

**Risk Assessments for Violence and Reoffending:
Implementation and Impact on Risk Management**

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Abstract

Risk assessment instruments for violence and reoffending are widely used throughout the world. According to researchers, there are many different reasons to use these instruments; for instance, they are thought to reduce violence, save money, and improve treatment-planning. In this paper, we create a taxonomy to classify these risk management outcomes into agency, professional practice, and examinee domains. Through a review of research, we show that instruments do not always achieve their goals. First, agencies encounter problems in successfully implementing instruments. Second, a lack of follow through can occur between risk assessments and the subsequent phases of risk management, such as case planning and intervention delivery. By drawing from the field of implementation science, we create an agenda for research.

Keywords: risk assessment, violence, offending, risk management, implementation

Public Health Significance

Many mental health and justice agencies use risk assessment instruments to guide decisions about how to treat and manage people who may be violent or commit crimes. However, agencies often have difficulty implementing these instruments successfully and using them to generate real-world benefits. As such, to help understand and overcome these problems, we apply lessons from the field of implementation science.

Risk Assessments for Violence and Reoffending: Implementation and Impact on Risk Management

Psychologists and other professionals are often asked to assess the likelihood that a person will engage in violence or reoffending. These assessments are difficult and carry high stakes. Not only do they affect public safety, they affect people's liberty, such as decisions about who to incarcerate or hospitalize. As such, researchers have developed risk assessment instruments to provide a systematic and research-informed approach for decision-making. Meta-analyses have found that these assessment tools can identify people who pose a risk for violent and general reoffending with reasonable accuracy (Singh et al., 2011). As a result, risk assessment instruments have gained widespread use in pretrial, correctional, forensic, and civil psychiatric settings (Manchak et al., 2019; Singh et al., 2014), and are even mandated by laws in some contexts (United States 115th Congress, 2018).

Although the goal of risk assessment instruments is to manage and reduce risk for violence and reoffending, it is unclear whether they achieve these aims. We recently conducted two systematic reviews to examine this. The first examined whether risk assessment instruments (a) improve assessors' ability to plan interventions, and (b) lead to reductions in violence ($n = 31,551$ patients and offenders; Viljoen et al., 2018). The second review tested if incarceration rates decreased when agencies adopted risk tools ($n = 1,444,499$ offenders; Viljoen et al., 2019). Both reviews highlighted that, although adoption of risk assessment instruments led to positive results at some sites, in many studies, results fell short of the intended goals.

The first aim of the present article is to build on this work by describing barriers that can interfere with the ability of risk assessment instruments to affect practice. By identifying obstacles, agencies will be better equipped to overcome them. The second aim is to clarify the

outcomes that agencies hope to achieve by implementing these instruments. A final aim is to apply knowledge from the field of implementation science, the “scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices” (Eccles & Mittman, 2006, p. 1), to create an agenda for future research.

Throughout this paper, we use an analogy of a pathway, which we refer to as the Risk Assessment and Management Pathway (RAMP). The basic premise is that although our goal is to get from risk assessment to improved risk management, this path is long and difficult, and many roadblocks can occur along the way. After describing risk assessment instruments (the starting point of our path) and risk management outcomes (the destination), we outline barriers that can arise in implementing instruments and propose a road map for future research.

Starting Point: Risk Assessment Instruments

To date, researchers have developed more than 400 risk assessment instruments (Singh et al., 2014). By definition, these tools: (1) contain a standardized set of risk factors, (2) provide criteria for rating these factors, and (3) are used to arrive at an overall risk judgment (see Skeem & Monahan, 2011). Despite sharing these features, instruments differ in their intended population (e.g., adults, adolescents), and the outcome they are designed to predict (e.g., violent, general, or sexual reoffending). Some instruments are designed to assess short-term risk, such as violence in the next 24 hours (e.g., Dynamic Appraisal of Situational Aggression; Ogloff & Daffern, 2006), whereas others provide norms for long-term predictions of up to 15 years (e.g., Static-99; Hanson & Thornton, 1999). Likewise, some instruments are designed to be brief and include as few as six items (e.g., Brøset Violence Checklist; Almvik & Woods, 1999) whereas others are lengthier (e.g., Short-Term Assessment of Risk and Treatability; Webster et al., 2009). Qualifications and training vary; many pretrial tools can be used by non-professionals with

relatively little training (e.g., Public Safety Assessment; Laura and John Arnold Foundation, n.d.) but other instruments require assessors to hold a degree or license in a health care profession or a related field (e.g., Historical Clinical Risk Management-20; Douglas et al., 2013).

With respect to their content, most instruments contain at least some risk factors that are static, often historical and not changeable through intervention (e.g., offense history). However, some instruments (e.g., Structured Assessment of Violence Risk in Youth; Borum et al., 2006) also include dynamic or modifiable risk factors (e.g., substance use) and protective factors (e.g., social support). The approach used to combine risk factors to reach an overall judgment of risk level also differs between instruments. On actuarial tools, professionals are given a predetermined list of risk factors, and a prespecified formula to compile these factors (e.g., Violence Risk Appraisal Guide; Quinsey et al., 2006). In contrast, on structured professional judgment tools, professionals consider the relevance of each risk factor, can add risk items, and combine information to determine risk level for a given case (e.g., Historical Clinical Risk Management-20 [HCR-20]; Douglas et al., 2013). Structured professional judgment instruments, relative to actuarial instruments, include a heavy focus on dynamic risk factors and are more individualized.

Instruments vary in terms of their research support (some have a strong body of research support, others are “homegrown” tools that were developed within an agency and have not been tested), and the level guidance they provide with respect to risk management. For instance, the Level of Service Inventory instruments include forms for case planning (Bonta & Andrews, 2017), the Violence Risk Scales examine people’s motivation to change (Wong & Olver, 2010), and structured professional judgment tools, such as the Risk for Sexual Violence Protocol, include a process for case formulation (Hart et al., 2016). Instruments that include many dynamic

factors and a focus on risk management are thought to be better suited for managing risk than those that do not, although this has not yet been tested (see Viljoen et al., 2018).

Destination: Risk Management Outcomes

A primary purpose of risk assessment is to identify people who pose a risk for violence. However, merely predicting who will engage in violence has little value (Douglas & Kropp, 2002). Something must be done to manage this risk. Risk management is the “process of planning and implementing strategies to help prevent violence and other forms of offending” (Viljoen et al., 2018, p. 182). It includes strategies such as treatment, supervision, monitoring, and victim safety planning (Hart et al., 2016). But, beyond this broad definition, more specific goals have not yet been clearly articulated. The lack of a framework or language to talk about outcomes impedes researchers’ ability to evaluate if risk assessments are working as intended.

In this section, we review the many hypotheses that researchers, instrument developers, and other stakeholders have made about the impact of risk instruments and categorize these outcomes within a proposed taxonomy (see Figure 1). Although one key goal of risk instruments is to help reduce violence within a system, in order to do this, it is necessary to first change the practices of agencies and their staff. As such, our taxonomy is multilevel and includes three domains: (1) agencies (i.e., organizations that use instruments), (2) professionals (i.e., assessors who conduct risk assessments and consumers who use them, such as judges), and (3) examinees (i.e., people who are assessed). In addition, it captures outcomes that are short-term (e.g., adherence to the risk principle) and long-term (e.g., reductions in violence); attitudinal (e.g., perceptions of assesses’ treatability) and behavioral (e.g., decisions to incarcerate); and positive (e.g., decreases in risk factors) and negative (e.g., racial and ethnic disparities).

Agency Outcomes

Agency-Level Service Planning. As some researchers note, risk assessment instruments might help agencies with resource planning (Vincent, Guy, & Grisso, 2012). According to the risk-need-responsivity model (RNR; Bonta & Andrews, 2017), the most widely tested framework for recidivism reduction among justice-involved populations, agencies should provide people with services that align with their risk level and target the factors that most strongly influence their offending (i.e., criminogenic needs). Agencies can use risk profile data from their population to determine whether the programs they offer align with the population's criminogenic needs or whether they need to procure new services (Center for Advancing Correctional Excellence, 2013). However, researchers have not yet studied the extent to which agencies do in fact use risk profile data to identify and rectify service gaps.

