always sum to 100 percent because of rounding and variation in the number of participants who voted on each need.

Figure A.2. Example Slide for Rating the Probability of Success of a Need

6b. What is the *probability of success* for this solution?

Issue: In situations in which there are multiple unprioritized risks or needs, it is unclear to staff members which need should be addressed first.

Need: Identify best practices on how to sequence and prioritize the order in which each item should be addressed.

1	2	3	4	5	6	7	8	9
0%	0%	0%	0%	36%	14%	7%	29%	14%

NOTE: Percentages on each question did not always sum to 100 percent because of rounding and variation in the number of participants who voted on each need.

in the initial tiering. This can occur because, for example, when the final expected value score for a need that was originally in Tier 3 falls just below the boundary value for Tier 1, that need's final score could be higher than that of some other needs in the item's new tier (Tier 2). See Figure A.4, which shows the distribution of the needs by expected value score after the

Table A.2. Example of the Delphi Round 3 Voting Form

Question	Tier	Vote Up	Vote Down
Tier 1			
Issue: Many prison systems emphasize institutional security over treatment objectives and fail to recognize that the principles of RNA, effective programming, and security are inextricably linked. **Need:** Develop training and guidebooks for leadership on the state of knowledge about RNA principles and how EBPs can enhance institutional security.	1	▓	
Issue: Agencies often struggle to achieve the right balance of treatment staff (number and qualifications) to implement effective programming. **Need:** Develop criteria (e.g., minimum qualifications) for curriculum facilitators.	1	▓	
Tier 2			
Issue: Political or external stakeholder influence can sometimes work against evidence-informed processes. **Need:** Document effective strategies for communicating about the efficacy of evidence-based correctional approaches.	2		
Issue: Many programs are advertised to address the same need, but it is unclear which are more effective. **Need:** Conduct research to compare and contrast the different programs and help agencies choose.	2		
Tier 3			
Issue: Implementing new initiatives can burden management staff who are struggling to ensure that day-to-day objectives are being met. **Need:** Identify the costs and benefits of employing special groups of staff (e.g., change champions) to manage change initiatives.	3		▓
Issue: Facilities lack interview-ready office space and staff to conduct thorough interviews. **Need:** Develop an implementation guide that helps agencies examine the kinds of physical infrastructure issues that need to be addressed when deploying RNA tools.	3		▓

NOTE: Shaded cells indicate that up or down votes were not possible (e.g., Tier 1 is the top tier, so it was impossible to upvote items in that tier).

second-round rating process and then after the third-round voting process.

As a result of the third round of voting, 40 needs did not change position, five needs rose by one tier, and five needs fell by one tier. The output from this process became the final ranking of the panel's prioritized results.

The complete list of identified needs is shown in Table A.3, and the needs are sorted by tier and theme. Of the 50 identified needs,

- 11 were related to organizational issues (two of which were high priority)
- 16 were related to the selection and implementation of RNA tools (four of which were high priority)
- nine were related to the administration of assessments (two of which were high priority)
- 14 were related to programming (five of which were high priority).

Figure A.3. Illustration of How a Need's Increase in Expected Value Might Result in Its Movement Across Tier Boundaries
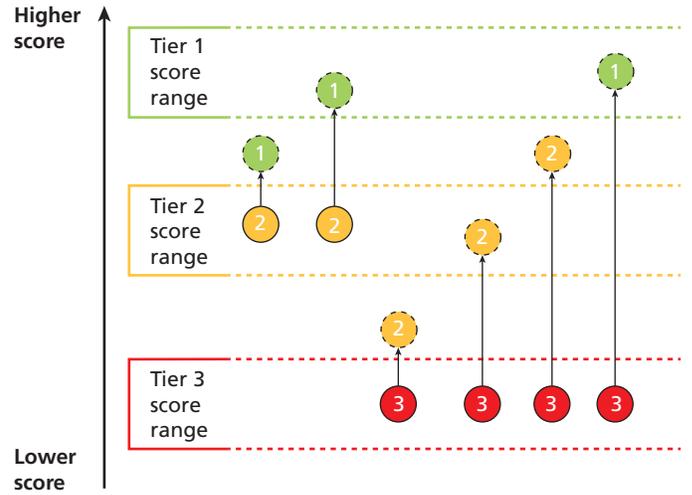
NOTE: Each example need's original tier is shown by a circle with a solid border (the two needs starting in Tier 2 and the four needs starting in Tier 3). Each need's new tier after the third-round score adjustment is shown by the connected circle with a dotted border.