Cost-Savings. Given that following the RNR principles has been shown to be cost-effective (Romani et al., 2012), researchers hypothesize that adopting risk assessment instruments might generate cost savings and increase organizations' efficiency (Hoge, 2002; Vincent, Guy, & Grisso, 2012). To date, few economic analyses have been conducted. In Virginia, Ostrom et al. (2002) found that adoption of a risk assessment tool for diversion decisions resulted in overall savings of \$1.2 million for a sample of 555 offenders who were diverted from incarceration. In Illinois, researchers speculated that, by adopting a risk assessment tool to guide prison release decisions, it could lead to net social benefits of \$95 million to \$235 million over a 5-year period (Andersen et al., 2014). However, this estimate was based on the untested hypothesis that adoption of the tool would reduce recidivism rates.

Staff Accountability. According to some scholars, one of the primary reasons agencies adopt risk assessment instruments is to produce a "paper trail" (Hannah-Moffat et al., 2009, p. 397), thereby serving the "dual purpose of managing offenders and monitoring the actions of

employees” (Ballucci, 2008, p. 193). Research on instruments’ impact on transparency and staff accountability is limited. In one study, social workers were more likely to document empirically supported risk factors in their reports when they used a risk instrument rather than unstructured clinical judgment (Åström et al., 2017). In another study, only 22% of judges and 36% of probation officers believed instruments increased staff accountability (Shook & Sarri, 2007).

Communication. Risk assessment instruments might also improve assessors’ ability to communicate with each other by providing a “common language” (Vincent, Guy, & Grisso, 2012, p. 6). This includes both within-agency communication as well as inter-agency communication (e.g., communication between probation officers and service providers in the community). Thus far, research findings vary. In some studies, researchers observed improvements in communication (e.g., Sher & Galton, 2014), but in other studies, assessors have reported that adopting a tool did not yield benefits in this regard (e.g., De Beuf et al., 2019).

Lawsuits and Liability. Agencies may adopt validated instruments, in part, to try to prevent being successfully sued in cases in which a patient or offender is released and then commits a serious and high-profile act of violence. Instruments could potentially help to “minimize professionals’ exposure to liability by ensuring transparency and consistency” (Hart et al., 2016, p. 646). They might also provide reassurance that, even if such an incident does occur, an agency did what it could to prevent it by following evidence-supported practice. As one assessor asserted, risk assessment instruments “back you up if something goes wrong” (Hannah-Moffat et al., 2009, p. 397). Although the impact of instruments on liability is difficult to evaluate empirically, in some cases, courts and professional organizations have heavily criticized assessors who relied on unstructured clinical judgment rather than using a validated instrument (e.g., American Psychological Association, 2011). As such, using an empirically

supported instrument could potentially provide protection from such criticisms.

Professional Practice Outcomes

Adherence to the Risk Principle. In addition to guiding agency-level service planning, one of the primary reasons for adopting instruments is to help professionals, including individual assessors within agencies (e.g., psychologists, nurses, psychiatrists, probation officers) and individual consumers (e.g., judges, parole boards), make better decisions about the intensity of supervision and services to provide. According to the risk principle of the RNR model (Bonta & Andrews, 2017), the higher a person's risk, the more intensive their intervention should be. There is some evidence that tools may increase adherence to this principle. A systematic review found that when agencies adopt tools, assessors refer people who are high risk for more services and greater supervision than those deemed low risk (Viljoen et al., 2018). However, adherence is higher when agencies provide training on how to apply the instrument to make decisions rather than simply how to complete item ratings (Vincent, Guy, Gershenson, et al., 2012).

Adherence to the Need Principle. Researchers and tool developers also hypothesize that the use of risk assessment instruments will help professionals make better decisions about what criminogenic needs or modifiable risk factors to target in interventions (Bonta & Andrews, 2017), thereby promoting adherence to the need principle of the RNR model. The need principle states that interventions should target malleable risk factors that influence a person's offending. Currently, research on whether tools increase match to the need principle is mixed (Viljoen et al., 2018). For instance, Peterson-Badali and colleagues (2015) found 40% of youth probationers did not receive treatment that targeted any of their needs even after the use of a valid risk instrument. However, the lack of appropriate comparison groups in studies make it unclear whether the rates reported have been better, worse, or the same as when tools are not used (Viljoen et al., 2018).

Consistency. Besides improving adherence to the RNR model, some researchers propose that risk assessment instruments may enhance “consistency in information processing and decision making” (Hoge, 2002, p. 387). A vignette study reported that, when judges were given results from a risk assessment instrument, they made more consistent decisions about treatment for a high-risk adolescent (Jonsson & Viljoen, 2020). That said, inconsistencies can occur even when tools are used. Haas and DeTardo-Bora (2009) found that when case managers were provided with risk assessments for an offender with substance use problems, their recommendations ranged from very low (e.g., Alcoholics Anonymous) to very high intensity interventions (e.g., 90-day residential treatment).

Biases. Risk assessment instruments might also reduce *biases* in risk management decisions, or the tendency to be impacted by “individual biases and irrational rules” (Hoge, 2002, p. 387). However, even if instruments help reduce biases, they probably do not entirely circumvent them. For instance, professionals who believe they are working for the prosecution tend to rate defendants as higher risk on validated risk instruments than those who believe they are working for the defense (Murrie et al., 2013). Researchers have not yet tested whether these or other biases (e.g., confirmation bias) also influence risk management decisions, nor have they examined whether risk instruments result in fewer biases than unstructured risk judgements.

Perceptions About Examinees. In addition to changing professionals’ behaviors, tools may change professionals’ perceptions about the risk and treatability of people who are assessed. In one study, probation officers’ estimates about the proportion of youth who would reoffend decreased after adopting a tool (Vincent, Paiva-Salisbury, et al., 2012). Similarly, following training on a school threat assessment protocol, school staff were less likely to believe that school violence was on the rise (Cornell et al., 2012). Although untested, some researchers

hypothesize that tools that focus on strengths will decrease “therapeutic nihilism” (de Ruiter & Nicholls, 2011, p. 163).

Examinee Outcomes

Civil Liberties. By enhancing assessors’ ability to make decisions that align with the risk principle (a professional practice outcome), instruments may lead to decreases in rates of various restrictions (e.g., confinement, seclusion) on the civil liberties of people who are assessed. For instance, some researchers and advocates hypothesize that risk assessment instruments will reduce overuse of incarceration in the United States (Laura and John Arnold Foundation, n.d., p. 1) by helping to “ensure that the relatively small number of defendants who need to be in jail remain locked up—and the significant majority of individuals who can be safely released are returned to the community.” Consistent with this assertion, a recent meta-analysis found that when agencies adopted instruments, rates of pretrial detention decreased, particularly for low risk individuals (Viljoen, Jonnson, et al., 2019). However, the findings were modest and many studies showed significant limitations. Other research has indicated risk and threat assessment protocols can reduce (a) seclusion and restraint with psychiatric patients (e.g., Abderhalden et al., 2008); (b) long-term school suspensions in elementary, middle, and high school students (e.g., Cornell et al., 2012); and (c) level of probation supervision (e.g., Vincent et al., 2016).

Violence and Reoffending. Researchers hypothesize that the proper use of risk assessment instruments may reduce violence or reoffending (Douglas & Kropp, 2002; Vincent, Guy, & Grisso, 2012), conceivably by helping to ensure that people receive services that target their criminogenic needs. Thus far, research findings are mixed. In a systematic review, four studies (33% of studies), including two cluster randomized control trials, found that violence decreased following the adoption of a tool (Viljoen et al., 2018; see also Viljoen et al., 2019).

However, in the remaining eight studies, no significant change occurred, or results were mixed. As an example, in two multi-site studies, significant recidivism reduction occurred in only 2 out of 10 sites (Vincent et al., 2016; Vincent & Perrault, 2018), possibly because reducing recidivism is a lofty and ambitious goal that is contingent on many other factors, such as the quality of implementation and interventions, and takes more time to achieve.

Reductions in Risk Factors. Before people show reductions in violence and reoffending, presumably they first need to show decreases in risk. As such, reducing risk factors is a penultimate goal of risk management (see Hart et al., 2016). However, researchers have not yet examined whether clients show greater reductions in risk factors (and greater increases in protective factors) when agencies use risk assessment instruments than when they do not.

Treatment Engagement and Motivation. Risk assessments might influence not only treatment outcomes but also the treatment process. Specifically, some researchers hypothesize that certain risk instruments, namely those that include strengths or protective factors, might improve patients' and offenders' engagement in treatment, motivation to change, and alliance with service providers, compared to instruments that include only risk factors (de Ruiter & Nicholls, 2011). These assertions have yet to be tested.

Stigma. In addition to positive outcomes, risk assessment instruments, like any practice or innovation, may also lead to unintended consequences. One fear is that instruments may produce stigma by creating an impression that people rated as high risk are "bad" or untreatable (Large & Nielssen, 2017). Stigma has not been tested extensively, but a vignette study found that judges rated an adolescent as more difficult to treat and more likely to be a lifelong criminal when he had many risk factors as opposed to only a few (Jonsson & Viljoen, 2020). These perceptions were present regardless of whether an instrument was used; tools did not exacerbate

negative impressions. Another study found judges kept most high-risk youth in the community following implementation of a risk assessment instrument, implying that high risk ratings did not lead to adverse consequences (Vincent, Guy, Gershenson, et al., 2012).

Racial and Ethnic Disparities. Recently, a number of legal scholars and policymakers have expressed concern that risk instruments might exacerbate racial and ethnic disparities in detention because tools are biased against people of color (Holder, 2014; Starr, 2014). Indeed, there is an entire website devoted to explaining the racial injustices created by pretrial risk assessment tools, referred to as “RATS” (<https://pretrialrisk.com/>). Other stakeholders have pointed out that the opposite effect might occur; tools might help “prevent decision makers from falling back on implicit biases that may cause them to assume that individuals of color are more dangerous” (Eaglin & Solomon, 2015, p. 28). To date, there is no clear evidence of bias, although research is limited. First, most risk assessments that have been evaluated in accordance with ethical standards for examining test bias do not appear to show racial bias (Vincent & Viljoen, in press). Second, and more importantly, a systematic review (Viljoen, Jonnson, et al., 2019) found that when agencies adopted risk assessment instruments, pretrial detention rates typically decreased for people of color. However, studies were limited, and findings varied as to whether the size of this decrease was similar for people of color and white people.

As this review highlights, risk assessment instruments appear to help achieve some desired risk management goals. However, for other goals, results are variable, and research is limited, such as the impact of tools on disparities. Nevertheless, it is important to emphasize that risk assessment instruments are the best available option for predicting reoffending and are preferable to unstructured judgments (Hanson & Morton-Bourgon, 2009). As such, rather than using scarce findings as an excuse to return to unsupported approaches, researchers should strive

to better understand the impact of instruments on desired outcomes and barriers that may arise. Below, we discuss two main barriers that may attenuate potential benefits of instruments: (1) agencies experience difficulties in successfully implementing risk assessment instruments, and (2) even if implemented successfully, failures arise in the subsequent phases of risk management, such as intervention-delivery (see Figure 1).

Barrier 1: Challenges in the Implementation of Risk Assessment Instruments

As Schlager (2009) writes, “At the end of the day, the best, most efficacious, most reliable, and valid risk instrument will fail—and miserably—without proper implementation” (p. 412). For example, Cree (2016) described how he planned to examine whether violence decreased following the adoption of HCR-20. However, he was unable to do so because the staff failed to use the tool. As he wrote, “There was no study to be written up, no evaluation of the HCR-20 to add to the literature—but I did experience the real and powerful barriers to implementation for the first time” (p. 167). These implementation problems are not something that is unique to our discipline but instead pervade many fields (Damschroder et al., 2009).

To tackle implementation barriers, the first step is to clarify what is meant by implementation success. Few risk assessment researchers have studied implementation outcomes let alone defined them. However, researchers can draw from the field of implementation science, particularly Proctor et al.’s (2011) widely used framework. They define implementation outcomes as the “effects of deliberate and purposive actions to implement new treatments, practices, and services” (p. 65), and break these outcomes into eight types, described below.

Implementation Outcomes

Acceptability. Acceptability is the extent to which assessors and other stakeholders (e.g., administrators) perceive an innovation or practice (in this case, risk assessment instrument) to be

“agreeable, palatable, or satisfactory” (Proctor et al., 2011, p. 67). If assessors do not consider an instrument to be useful, they are unlikely to use it. A recent systematic review indicated that assessors and other stakeholders (e.g., judges) show a range of beliefs about the value of risk assessment instruments for risk management (Viljoen et al., 2018). Some view instruments as acceptable, whereas others have concerns, such as beliefs that they are unnecessary or that they may undermine assessors’ expertise and discretion (Vincent, Paiva-Salisbury, et al., 2012).

Adoption. Adoption refers to the “uptake” of a risk assessment instrument or the “intention, initial decision, or action to try or employ” it (Proctor et al., 2011, p. 69). It is especially relevant early in an implementation effort and can be operationalized as the number of organizations or assessors that decide to utilize an instrument (see Proctor et al., 2011). In general, studies have found high adoption rates of risk assessment instruments in many countries. In the United States, for instance, 88% of pretrial detention agencies, and 96% of parole agencies use these instruments (Manchak et al., 2019; Pretrial Justice Institute, 2009). That said, based on an international survey, nearly half of clinicians continue to rely on unstructured clinical judgment (Singh et al., 2014).

Appropriateness. Appropriateness pertains to the “perceived fit, relevance, or compatibility” of a risk assessment instrument to a given setting and population (Proctor et al., 2011, p. 69). For instance, administrators might view an instrument as acceptable but have concerns about whether it aligns with their agency’s mandate or the characteristics of the patients with whom they work, such as their culture, race, ethnicity, and sex. Research is limited, but in one study, assessors viewed an adolescent risk assessment instrument as appropriate because it included dynamic risk factors and strengths and thus was consistent with the program’s philosophy (De Beuf et al., 2019).

Cost. Implementation cost is the economic costs to implement a risk assessment instrument. Thus far, few researchers have attempted to quantify costs. Andersen et al. (2014) estimated that cost to implement an instrument throughout Illinois would be nearly \$13 million a year. However, costs vary considerably depending on the instrument, the complexity of the implementation strategy (e.g., in-person or online training), and the size and scope of a setting (Proctor et al., 2011), with smaller implementations being much less expensive.

Feasibility. Feasibility is the extent to which a risk assessment instrument can be “successfully used or carried out within a given agency” (Proctor et al., 2011, p. 69), such as whether information needed to rate the items can be easily obtained, the rating procedures are clear, and the instrument can be completed in a manageable amount of time. Concerns about the feasibility are common, especially early on in an implementation. For instance, in one study, assessors reported that it initially took an average of 1 hour to complete item ratings; however, after using the instrument for 6 months, completion time decreased to 15-30 minutes (De Beuf et al., 2019). Similarly, Vincent, Paiva-Salisbury, et al. (2012) found that 22% of youth probation officers reported that their risk assessment instrument was hard to rate initially, but this dropped to 9% at a 6-month follow-up.

Fidelity. Fidelity to a risk assessment instrument is the degree to which the instrument is “implemented as it was prescribed in the original protocol or as it was intended by the [instrument] developers” (Proctor et al., 2011, p. 69). Although fidelity is a complex and broad construct, its core component is adherence, defined as the extent to which users adhere to the “content, frequency, duration, and coverage” of an innovation (Carroll et al., 2007). In the context of risk assessment, adherence to content includes indicators such as whether assessors completed ratings for all the items and outcomes in the instrument and scored the instrument

correctly as per instructions. Adherence to frequency, duration, and coverage (or “dose”) can be interpreted to mean whether intended examinees were assessed at time periods stipulated. For instance, some tool developers recommend reassessing risk every 3 months (Webster et al., 2009). The quality with which these tasks are carried out is also important (e.g., assessors’ skills in gathering information and conducting interviews). As with other implementation outcomes, researchers have reported mixed findings. Prince and Butters (2014) reviewed 97,000 administrations of the Level of Service-Revised. They found that 14% of cases should have been deemed invalid due to missing items and 9% of offenders were classified as higher risk than they should have been due to calculation errors. However, fidelity can improve with training and support. In one study, assessors initially left an average of three risk estimates blank or missing per assessment, but missing estimates decreased after this finding was identified and discussed with assessors (Desmarais et al., 2012). Similarly, De Beuf et al. (2020) found that scores on an 11-item adherence tool significantly increased after assessors attended a refresher training.