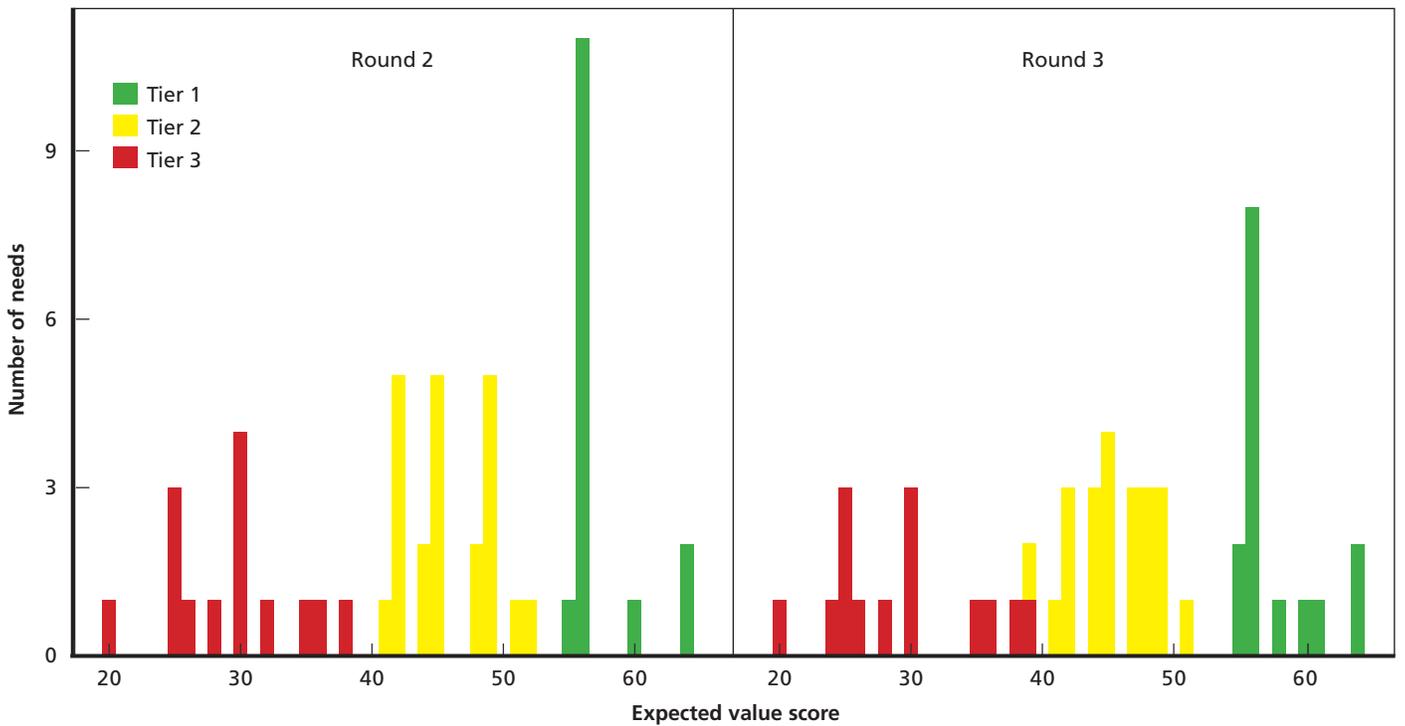**Figure A.4. Distribution of the Tiered Needs Following Rounds 2 and 3**

Table A.3. Complete List of Needs, by Tier

Problem or Opportunity	Need	Tier
Organizational issues		
Many prison systems emphasize institutional security over treatment objectives and fail to recognize that the principles of RNA, effective programming, and security are inextricably linked.	• Develop training and guidebooks for leadership on the state of knowledge about RNA principles and how EBPs can enhance institutional security.	1
It can be challenging for treatment staff to stay current on new evidence and innovations in RNA tools and programming.	• Develop a mechanism for the regular dissemination of useful information in digestible formats (e.g., trade magazines, journals).	
Selection and implementation of RNA tools		
Some agencies assume that an RNA tool's evaluation results will apply equally in their jurisdiction and will forgo additional validation.	• Conduct research to develop evidence-based guidelines to assist agencies in determining the need for tool validation in their settings and recommended revalidation frequency.	1
Agencies often are unaware of the amount of time and training required to implement and administer a new RNA tool.	• Develop a consumer guide to assist agencies in determining which questions to ask when considering acquiring and implementing a new RNA tool.[a]	
The individuals selecting the tools might not have access to digestible empirical research about a tool's methodology and effectiveness.		
Agencies often fail to consider the information technology infrastructure implications when selecting and implementing an RNA tool.		
RNA tools are used to make highly consequential decisions about people's lives and therefore should be thoroughly evaluated before being purchased and deployed.	• Convene a "state-of-the-science" forum led by a research organization (e.g., National Academy of Sciences, NIJ) to examine and assess RNA methods. • Evaluate RNA tools in the same way that NIJ does for such technologies as body armor and body-worn cameras.	
Administration of assessments		
Maintaining a high level of interrater reliability can be a challenge.	• Conduct research to evaluate the effectiveness of various approaches, including training, continuous quality improvement, proficiency monitoring, and RNA audits.	1
Assessment results can be skewed by a variety of factors (e.g., tool internal validity issues, interviewer skills, communication or language barriers, gender differences, inmate manipulation).	• Conduct research to examine and assess the techniques and approaches that can improve the validity of assessment results.	
Programming		
It can be difficult to link needs to programs and then evaluate program integrity and fidelity because of differing descriptions (e.g., no standard taxonomy of programs).	• Develop a taxonomy of correctional programming along with potential outcome measures to evaluate program integrity.	1
Because the responsivity principle often is not well understood, it is difficult to apply in practice. There also might be factors with potential effects on responsivity that are unknown or not under assessment.	• Conduct research to better understand the factors that influence responsivity.	
There is a lack of information about the effectiveness of programs and whether they have been implemented with fidelity.	• Conduct process and impact evaluations so that there is a better understanding of what works and why.	

Table A.3—Continued

Problem or Opportunity	Need	Tier
There is an increasing expectation that agencies implement programs that are evidence-based to the exclusion of all others, which inhibits innovation.	• Develop infrastructure for ongoing support for research to produce the evidence around new programs.	
Agencies often struggle to achieve the right balance of treatment staff (number and qualifications) to implement effective programming.[b]	• Develop criteria (e.g., minimum qualifications) for curriculum facilitators.	
Organizational issues		
Political or external stakeholder influence can sometimes work against evidence-informed processes.	• Document effective strategies for communicating about the efficacy of evidence-based correctional approaches.	2
Staff often do not have sufficient background knowledge and understanding to be effective at conducting RNAs and using RNA results.	• Develop curriculum standards for colleges, universities, and other professional organizations to create a reasonable foundation for an RNA.	
Lack of awareness and knowledge about the value of RNAs is a barrier to effective implementation in many correctional agencies.	• Create training and development programs that can identify, address, and improve core staff competencies (with special attention to emotional intelligence and situations in which there are high levels of staff turnover).	
Lack of background, procedural, and strategic knowledge is a barrier to the effectiveness of organizational leadership and management in many correctional agencies.	• Create training and development programs that can identify, address, and improve core leadership and management competencies.	
Overusing prisons for a variety of societal ills has resulted in resource shortages and excessive caseloads, which can make it difficult to implement a variety of potentially useful program ideas.	• Conduct research to identify how RNA tools can be used to reduce institutional populations and more efficiently use agency resources.	
Current caseloads for service delivery staff (e.g., assessment staff, case managers, psychologists) are unmanageable and can be an impediment to effective interaction with inmates.	• Conduct research to identify ideal or optimal caseload sizes.	
Selection and implementation of RNA tools		
RNAs that do not consider behavior within an institution might not be sufficiently complete.	• Conduct research to identify the minimum factors that should be considered in an RNA tool.	2
The aggregate results from RNA tools can be used to assess whether an agency's programming is sufficiently meeting the needs of its population.	• Develop an implementation guide that helps agencies make the best use of the data that these RNA tools are capturing (e.g., business intelligence).	
It is difficult to understand whether needs assessments are appropriately categorizing and measuring needs in the relevant domains.	• Conduct research to examine the approaches that are used in existing RNA tools and assess the appropriateness of each tool's measures and categories.	
It can be challenging to reconcile the differing objectives from organizational stakeholders when developing a specification for a new RNA tool.	• Develop a consumer guide to assist agencies in determining which questions to ask when considering acquiring and implementing a new RNA tool.[c]	
Typically, there is insufficient funding for training and deploying RNA tools.	• Conduct a benefit-cost analysis for the funding of training and deployment of RNA tools.	
There are several implementation strategies that could be used to efficiently integrate new RNA procedures (training, new procedures, and personnel evaluations are most commonly applied).	• Conduct randomized controlled trials on the other strategies (e.g., quality improvement processes, use of coaches).	