Penetration. Penetration is the “integration of an [instrument] within a service setting and its subsystems,” or the “reach” or “spread” of an instrument following its initial adoption (Proctor et al., 2011, p. 70). It can be calculated as the number of people who receive an assessment with a risk assessment instrument divided by the total number of eligible people (see Proctor et al., 2011), or in other words, completion rates. Penetration also can be operationalized as the extent to which an agency has institutionalized an instrument, such as whether it has developed written plans for implementation, assigned a supervisor to oversee implementation, and transitioned from piloting the instrument to using it on a permanent basis (Goodman et al., 1993). Even after an agency has adopted an instrument, completion rates are variable. In a multisite study, probation officers in most offices completed between 80% to 100% of the

required risk assessments, but at one site the completion rate was only 42% due to lack of judicial buy-in (Vincent et al., 2016). Another study highlighted variability between assessors; from 100% completion among some assessors to as few as 29% for others (De Beuf et al., 2019).

Sustainability. Sustainability is defined as whether a risk assessment instrument is “maintained or institutionalized within a service setting’s ongoing, stable operations,” and if it demonstrates resilience to strains, such as a loss of staff or reduced resources (Proctor et al., 2011, p. 70). In some settings, administrators have observed declines in the use of risk assessment instruments over time. In a 5-year follow-up, only two of the units at an 80-bed psychiatric facility were continuing to routinely use their risk assessment instrument (Clarke et al., 2010). In contrast, Kroppan et al. (2017) found that risk assessments remained stable over a 10-year period; the average number of assessments per patient remained steady (3 assessments per year) as did the time interval between assessments (which ranged from 52 to 56 days).

Several conclusions can be drawn from this review. First, implementation problems take various forms. Thus, having a language to talk about these outcomes is critical. Second, implementation outcomes are dynamic; they can change depending on the implementation stage and the level of agency support and training. Adoption (i.e., the initial uptake) is relevant early on, penetration midway, and sustainability late in an implementation effort. Third, some sites appear to achieve more successful implementation than others. This begs the question of what differentiates sites that successfully implement tools from those that do not (Levin et al., 2016).

According to the widely used Consolidated Framework for Implementation Research (Damschroder et al., 2009), the potential determinants of implementation success can be categorized into five domains: (1) the characteristics of the innovation (e.g., the risk instrument’s complexity), (2) individuals who are involved (e.g., assessors’ stage of change to adopt a new

instrument), (3) the “inner setting” or characteristics of the agency that is implementing the instrument (e.g., the agency’s culture), (4) the “outer setting” or the environment that is external to the agency that is implementing the instrument (e.g., external pressures from courts or professional associations), and (5) the implementation process (e.g., whether the agency took steps to plan and prepare for implementation). Thus, despite a tendency to attribute implementation failures to the instrument, other factors, such as organizational and stakeholder support, are also important. As an example, in one study, some judges prohibited risk assessments from being conducted pre-sentencing and as such, they could not guide decisions about service referrals while under supervision (Vincent et al., 2018).

Barrier 2: Challenges in Subsequent Steps in Risk Management

Even if the risk assessment instrument itself is successfully implemented, risk assessment is only the first step in the risk management process. Implementing a risk assessment instrument (or any type of assessment), is quite different from implementing an intervention because assessment is a precursor to intervention. Thus, more steps must occur between an assessment and desired outcomes than between an intervention and desired outcomes. Because the pathway is longer, there are more junctures or places where difficulties can occur, and implementation problems can occur at each of these steps.

To illustrate, is a hypothetical example of a women’s prison. At this prison, case managers conduct risk assessments to guide decisions about which programs women should take. The implementation of the instrument appears to be successful; most case managers complete risk assessments when they are supposed to and adhere to the rating criteria. However, there is a disconnect between risk assessments and case plans. After identifying women’s treatment needs via the tool, case managers do not routinely target these needs in their case

plans. There are also some breakdowns in communication. Although case managers conduct risk assessments with each inmate, the results are not always shared with the service providers who are contracted to provide therapy. In addition, due to budget cuts, few programs are offered at the prison, and the programs that are available do not have research support.

As this example illustrates, a range of problems can occur. To help identify when and where these challenges arise, we break risk management into the following processes: risk assessment (discussed earlier), risk communication, formulation, case planning, delivery of interventions, and reevaluation of risk. These processes are iterative, do not necessarily proceed in a fixed linear order, and are site-specific, varying by agency and setting (Hart et al., 2016).

Steps in Risk Management Process

Risk Communication. After assessing risk, assessors must communicate their results to relevant stakeholders, such as judges and parole boards. As research has shown, communication difficulties can arise (Heilbrun et al., 2016). In one study, risk communication was well elaborated in only 17% of forensic psychiatric reports (Grann & Pallvik, 2002). In another study, as many as 80% of jurors misunderstood a statistical estimate of risk that was worded in a technical manner (Varela et al., 2014). Specifically, jurors misinterpreted the statement that an offender was “three fourths” as likely as a typical offender to reoffend, to mean the offender was *more* likely, rather than *less* likely to reoffend. The communication approach that assessors use can significantly impact examinees’ liberty and the services that they receive. One study found that when assessors’ written summaries focused on predicting patients’ likelihood of violence, judges were more likely to recommend restrictive placements (i.e., civil commitment) than when assessors also provided recommendations about how to manage risk (Evans & Salekin, 2014).

Formulation. Not only do assessors provide opinions about a person’s overall risk level,

in many settings, they also develop a case formulation or a set of hypotheses about the underlying causes of that person's violence (Hart et al., 2016). The nature and scope of formulations can differ by setting. In some contexts, such as forensic psychiatric hospitals, multidisciplinary teams might develop detailed conceptualizations of the mechanisms by which risk factors operate, such as whether they destabilize a person, disinhibit them, or actively motivate violence (Hart et al., 2016). In other settings, such as pretrial confinement decisions, formulations may not occur because they are viewed as less relevant or less feasible given the quick turnaround required. Although studies are scarce, some research reported that many probation officers have difficulties writing strong case formulations (Minoudis et al., 2013).

Case Planning. It is not enough to simply identify that a person poses a risk for violence or reoffending and to communicate this to others. Instead, risk assessments should directly guide the selection of planned interventions (Hart et al., 2016). However, this does not always happen. In a case audit, only 8% of case plans explicitly referred to the risk assessment (Kewley et al., 2015). In a study of 243 interactional episodes between probation officers and probationers, only 6% involved case planning (Viglione, 2019). Similarly, in a survey of community corrections staff, 40% of assessors were classified as bureaucratic compliers, meaning that although they used tools to develop predictions about offenders' likelihood of reoffending, they did not optimally apply the results to guide planned interventions (Miller & Maloney, 2013).

Intervention Delivery. After developing a plan, the plan needs to be carried out. Harris et al. (2004) found case plans were fully followed in only 26% of cases. Another study found that 55% of assessors were not made aware of whether their plans had been implemented (Singh et al., 2014), highlighting gaps in communication. Numerous factors contribute to the disconnect between planned and implemented interventions, such as a lack of appropriate programming and

long waitlists (Haqanee et al., 2015). Even when programs are available, few are evidence-based (Henggeler & Schoenwald, 2011). Over one-third of institutions show low adherence to evidence-based practices (Duriez et al., 2018). Also, some studies have demonstrated that risk assessments rarely carry over to actual sessions with people in the justice system. In one study, probation officers discussed treatment programs and services in only 7% of their interactions with probationers (Viglione, 2019). Similarly, another study found that probation officers spent nearly half of probation sessions discussing non-criminogenic needs with probationers rather than addressing factors linked to offending (Bonta et al., 2011).

Reevaluation of Risk. In many settings, the risk management process does not end after delivering an intervention. Instead, assessors are supposed to regularly reassess risk to evaluate progress and guide subsequent decisions. Douglas and Kropp (2002) describe that this “ongoing risk assessment and management revision process” is central to preventing violence (p. 641). However, follow through on reassessments can be poor. For example, in one study, required reassessments were conducted in only half of cases, and in 31% of the reassessments that were completed, assessors simply copied their prior assessments (Howard & Moore, 2009). Even when reassessments occur, it is unclear whether assessors use them to refine interventions.