Table A.3—Continued

Problem or Opportunity	Need	Tier
Administration of assessments		
Agencies are conducting reassessments with significantly different frequencies without sufficient understanding of whether the RNA tools are sensitive enough to detect changes.	• Conduct research to assess the sensitivity of the existing tools to changes in individual risk levels and needs over time.	2
Differences in staff member qualifications can affect the way that case managers understand the "big picture" with respect to the needs of an individual.	• Conduct research to examine the number and complexity of the questions found in these tools and make recommendations about how to reduce the number of items and simplify the tools.	
Allowing staff or committee overrides of the evidence-based risk assessment can result in less desirable outcomes.	• Develop guidance that can help agency staff understand the costs, risks, and benefits of imposing human judgment over evidence-based predictions.	
Programming		
Many programs are advertised to address the same need, but it is unclear which are more effective.	• Conduct research to compare and contrast the different programs and help agencies choose.	2
There is insufficient information about the efficacy of different methods of program delivery (e.g., correctional officer present).	• Conduct research to identify the factors that affect program efficacy.	
Agencies often struggle to achieve the right balance of treatment staff (number and qualifications) to implement effective programming.[b]	• Conduct research to assess the impact of using staff who might not be qualified for the program that they are running.	
Balancing institutional assignment, reducing transportation, and optimizing programming availability is difficult because of the large number of additional factors that must be considered.	• Conduct an independent evaluation of the impact and cost effectiveness of the tools that are currently in use by agencies.	
It can be difficult to ensure that there is sufficient program capacity to address the need and be able to prioritize who should be registered.	• Conduct research to identify the appropriate sequencing for people with complex needs.	
In situations in which there are multiple unprioritized risks or needs, it is unclear to staff members which need should be addressed first.	• Identify best practices on how to both sequence and prioritize the order in which each item should be addressed.	
The corrections sector does not have a common language that can be used to discuss RNA implementation and overall success.	• Develop an authoritative set of definitions that is useful across a large number of agencies and jurisdictions (e.g., for *success*, *recidivism*).	
Organizational issues		
There are several union challenges surrounding the implementation of RNA tools.	• Identify best practices for promoting evidence-based RNA policies to union officials.	3
Agencies lack good methods or tools to facilitate organizational self-assessment for readiness to implement RNA tools.	• Develop organizational readiness tools to assess RNA tools' readiness for achieving the institution's correctional and rehabilitative objectives.	
Implementing new initiatives can burden management staff who are struggling to ensure that day-to-day objectives are being met.	• Identify the costs and benefits of employing special groups of staff (e.g., change champions) to manage change initiatives.	

Table A.3—Continued

Problem or Opportunity	Need	Tier
Selection and implementation of RNA tools		
Some types of audits can cause problems when they do not result in sufficient examination of progress toward achieving organizational goals.	• Identify best practices for conducting different types of audits (e.g., interviewing, observation, qualitative versus quantitative).	3
There are untested assumptions that human interaction is better than technology-based interactions.	• Conduct empirical research to assess which types of interactions and interfaces are better in different situations.	
Some needs assessments present lists of needs, and others present a total (quantitative) score value. It is unknown which approach is more effective for agency staff use.	• Conduct research to assess whether to calculate a total score.	
When agencies implement a new system, they need to be sensitive to the types of information that are captured and where they are printed or shared (some types of information about sex offenses or child-based crimes can put an inmate in physical danger if released).	• Develop an ideal policy for handling the data that are captured by an RNA tool.	
Administration of assessments		
Facilities lack interview-ready office space and staff to conduct thorough interviews.	• Develop an implementation guide that helps agencies examine the kinds of physical infrastructure issues that need to be addressed when deploying RNA tools.	3
RNA assessors can be hindered in their ability to conduct an assessment as a result of a lack of protected information about the client (e.g., Health Insurance Portability and Accountability Act [HIPAA]).	• Highlight the importance of RNA assessor access to certain types of protected information for the assessment process. • Develop guidance or clarification of HIPAA regulations as they apply to correctional processes (including conflicts with licensure requirements for clinicians).	
It is not clear whether it is better (e.g., more accurate) to have specialized staff perform assessments or to have the case managers conduct the assessments.	• Conduct research to identify the costs, risks, and benefits of spreading those tasks across different staff.	
Programming		
There is an insufficient amount of data being collected and retained to support program evaluations.	• Develop guidelines (or a checklist) that identify the key pieces of information that should be collected to facilitate program evaluation.	3
There is a demand for a large volume of small-scale program evaluations.	• Identify effective strategies for partnering with institutions that might have low-cost options for conducting program evaluations (e.g., colleges and universities).	

[a] Each unique pairing of a problem or opportunity with a potential solution is counted as a separate need. This need is associated with three different problems or opportunities.

[b] This problem or opportunity is associated with needs that fell into different tiers.

[c] This potential solution is identical to a potential solution that fell into the top tier, but it was rated as lower priority when associated with this particular problem.

Notes

[1] The National Institute of Corrections is the only federal agency with a legislative mandate to provide specialized services to correctional agencies from a national perspective. Services include technical assistance, information, education, and training.

[2] NIJ establishes and updates voluntary minimum performance standards for body armor, conducts testing against these standards to ensure that body armor complies with the standards, and sponsors research to improve body armor. For an overview, see NIJ, 2012.

References

Alper, Mariel, Matthew R. Durose, and Joshua Markman, *2018 Update on Prisoner Recidivism: A 9-Year Follow-up Period (2005–2014)*, Washington, D.C.: Bureau of Justice Statistics, NCJ 250975, May 2018.

American Bar Association, "Federal Sentencing Reform," webpage, undated. As of June 25, 2020:
https://www.americanbar.org/advocacy/governmental_legislative_work/priorities_policy/criminal_justice_system_improvements/federalsentencingreform/

Andrews, Donald A., and James Bonta, *The Psychology of Criminal Conduct*, 4th ed., Newark, N.J.: Anderson Publishing Co., 2006.

Andrews, D. A., and J. J. Kiessling, "Program Structure and Effective Correctional Practices: A Summary of the CaVIC (Canadian Volunteers in Corrections) Research," in Robert R. Ross and Paul Gendreau, eds., *Effective Correctional Treatment*, Toronto, Canada: Butterworth, 1980, pp. 441–463.

Blanchette, Kelley, and Shelley Lynn Brown, *The Assessment and Treatment of Women Offenders: An Integrative Perspective*, Chichester, England: John Wiley & Sons, 2006.

Bonta, James, "The Expanded Risk-Need-Responsivity (RNR) Model," LinkedIn post, December 4, 2019. As of March 5, 2020:
https://www.linkedin.com/pulse/expanded-risk-need-responsivity-rnr-model-james-bonta/?articleId=6608085375279865856

Bonta, James, and D. A. Andrews, *Risk-Need-Responsivity Model for Offender Assessment and Rehabilitation*, Ottawa, Canada: Public Safety Canada, 2007.

Bonta, James, and D. A. Andrews, *The Psychology of Criminal Conduct*, 6th ed., New York: Routledge, 2017.

Bourgon, Guy, and James Bonta, "Reconsidering the Responsivity Principle: A Way to Move Forward," *Federal Probation*, Vol. 78, No. 2, September 2014, pp. 3–10.

Campbell, Mary Ann, Sheila French, and Paul Gendreau, "The Prediction of Violence in Adult Offenders: A Meta-Analytic Comparison of Instruments and Methods of Assessment," *Criminal Justice and Behavior*, Vol. 36, No. 6, 2009, pp. 567–590.

Carson, E. Ann, *Prisoners in 2018*, Washington, D.C.: Bureau of Justice Statistics, NCJ 253516, April 2020.

Casey, Pamela M., Jennifer K. Elek, Roger K. Warren, Fred Cheesman, Matt Kleiman, and Brian Ostrom, *Offender Risk and Needs Assessment Instruments: A Primer for Courts*, Williamsburg, Va.: National Center for State Courts, 2014.