In sum, for risk assessments to work, assessors and other involved professionals need to clearly communicate results, develop an appropriate plan, carry out this plan, and adjust interventions based on changes in risk. The risk assessment must set off a domino of subsequent effects. However, as researchers have found, “slippage” often occurs (Peterson-Badali et al., 2015, p. 304), undermining agencies’ ability to achieve desired risk management outcomes. One reason that risk assessment instruments do not automatically flow through to management efforts is that they focus on the front end of the risk management pathway, namely the assessment.

Instruments do not provide instructions on what interventions to provide and how to deliver them, as this falls outside their scope. As such, risk assessment instruments are likely best thought of as part of a larger system or package of strategies designed to facilitate best practices (e.g., adherence to RNR principles), rather than acting as a standalone intervention.

Another reason for the lack of carry over between assessment and intervention, is that many people are involved. In some contexts (such as when risk assessments are conducted as part of a forensic treatment program), assessors directly provide treatment and thus have control over what occurs. However, in many contexts (such as when risk assessments are conducted as part of pre-sentencing evaluations), different people conduct the assessments (e.g., forensic psychologists), make decisions (e.g., judges), arrange and coordinate services (e.g., probation officers), and deliver services (e.g., therapists in the community). The more steps and people involved, the greater number of places at which efforts can go off course.

A Road Map for Future Research

Throughout this article we have shown that, although risk assessment instruments are a promising first step towards achieving desired risk management outcomes, many barriers can arise. To help identify and overcome these barriers, we outline seven key areas for research.

1. Impact Studies on Risk Management Outcomes

Although researchers and policymakers hypothesize that risk assessment instruments can help to achieve a variety of goals, ranging from cost-savings to reduced violence, many of these claims need more testing via impact studies. We define impact studies as studies that evaluate the effect of using a risk assessment instrument, compared to the effect of not using an instrument, on risk management outcomes (i.e., agency, professional practice, and examinee outcomes; see Wolff et al., 2019). Given that existing studies have serious methodological limitations, such as a

lack of appropriate comparison groups (see Viljoen et al., 2018; Viljoen, Jonnson, et al., 2019), researchers need to use more rigorous designs, including quasi-experimental designs with propensity-score matching, cluster random control trials, and experimental designs (e.g., providing judges with case vignettes and asking them to make placement and service decisions). Researchers should test not only hypothesized benefits (e.g., whether certain tools improve risk communication), but also possible unintended consequences (e.g., whether certain tools exacerbate racial and ethnic disparities).

2. Implementation Outcomes

Although impact studies are important, such studies need to go hand in hand with implementation research. Implementation outcomes (e.g., feasibility) are separate from risk management outcomes (e.g., reducing risk factors), but may serve as “necessary preconditions” (Proctor et al., 2011, p. 66). If instruments do not lead to improved risk management outcomes, researchers must be able to determine if this is because the instrument is insufficient to create change, indicating an intervention failure, or it was incorrectly deployed, indicating an implementation failure (Proctor et al., 2011). In one study, researchers found that risk assessment instruments were more likely to reduce restrictive placements for young offenders when the tool showed good penetration into practice (Vincent et al., 2016). In another study, researchers found that even though assessors failed to complete their risk assessment and joint case planning protocol for more than one-third of patients, these implementation problems did not fully account for why the protocol failed to significantly reduce violence (Troquete et al., 2013). Besides testing if good implementation leads to better risk management outcomes, studies should examine the type, frequency, and causes of implementation problems. To make sure this research is credible and accurate, researchers and journal editors must overcome tendencies to selectively

report and publish only positive findings. Indeed, learning about and confronting disappointing results will be essential to advancing the field.

3. Measurement of Implementation Outcomes

One of the major barriers to studying implementation outcomes is that we do not yet have validated measures to do so. Although Proctor et al.'s (2011) taxonomy provides a starting point for understanding what to measure (e.g., acceptability), as a next step, researchers need to develop instruments that map onto these outcomes. In a recent study, De Beuf et al. (2020) created a fidelity tool with good interrater reliability. However, formal measures of other implementation outcomes, such as appropriateness and feasibility, are lacking. To ensure that implementation outcome measures are valid and useful, researchers will need to carefully evaluate their psychometric properties, such as their internal consistency, interrater reliability, structural validity, content validity, useability, and norms (Lewis et al., 2015). Because implementation outcomes can change over time, researchers should also test measures' responsiveness or sensitivity to change.

4. Determinants of Implementation Success

Another direction for research is to identify the factors that differentiate sites which successfully implement risk assessment instruments from those that do not (Levin et al., 2016). Implementation researchers have created several implementation determinants frameworks that can guide these efforts, such as the Consolidated Framework for Implementation Research (Damschroder et al., 2009). As this framework notes, one of the factors that influence implementation success is the implementation process or approach that sites use to implement instruments. To test this, researchers could compare implementation outcomes for sites that follow Vincent et al.'s (2012) eight step implementation model, which includes a focus on

preparation and planning (e.g., establishing buy-in from stakeholders), from sites that do not. Researchers should also test specific implementation strategies, such as identifying local champions, providing technical assistance, and offering strong supervision and coaching. Altogether, researchers have identified 73 different implementation strategies (e.g., creating a learning collaborative; Powell et al., 2015). As such, the possibilities for research are vast.

5. Subsequent Steps in Risk Management

In addition to examining the implementation of risk assessment instruments themselves, researchers should investigate what happens after the risk assessment, such as whether assessors effectively communicate the risk assessment results to the appropriate parties (i.e., judges), and whether they use the assessment to develop case plans, guide service referrals, and decide what to discuss in sessions with clients. Researchers should also identify potential interrelationships between these steps. For instance, although researchers hypothesize that improving formulations will improve case plans, and that better plans will in turn lead to better actual delivery of interventions (Logan, 2014), these hypotheses have not been widely tested. One study found that even when probation officers' formulations and plans significantly improved, their written records of delivered interventions did not show substantial improvements either because they were not following through on their plans or because they did not communicate and record the interventions they were using (Viljoen, Cochrane, et al., 2019). Thus, fixing one part of the pathway may simply shift the problems elsewhere.

6. Strategies to Improve Communication, Formulation, Planning, and Interventions

To increase the likelihood that risk assessments will carry over to case planning and intervention delivery, researchers and practitioners started to develop supports and strategies to accompany tools. Examples include "add-on" worksheets for case formulation (e.g., Hart et al.,

2016), forms and decision support tools to aid assessors in case planning (e.g., Center for Advancing Correctional Excellence, 2013), and programs to train probation officers to deliver effective community supervision (e.g., Bonta et al., 2011). For instance, several studies have found that assessors develop better case plans when they use risk assessment instruments *plus* structured case planning forms rather than risk instruments alone (Bosker & Witteman, 2016; Viljoen, Cochrane, et al., 2019; Viljoen, Shaffer, et al., 2019). Besides continuing to evaluate these emerging approaches, researchers should develop new approaches to strengthen other parts of the pathway between risk assessment and risk management, such as templates to enhance assessors' risk communication and decision support tools for judges.

7. Comparisons Between Risk Assessment Instruments

Finally, although researchers argue that certain risk assessment instruments are better for risk management than others, surprisingly little research has tested these assertions, and existing studies suggest that the effects on actual risk management practices between instruments may not be as large as assumed. Guy et al. (2015) found that when a youth justice agency switched from a homegrown actuarial risk assessment tool to a validated structured professional judgment tool, adherence to the risk principle did not significantly change. However, this might be because both instruments included dynamic factors, and in both conditions, probation officers used RNR principles for case planning. Where effects may be most likely to occur is when transitioning from a static risk tool to an instrument that includes dynamic factors. When comparing tools, researchers should tease apart whether observed differences in risk management outcomes are due to the tool itself or other factors, such as implementation success.

Conclusions

Risk assessment instruments for violence and reoffending are now considered a core

component of mental health and justice services. Although stakeholders have made many claims about the potential benefits of risk assessment instruments, these claims have not been adequately tested. Many agencies encounter challenges in successfully implementing risk assessment instruments and, even when the instruments are properly implemented, they do not always carry over to subsequent decisions, such as treatment referrals. Although such findings may be discouraging, implementation challenges are certainly not unique to the field of risk assessment nor are they a sign that we should throw the baby out with the bathwater and abandon risk assessment instruments in favor of untested approaches.