Caudy, Michael S., Liansheng Tang, Stephanie A. Ainsworth, Jennifer Lerch, and Faye S. Taxman, "Reducing Recidivism Through Correctional Programming: Using Meta-Analysis to Inform the RNR Simulation Tool," in Faye S. Taxman and April Pattavina, eds., *Simulation Strategies to Reduce Recidivism*, New York: Springer, 2013, pp. 167–193.

Desmarais, Sarah L., and Jay P. Singh, *Risk Assessment Instruments Validated and Implemented in Correctional Settings in the United States*, Lexington, Ky.: Council of State Governments, March 27, 2013.

Domurad, Frank, and Mark Carey, *Coaching Packet: Implementing Evidence-Based Practices*, Kensington, Md.: Center for Effective Public Policy, January 2010.

Dowden, Craig, and D. A. Andrews, "The Importance of Staff Practice in Delivering Effective Correctional Treatment: A Meta-Analytic Review of Core Correctional Practice," *International Journal of Offender Therapy and Comparative Criminology*, Vol. 48, No. 2, 2004, pp. 203–214.

Duriez, Stephanie A., Carrie Sullivan, Edward J. Latessa, and Lori Brusman Lovins, "The Evolution of Correctional Program Assessment in the Age of Evidence-Based Practices," *Corrections*, Vol. 3, No. 2, October 2017, pp. 1–18.

Duwe, Grant, *Why Inter-Rater Reliability Matters for Recidivism Risk Assessment*, Washington, D.C.: Risk Assessment Clearinghouse, Policy Brief, No. 2017-03, 2017.

Duwe, Grant, and Valerie Clark, "Importance of Program Integrity: Outcome Evaluation of a Gender-Responsive, Cognitive-Behavioral Program for Female Offenders," *Criminology & Public Policy*, Vol. 14, No. 2, May 2015, pp. 301–328.

Hollywood, John S., Dulani Woods, Andrew Lauland, Sean E. Goodison, Thomas J. Wilson, and Brian A. Jackson, *Using Future Broadband Communications Technologies to Strengthen Law Enforcement*, Santa Monica, Calif.: RAND Corporation, RR-1462-NIJ, 2016. As of July 20, 2020:
https://www.rand.org/pubs/research_reports/RR1462.html

Hunt, Kim Steven, and Robert Dumville, *Recidivism Among Federal Offenders: A Comprehensive Overview*, Washington, D.C.: United States Sentencing Commission, March 2016.

Innes, Chris, *Healing Corrections: The Future of Imprisonment*, Boston, Mass.: Northeastern University Press, 2015.

International Community Corrections Association, "Cognitive Behavioral Programs: Document 3: Article 4: Consumers' Guide to Selecting Cognitive Curricula," webpage, 2007. As of July 20, 2020: https://www.iccalive.org/icca/cognitive-behavioral-programs/

Jackson, Brian A., Duren Banks, John S. Hollywood, Dulani Woods, Amanda Royal, Patrick W. Woodson, and Nicole J. Johnson, *Fostering Innovation in the U.S. Court System: Identifying High-Priority Technology and Other Needs for Improving Court Operations and Outcomes*, Santa Monica, Calif.: R AND Corporation, RR-1255-NIJ, 2016. As of July 20, 2020: http://www.rand.org/pubs/research_reports/RR1255.html

Jackson, Brian A., Joe Russo, John S. Hollywood, Dulani Woods, Richard Silberglitt, George B. Drake, John S. Shaffer, Mikhail Zaydman, and Brian G. Chow, *Fostering Innovation in Community and Institutional Corrections: Identifying High-Priority Technology and Other Needs for the U.S. Corrections Sector*, Santa Monica, Calif.: RAND Corporation, RR-820-NIJ, 2015. As of February 22, 2020: https://www.rand.org/pubs/research_reports/RR820.html

James, Nathan, *Risk and Needs Assessment in the Federal Prison System*, Washington, D.C.: Congressional Research Service, RR44087, July 10, 2018.

James, Nathan, *The First Step Act of 2018: An Overview*, Washington, D.C.: Congressional Research Service, R45558, March 4, 2019.