Instead, researchers and other stakeholders need to take action to overcome these difficulties and bridge gaps between the theory of risk assessment and real-world practice (Peterson-Badali et al., 2015). To lay out a framework for this work, we described what we refer to as the Risk Assessment and Management Pathway (RAMP). First, we clarified the destination or desired endpoint of this pathway (i.e., improved risk management), and developed a multilevel taxonomy to categorize risk management outcomes into domains. Second, we flagged two related junctures at which roadblocks can occur: problems in implementation and problems in the subsequent phases of risk management (e.g., intervention delivery). Third, we provided guidance on how to overcome these barriers by applying lessons from the field of implementation science; namely, using an established implementation outcomes framework to help diagnose implementation problems (Proctor et al., 2011). Fourth, we created a road map for research by outlining seven key directions. By mapping this pathway, we hope it will guide researchers and other stakeholders to identify when and where challenges arise so that they can work to maximize the potential benefits of risk assessments.

References

- Abderhalden, C., Needham, I., Dassen, T., Halfens, R., Haug, H., & Fischer, J. E. (2008). Structured risk assessment and violence in acute psychiatric wards: Randomised controlled trial. *British Journal of Psychiatry*, *193*(1), 44–50.
<http://doi.org/10.1192/bjp.bp.107.045534>
- Almvik, R., & Woods, P. (1999). Predicting inpatient violence using the Brøset Violence Checklist (BVC). *International Journal of Psychiatric Nursing Research*, *4*(3), 498–505.
- American Psychological Association. (2011). *Brief for Amici Curiae, Coble v. Texas, 564 U.S. 1020* (2011) (No. 10-1271). <https://www.apa.org/about/offices/ogc/amicus/coble>
- Andersen, V., Babl, C., Fisher, S., Monahan, B., Staskunas, J., & Vogel, H. (2014). *Cost-benefit analysis of implementing the SPIn risk assessment tool at the point of release for Illinois prisoners*. Robert M. La Follette School of Public Affairs.
<http://www.lafollette.wisc.edu/images/publications/cba/2014-spin.pdf>
- Åström, T., Gumpert, C. H., Andershed, A.-K., & Forster, M. (2017). The SAVRY improves prediction of reoffending: A naturalistic longitudinal comparative study. *Research on Social Work Practice*, *27*(6), 683–694. <http://doi.org/10.1177/1049731515605184>
- Ballucci, D. (2008). Risk in action: The practical effects of the youth management assessment. *Social & Legal Studies*, *17*(2), 175–197.
<http://doi.org/10.1177/0964663908089610>
- Bonta, J., & Andrews, D. A. (2017). *The psychology of criminal conduct* (6th ed.). Routledge.
- Bonta, J., Bourgon, G., Ruge, T., Scott, T. L., Yessine, A. K., Gutierrez, L., & Li, J. (2011). An experimental demonstration of training probation officers in evidence-based community supervision. *Criminal Justice and Behavior*, *38*(11), 1127–1148.

<http://doi.org/10.1177/0093854811420678>

Borum, R., Bartel, P., & Forth, A. (2006). *Manual for the Structured Assessment for Violence Risk in Youth (SAVRY)*. Psychological Assessment Resources.

Bosker, J., & Witteman, C. (2016). Finding the right focus: Improving the link between risk/needs assessment and case management in probation. *Psychology, Public Policy, and Law*, 22(2), 221–233. <http://doi.org/10.1037/law0000075>

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation Science*, 2, 40.

<https://doi.org/10.1186/1748-5908-2-40>

Center for Advancing Correctional Excellence. (2013). *The Risk-Need-Responsivity Simulation Tool*. Criminology, Law, and Society, George Mason University.

https://tools.gmuace.org/files/RNR_Practitioner_Pub_FINAL_2.12.13.pdf

Clarke, D. E., Brown, A.-M., & Griffith, P. (2010). The Brøset Violence Checklist: clinical utility in a secure psychiatric intensive care setting. *Journal of Psychiatric and Mental Health Nursing*, 17(7), 614–620. <http://doi.org/10.1111/j.1365-2850.2010.01558.x>

Cornell, D. G., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia Student Threat Assessment Guidelines in kindergarten through grade 12. *School Psychology Review*, 41(1), 100–115.

Cree, A. (2016). Perceived barriers to the implementation of violence risk assessment tools. In J. P. Singh, S. Bjørkly, & S. Fazel (Eds.), *International perspectives on violence risk assessment* (pp. 166–178). Oxford University Press.

<http://doi.org/10.1093/acprof:oso/9780199386291.003.0010>

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C.

- (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, 4, 50. <https://doi.org/10.1186/1748-5908-4-50>
- De Beuf, T. L. F., de Vogel, V., & de Ruiter, C. (2019). Implementing the START:AV in a Dutch residential youth facility: Outcomes of success. *Translational Issues in Psychological Science*, 5(2), 193–205. <http://doi.org/10.1037/tps0000193>
- De Beuf, T. L. F., de Vogel, V., & de Ruiter, C. (2020). Adherence to structured risk assessment guidelines: Development and preliminary evaluation of an adherence scale for the START:AV. *Journal of Forensic Psychology Research and Practice*. <https://doi.org/10.1080/24732850.2020.1756676>
- de Ruiter, C., & Nicholls, T. L. (2011). Protective factors in forensic mental health: A new frontier. *International Journal of Forensic Mental Health*, 10(3), 160–170. <http://doi.org/10.1080/14999013.2011.600602>
- Desmarais, S. L., Sellers, B. G., Viljoen, J. L., Cruise, K. R., Nicholls, T. L., & Dvoskin, J. A. (2012). Pilot implementation and preliminary evaluation of START:AV assessments in secure juvenile correctional facilities. *International Journal of Forensic Mental Health*, 11(3), 150–164. <https://doi.org/10.1080/14999013.2012.737405>
- Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *HCR-20 (Version 3): Assessing risk for violence*. Mental Health, Law, and Policy Institute, Simon Fraser University.
- Douglas, K. S., & Kropp, P. R. (2002). A prevention-based paradigm for violence risk assessment: Clinical and research applications. *Criminal Justice and Behavior*, 29(5), 617–658. <http://doi.org/10.1177/009385402236735>

- Duriez, S. A., Sullivan, C., Latessa, E. J., & Brusman-Lovins, L. (2018). The evolution of correctional program assessment in the age of evidence-based practices. *Corrections*, 3(2), 119–136. <http://doi.org/10.1080/23774657.2017.1343104>
- Eaglin, J., & Solomon, D. (2015). *Reducing racial and ethnic disparities in jails: Recommendations for local practice*. Brennan Center for Justice, New York University School of Law.
<https://www.brennancenter.org/sites/default/files/publications/Racial%20Disparities%20Report%20062515.pdf>
- Eccles, M. P., & Mittman, B. S. (2006). Welcome to implementation science. *Implementation Science*, 1, 1. <http://doi.org/10.1186/1748-5908-1-1>
- Evans, S. A., & Salekin, K. L. (2014). Involuntary civil commitment: Communicating with the court regarding “danger to other.” *Law and Human Behavior*, 38(4), 325–336.
<https://doi.org/10.1037/lhb0000068>
- Goodman, R. M., McLeroy, K. R., Steckler, A. B., & Hoyle, R. H. (1993). Development of level of institutionalization scales for health promotion programs. *Health Education Quarterly*, 20(2), 161-178. <http://doi.org/10.1177/109019819302000208>
- Grann, M., & Pallvik, A. (2002). An empirical investigation of written risk communication in forensic psychiatric evaluations. *Psychology, Crime & Law*, 8(1), 113–130.
<http://doi.org/10.1080/10683160208401812>
- Guy, L. S., Vincent, G. M., Grisso, T., & Perrault, R. (2015). *Advancing use of risk assessment in juvenile probation*. University of Massachusetts Medical School.
<https://www.ncjrs.gov/pdffiles1/ojjdp/grants/249155.pdf>
- Haas, S. M., & DeTardo-Bora, K. A. (2009). Inmate reentry and the utility of the LSI-R in case

- planning. *Corrections Compendium*, 34(1), 11–16, 49–52.
- Hannah-Moffat, K., Maurutto, P., & Turnbull, S. (2009). Negotiated risk: Actuarial illusions and discretion in probation. *Canadian Journal of Law & Society*, 24(3), 391–409.
<https://doi.org/10.1017/S0829320100010097>
- Hanson, R. K., & Morton-Bourgon, K. E. (2009). The accuracy of recidivism risk assessments for sexual offenders: A meta-analysis of 118 prediction studies. *Psychological Assessment*, 21(1), 1–21. <http://doi.org/10.1037/a0014421>
- Hanson, R. K., & Thornton, D. (1999). *Static-99: Improving actuarial risk assessments for sex offenders*. Department of the Solicitor General of Canada. <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/sttc-mprvng-actrl/sttc-mprvng-actrl-eng.pdf>
- Haqanee, Z., Peterson-Badali, M., & Skilling, T. (2015). Making “what works” work: Examining probation officers’ experiences addressing the criminogenic needs of juvenile offenders. *Journal of Offender Rehabilitation*, 54(1), 37–59.
<http://doi.org/10.1080/10509674.2014.980485>
- Harris, P. M., Gingerich, R., & Whittaker, T. A. (2004). The “effectiveness” of differential supervision. *Crime & Delinquency*, 50(2), 235–271.
<http://doi.org/10.1177/0011128703258939>
- Hart, S. D., Douglas, K. S., & Guy, L. S. (2016). The structured professional judgment approach to violence risk assessment: Origins, nature, and advances. In L. Craig & M. Rettenberger (Eds.), *The Wiley handbook on the theories, assessment, treatment of sexual offending: Vol. 2, Assessment* (pp. 643–666). Wiley-Blackwell.
- Heilbrun, K., Newsham, R., & Pietruszka, V. (2016). Risk communication: An international update. In J. P. Singh, S. Bjørkly, & S. Fazel (Eds.), *International perspectives on*

- violence risk assessment*. (pp. 150–165). Oxford University Press.
<http://doi.org/10.1093/acprof:oso/9780199386291.003.0009>
- Henggeler, S. W., & Schoenwald, S. K. (2011). Evidence-based interventions for juvenile offenders and juvenile justice policies that support them. *Social Policy Report*, 25(1), 1–28. <https://doi.org/10.1002/j.2379-3988.2011.tb00066.x>
- Hoge, R. D. (2002). Standardized instruments for assessing risk and need in youthful offenders. *Criminal Justice and Behavior*, 29(4), 380–396.
<http://doi.org/10.1177/009385480202900403>
- Holder, E. (2014). Speech presented at the National Association of Criminal Defense Lawyers 57th Annual meeting and 13th State Criminal Justice Network conference, Philadelphia, PA. *Federal Sentencing Reporter*, 27(4), 252–255.
<http://doi.org/10.1525/fsr.2015.27.4.252>
- Howard, P., & Moore, R. (2009). *Measuring changes in risk and need over time using OASys*. Ministry of Justice.
- Jonsson, M. R., & Viljoen, J. L. (2020). *The influence of risk assessment tools on judges' placement and program recommendations* [Manuscript submitted for publication]. Department of Psychology, Simon Fraser University.
- Kewley, S., Beech, A., Harkins, L., & Bonsall, H. (2015). Effective risk management planning for those convicted of sexual offending. *Journal of Aggression, Conflict and Peace Research*, 7(4), 237–257. <http://doi.org/10.1108/JACPR-05-2015-0171>
- Kroppan, E., Nonstad, K., Iversen, R. B., & Søndena, E. (2017). Implementation of the Short-Term Assessment of Risk and Treatability over two phases. *Journal of Multidisciplinary Healthcare*, 10, 321–326. <http://doi.org/10.2147/JMDH.S133514>

- Large, M., & Nielssen, O. (2017). The limitations and future of violence risk assessment. *World Psychiatry, 16*(1), 25–26. <http://doi.org/10.1002/wps.20394>
- Laura and John Arnold Foundation. (n.d). *Public Safety Assessment: Risk factors and formula*.
<https://craftmediabucket.s3.amazonaws.com/uploads/PDFs/PSA-Risk-Factors-and-Formula.pdf>
- Levin, S. K., Nilsen, P., Bendtsen, P., & Bulow, P. (2016). Structured risk assessment instruments: A systematic review of implementation determinants. *Psychiatry, Psychology and Law, 23*(4), 602–628. <http://doi.org/10.1080/13218719.2015.1084661>
- Lewis, C. C., Fischer, S., Weiner, B. J., Stanick, C., Kim, M., & Martinez, R. G. (2015). Outcomes for implementation science: an enhanced systematic review of instruments using evidence-based rating criteria. *Implementation science, 10*, 155.
<https://doi.org/10.1186/s13012-015-0342-x>
- Logan, C. (2014). The HCR-20 Version 3: A case study in risk formulation. *The International Journal of Forensic Mental Health, 13*(2), 172–180.
<http://doi.org/10.1080/14999013.2014.906516>
- Manchak, S. M., Farringer, A., Anderson, V. R., & Campbell, C. (2019). Current U.S. agency-level trends in supporting implementation of evidence-based practices in parole. *Corrections: Policy, Practice and Research, 4*(3), 169–182.
<http://doi.org/10.1080/23774657.2017.1398058>
- Miller, J., & Maloney, C. (2013). Practitioner compliance with risk/needs assessment tools: A theoretical and empirical assessment. *Criminal Justice and Behavior, 40*(7), 716–736.
<http://doi.org/10.1177/0093854812468883>
- Minoudis, P., Craissati, J., Shaw, J., McMurrin, M., Freestone, M., Chuan, S. J., & Leonard, A.

- (2013). An evaluation of case formulation training and consultation with probation officers. *Criminal Behaviour and Mental Health*, 23(4), 252–262.
<http://doi.org/10.1002/cbm.1890>
- Murrie, D. C., Boccaccini, M. T., Guarnera, L. A., & Rufino, K. A. (2013). Are forensic experts biased by the side that retained them? *Psychological Science*, 24(10), 1889–1897.
<http://doi.org/10.1177/0956797613481812>
- Ogloff, J. R. P., & Daffern, M. (2006). The Dynamic Appraisal of Situational Aggression: An instrument to assess risk for imminent aggression in psychiatric inpatients. *Behavioral Sciences & the Law*, 24(6), 799–813. <http://doi.org/10.1002/bsl.741>
- Ostrom, B., Kleiman, M., Cheesman, F., Hansen, R., & Kauder, N. (2002). *Offender risk assessment in Virginia: A three-stage evaluation*. The National Center for State Courts.
http://www.vcsc.virginia.gov/risk_off_rpt.pdf
- Peterson-Badali, M., Skilling, T., & Haqanee, Z. (2015). Examining implementation of risk assessment in case management for youth in the justice system. *Criminal Justice and Behavior*, 42(3), 304–320. <http://doi.org/10.1177/0093854814549595>
- Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., Proctor, E. K., & Kirchner, J. E. (2015). A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, 10(1), 1–14. <http://doi.org/10.1186/s13012-015-0209-1>
- Pretrial Justice Institute. (2009). *Survey of pretrial services programs*.
<https://university.pretrial.org/viewdocument/survey-of-pretrial-s>
- Prince, K., & Butters, R.P. (2014). *Brief report: An implementation evaluation of the LSI-R as a recidivism risk assessment tool in Utah*. Utah Criminal Justice Center, University of

- Utah. https://socialwork.utah.edu/_resources/documents/LSI-R-Summary-Report-Final-v2.pdf
- Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health, 38*(2), 65–76. <http://doi.org/10.1007/s10488-010-0319-7>
- Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (2006). *Violent offenders: Appraising and managing risk* (2nd ed.). American Psychological Association. <http://doi.org/10.1037/11367-000>
- Romani, C. J., Morgan, R. D., Gross, N. R., & McDonald, B. R. (2012). Treating criminal behavior: Is the bang worth the buck? *Psychology, Public Policy, and Law, 18*(1), 144–165. <http://doi.org/10.1037/a0024714>
- Schlager, M. D. (2009). The organizational politics of implementing risk assessment instruments in community corrections. *Journal of Contemporary Criminal Justice, 25*(4), 412–423. <http://doi.org/10.1177/1043986209344555>
- Sher, M. A., & Gralton, E. (2014). Implementation of the START:AV in a secure adolescent service. *Journal of Forensic Practice, 16*(3), 184–193. <http://doi.org/10.1108/JFP-04-2013-0021>
- Shook, J. J., & Sarri, R. C. (2007). Structured decision making in juvenile justice: Judges' and probation officers' perceptions and use. *Children and Youth Services Review, 29*(10), 1335–1351. <http://doi.org/10.1016/j.childyouth.2007.05.008>
- Singh, J. P., Desmarais, S. L., Hurducas, C., Arbach-Lucioni, K., Condemarin, C., Dean, K., ... Otto, R. K. (2014). International perspectives on the practical application of violence