Kragie, Andrew, "The Criminal-Justice Bill Had Broad Bipartisan Support and Still Almost Died," *The Atlantic*, December 20, 2018.

Latessa, Edward J., Francis T. Cullen, and Paul Gendreau, "Beyond Correctional Quackery—Professionalism and the Possibility of Effective Treatment," *Federal Probation*, Vol. 66, No. 2, September 2002, pp. 43–49.

Lowenkamp, Christopher T., Edward J. Latessa, and Alexander M. Holsinger, "The Risk Principle in Action: What Have We Learned from 13,676 Offenders and 97 Correctional Programs?" *Crime & Delinquency*, Vol. 52, No. 1, 2006, pp. 77–93.

Lowenkamp, Christopher T., Edward J. Latessa, and Paula Smith, "Does Correctional Program Quality Really Matter? The Impact of Adhering to the Principles of Effective Intervention," *Criminology & Public Policy*, Vol. 5, No. 3, 2006, pp. 575–594.

National Conference of State Legislatures, *E-Bulletin: Sentencing and Corrections Policy Updates*, Denver, Colo., No. 6, January 2012. As of March 5, 2020: https://www.ncsl.org/portals/1/Documents/cj/BulletinJan-2012.pdf

National Institute of Justice, "Overview of Body Armor," webpage, December 16, 2012. As of July 20, 2020: https://nij.ojp.gov/topics/articles/overview-body-armor

NIJ—*See* National Institute of Justice.

Pew-MacArthur Results First Initiative, *Legislating Evidence-Based Policymaking: A Look at State Laws That Support Data-Driven Decision-Making*, Philadelphia, Pa., March 2015.

Public Law 115-391, First Step Act of 2018, December 21, 2018.

RAND Corporation, "Delphi Method," webpage, undated. As of July 20, 2020: https://www.rand.org/topics/delphi-method.html

Wagner, Peter, and Bernadette Rabuy, *Following the Money of Mass Incarceration*, Northampton, Mass.: Prison Policy Initiative, January 25, 2017.

Ward, Tony, Joseph Melser, and Pamela M. Yates, "Reconstructing the Risk-Need-Responsivity Model: A Theoretical Elaboration and Evaluation," *Aggression and Violent Behavior*, Vol. 12, No. 2, March 2007, pp. 208–228.

Yang, Min, Stephen C. P. Wong, Jeremy Coid, "The Efficacy of Violence Prediction: A Meta-Analytic Comparison of Nine Risk Assessment Tools," *Psychological Bulletin*, Vol. 136, No. 5, September 2010, pp. 740–767.

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About This Report

On behalf of the U.S. Department of Justice, National Institute of Justice (NIJ), the RAND Corporation, in partnership with the Police Executive Research Forum (PERF), RTI International, and the University of Denver, is carrying out a research effort to assess and prioritize technology and related needs across the criminal justice community. This research effort, called the Priority Criminal Justice Needs Initiative, is a component of the Criminal Justice Requirements & Resources Consortium (RRC) and is intended to support innovation within the criminal justice enterprise. For more information about the RRC and the Priority Criminal Justice Needs Initiative, please see https://www.rand.org/well-being/justice-policy/projects/priority-criminal-justice-needs.html.

This report is one product of that effort. In August 2019, RAND and University of Denver staff conducted an expert workshop on risk and needs assessments (RNAs) in prisons. The workshop was convened to identify high-priority technology and policy needs for effectively deploying RNA tools in prisons. This report presents the proceedings of that workshop, topics considered, needs that the panel developed, and overarching themes that emerged from the panel discussion. This report should be of interest to prison administrators, correctional assessment and treatment staff, RNA technology providers, and the research community.

Other RAND research reports from the Priority Criminal Justice Needs Initiative that might be of interest are

- Joe Russo, Dulani Woods, George B. Drake, and Brian A. Jackson, *Leveraging Technology to Enhance Community Supervision: Identifying Needs to Address Current and Emerging Concerns*, Santa Monica, Calif.: RAND Corporation, RR-3213-NIJ, 2019.
- Joe Russo, Dulani Woods, John S. Shaffer, and Brian A. Jackson, *Countering Threats to Correctional Institution Security: Identifying Innovation Needs to Address Current and Emerging Concerns*, Santa Monica, Calif.: RAND Corporation, RR-2933-NIJ, 2019.

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