- risk assessment: A global survey of 44 countries. *International Journal of Forensic Mental Health*, 13(3), 193–206. <https://doi.org/10.1080/14999013.2014.922141>
- Singh, J. P., Grann, M., & Fazel, S. (2011). A comparative study of risk assessment tools: A systematic review and metaregression analysis of 68 studies involving 25,980 participants. *Clinical Psychology Review*, 31(3), 499–513.
<http://doi.org/10.1016/j.cpr.2010.11.009>
- Skeem, J. L., & Monahan, J. (2011). Current directions in violence risk assessment. *Current Directions in Psychological Science*, 20(1), 38–42.
<http://doi.org/10.1177/0963721410397271>
- Starr, S. (2014). Evidence-based sentencing and the scientific rationalization of discrimination. *Stanford Law Review*, 66(4), 803–872. http://www.stanfordlawreview.org/wp-content/uploads/sites/3/2014/04/66_Stan_L_Rev_803-Starr.pdf
- Troquete, N. A. C., van den Brink, R. H. S., Beintema, H., Mulder, T., van Os, T. W. P., Schoevers, R. A., & Wiersma, D. (2013). Risk assessment and shared care planning in out-patient forensic psychiatry: Cluster randomised controlled trial. *British Journal of Psychiatry*, 202(5), 365–371. <http://doi.org/10.1192/bjp.bp.112.113043>
- United States 115th Congress. (2018). *First Step Act of 2018*.
<https://www.congress.gov/115/plaws/publ391/PLAW-115publ391.pdf>
- Varela, J. G., Boccaccini, M. T., Cuervo, V. A., Murrie, D. C., & Clark, J. W. (2014). Same score, different message: Perceptions of offender risk depend on Static-99R risk communication format. *Law and Human Behavior*, 38(5), 418–427.
<http://doi.org/10.1037/lhb0000073>
- Viglione, J. (2019). The Risk-Need-Responsivity model: How do probation officers implement

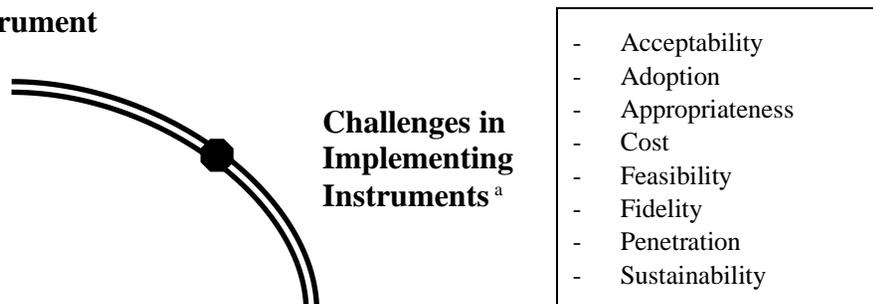
- the principles of effective intervention? *Criminal Justice and Behavior*, *46*(5), 655–673.
<http://doi.org/10.1177/0093854818807505>
- Viljoen, J. L., Cochrane, D. M., & Jonnson, M. R. (2018). Do risk assessment tools help manage and reduce risk of violence and reoffending? A systematic review. *Law and Human Behavior*, *42*(3), 181–214. <http://doi.org/10.1037/lhb0000280>
- Viljoen, J. L., Cochrane, D. M., Shaffer, C. S., Muir, N. M, Brodersen, E., Rogers, B. J., Douglas, K. S., Roesch, R., McMahon, R. J., & Vincent, G. M. (2019). Bridging risk assessments to case plans: Development and evaluation of the ARROW intervention-planning tool for adolescents on probation. *Criminal Justice and Behavior*, *46*(11), 1587–1610. <http://doi.org/10.1177/0093854819873019>
- Viljoen, J. L., Jonnson, M. R., Cochrane, D. M., Vargen, L., & Vincent, G. M. (2019). Impact of risk assessment instruments on rates of pretrial detention, post-conviction placements, and release: A systematic review and meta-analysis. *Law and Human Behavior*, *43*(5), 397–420. <http://doi.org/10.1037/lhb0000344>
- Vincent, G. M., Guy, L. S., Gershenson, B. G., & McCabe, P. (2012). Does risk assessment make a difference? Results of implementing the SAVRY in juvenile probation. *Behavioral Sciences & the Law*, *30*(4), 384–405. <http://doi.org/10.1002/bsl.2014>
- Vincent, G. M., Guy, L. S., & Grisso, T. (2012). *Risk assessment in juvenile justice: A guidebook for implementation*. Models for Change. <http://modelsforchange.net/publications/346>
- Vincent, G. M., Guy, L. S., Perrault, R. T., & Gershenson, B. (2016). Risk assessment matters, but only when implemented well: A multisite study in juvenile probation. *Law and Human Behavior*, *40*(6), 683–696. <http://doi.org/10.1037/lhb0000214>
- Vincent, G. M., Paiva-Salisbury, M. L., Cook, N. E., Guy, L. S., & Perrault, R. T. (2012). Impact

- of risk/needs assessment on juvenile probation officers' decision making: Importance of implementation. *Psychology, Public Policy, and Law*, 18(4), 549–576.
<http://doi.org/10.1037/a0027186>
- Vincent, G. M., & Perrault, R. (2018). *Risk Assessment and Behavioral Health Screening (RABS) project final technical report*. University of Massachusetts Medical School.
<https://www.ncjrs.gov/pdffiles1/ojjdp/grants/251912.pdf>
- Vincent, G., Sullivan, C. J., Sullivan, C., Guy, L., Latessa, E., Tyson, J., & Adams, B. (2018). *Studying drivers of risk and needs assessment instrument implementation in juvenile justice*. Office of Juvenile Justice and Delinquency Prevention, US Department of Justice.
<https://ojjdp.ojp.gov/sites/g/files/xyckuh176/files/pubs/251809.pdf>
- Vincent, G. M., & Viljoen, J. L. (in press). Racist algorithms or age old systemic problems? The latest risk assessment debate. *Criminal Justice and Behavior*.
- Webster, C. D., Martin, M., Brink, J., Nicholls, T. L., & Desmarais, S. L. (2009). *Manual for the Short Term Assessment of Risk and Treatability (START) (Version 1.1)*. Forensic Psychiatric Services Commission and St. Joseph's Healthcare.
- Wolff, R. F., Moons, K. G., Riley, R. D., Whiting, P. F., Westwood, M., Collins, G. S., Reitsma, J. B., Kleijnen, J., & Mallett, S. (2019). PROBAST: A tool to assess the risk of bias and applicability of prediction model studies. *Annals of Internal Medicine*, 170(1), 51–58.
<https://doi.org/10.7326/M18-1376>
- Wong, S. P., & Olver, M. E. (2010). Two treatment- and change-oriented risk assessment tools: The Violence Risk Scale and Violence Risk Scale-Sexual Offender Version. In R. K. Otto & K. S. Douglas (Eds.), *Handbook of violence risk assessment* (pp. 121–146). Routledge.

Figure 1

Risk Assessment and Management Pathway

Risk Assessment Instrument



Challenges in Implementing Instruments^a

- Acceptability
- Adoption
- Appropriateness
- Cost
- Feasibility
- Fidelity
- Penetration
- Sustainability

Challenges in Subsequent Steps in Risk Management

- Risk communication
- Formulation
- Case planning
- Intervention delivery
- Reevaluation of risk

Risk Management Outcomes

Agency outcomes	<ul style="list-style-type: none"> - Agency-level service planning - Cost-savings - Staff accountability - Communication - Lawsuits and liability
Professional practice outcomes	<ul style="list-style-type: none"> - Adherence to risk principle - Adherence to need principle - Consistency - Biases - Perceptions of examinees
Examinee outcomes	<ul style="list-style-type: none"> - Civil liberties (e.g., detention) - Violence and reoffending - Reductions in risk factors - Treatment engagement & motivation - Stigma - Racial and ethnic disparities

Note. ^a The implementation outcomes are from Proctor et al. (2011).