PRETRIAL RISK ASSESSMENT TOOLS

A Primer for Judges, Prosecutors, and Defense Attorneys

Sarah L. Desmarais
Associate Professor of Psychology and Director of the Center for Family and Community Engagement, North Carolina State University, sdesmarais@ncsu.edu.

Evan M. Lowder
Postdoctoral Research Associate, Indiana University School of Public and Environmental Affairs, elowder@iu.edu

This report was prepared following a meeting convened by the John D. and Catherine T. MacArthur Foundation as part of the Safety and Justice Challenge, which seeks to reduce over-incarceration by changing the way America thinks about and uses jails. Core to the Challenge is a competition designed to support efforts to improve local criminal justice systems across the country that are working to safely reduce over-reliance on jails, with a particular focus on addressing disproportionate impact on low-income individuals and communities of color.

More information is available at **www.SafetyandJusticeChallenge.org.**

SAFETY+JUSTICE
CHALLENGE

Supported by the John D. and Catherine T. MacArthur Foundation

A vibrant national debate is occurring as to what role, if any, pretrial risk assessment tools can or should play in bail reform. This critical issue brief is intended to inform this ongoing debate by describing pretrial risk assessment tools and what they are designed to do. This primer is not intended to guide the selection, validation, or implementation of a specific pretrial risk assessment tool; resources to support these decisions are available elsewhere.[1] Instead, our goal is to provide foundational knowledge about pretrial risk assessment tools to contextualize and support further discussion regarding the use and evaluation of these tools in practice.

RISK AND REFORM IN PRETRIAL JURISPRUDENCE

In the past several years, every state has enacted legal reforms governing pretrial release and detention.[2] These reform efforts reflect widespread recognition that jails in much of the country are overused, and that many people who could succeed in the community on pretrial release are incarcerated due to their inability to post even modest financial bonds. "The overarching reform vision is to shift from the 'resource-based' system of money bail to a 'risk-based' system, in which pretrial interventions are tied to risk rather than wealth."[3] Accordingly, jurisdictions across the United States are exploring alternatives to money bail that center on the likelihood that a defendant *will appear in court without a new arrest*, rather than on a defendant's ability to pay bail. One strategy involves the implementation of pretrial risk assessment tools — empirically based tools that aim to estimate the likelihood of appearance in court with no new arrest, thereby providing information that can support objective and transparent decision-making.

In this context, the results of pretrial risk assessment tools may enhance the fair administration of justice *if* the information they produce leads to more equitable and less carceral decisions. Specifically, **pretrial risk assessment tools could provide some objective, empirical evidence to inform decisions** to release defendants who pose low risk of failure to appear and threat to public safety with minimal or no conditions; to release other defendants with conditions and strategies to maximize the likelihood they will appear at future court dates and avoid rearrest (e.g., community supervision, electronic monitoring); and to consider detention only for those defendants whose risk of failure

to appear and threat to public safety cannot be managed in the community. However, the results of pretrial risk assessment tools should never result in detention without a due process hearing with a higher burden of proof on the state to show that there are no conditions that would reasonably assure appearance in court with no new arrest.

Pretrial risk assessment tools are designed to *inform* not *replace* the exercise of judicial decision-making and discretion. The results produced by pretrial risk assessment tools should be considered transparently and on the record within a range of pretrial release guidelines. At a detention hearing, judges also should consider other relevant information, including the nature and circumstances of the offense(s) charged, the weight of the evidence, factors required by state statute that are not captured in the risk assessment, and input from prosecutors and defense attorneys. Thus, pretrial risk assessment tools provide group-based information that may support pretrial decisions, while still allowing for judicial discretion that accounts for the facts and circumstances of an individual case.

RISK ASSESSMENT DEFINED

Risk assessment can be defined as the process through which *risk factors* and *protective factors* are used to estimate the *likelihood* that an outcome will occur. **In the context of pretrial risk assessment, the outcome of legal interest is *appearance in court with no new arrest* during the pretrial period.** Inherent in this definition is that there is still uncertainty regarding whether or not the defendant will be successful. Indeed, it is not possible to predict human behavior with 100% certainty. Yet, the Supreme Court does not require that we know the likelihood of success with 100% certainty, and in fact, used "reasonable assurance" in its ruling that detention should be the "carefully limited exception." To that end, a preponderance of research shows

> Pretrial risk assessment tools are designed to inform not replace the exercise of judicial decision-making and discretion.

that the use of a validated risk assessment tool can improve the accuracy with which these likelihoods are estimated, compared to decisions that rely solely on subjective judgment.[4]

RISK AND PROTECTIVE FACTORS

Items included in pretrial risk assessment tools describe characteristics of the defendant, their social environments, or their circumstances. A review of the myriad of available pretrial risk assessment tools shows that they typically include some combination of the following:

- Defendant age
- Substance use
- Criminal history, including violence and failure to appear
- Active community supervision
- Pending/current charge(s)
- Employment stability
- Education
- Housing/residential stability
- Family/peer relationships
- Community ties

Risk factors are characteristics of a defendant, their environment, or their circumstances that are associated with *increased* likelihood of failure to appear and/or rearrest, whereas *protective factors* are characteristics that are associated with *decreased* likelihood of failure to appear and/or rearrest. Although protective factors are not included in many pretrial risk assessment tools, there is more and more research showing the value they add to the risk assessment process. In particular, studies show that protective factors are not just the absence of a risk factor, but rather that they reduce the likelihood of recidivism among offenders exposed to risk factors.[5] In this way, consideration of protective factors can increase the accuracy with which we estimate the likelihood of pretrial outcomes.

ESTIMATING THE LIKELIHOOD OF FAILURE TO APPEAR AND REARREST

The estimated likelihood produced by a pretrial risk assessment tool, known as a *risk estimate*, will usually be described as a probability or category of risk, such as low, moderate, or high. The risk estimate produced

> **The ultimate description of a defendant's risk as low, moderate, or high in a given jurisdiction is a policy decision, not a scientific one.**

by a pretrial risk assessment tool will typically be based on the defendant's score in relation to a reference or norming population. That is, the defendant's score will be compared to the scores of defendants studied during the tool's development or validation process and their rate of failure to appear and/or rearrest. The process through which information regarding risk and protective factors is used to estimate risk for failure to appear and/or rearrest is an empirical one. Specifically, numeric item ratings are transformed into a score, which in turn represents an estimate of the likelihood of failure to appear and/or rearrest. Most pretrial risk assessment tools produce one score that is used to estimate different pretrial outcomes, while some tools produce separate scores for each pretrial outcome of interest.

The ultimate description of a defendant's risk as low, moderate, or high in a given jurisdiction is a policy decision, not a scientific one. A pretrial risk assessment tool can describe a defendant's likelihood of failure to appear and/or rearrest as a function of the rates of those outcomes among other defendants with a score in the same range. However, the pretrial risk assessment tool cannot speak to how these rates of failure to appear and/or rearrest are viewed within a given jurisdiction. Instead, the acceptability and tolerability of those rates should be determined by stakeholders before implementation. For instance, a defendant may receive a score that indicates a 20% likelihood of failure to appear. Stakeholders must decide what this 20% likelihood means for pretrial decision-making in that jurisdiction.

Further, that 20% likelihood reflects the rate of failure to appear in the population of defendants used to develop or "norm" the pretrial risk assessment tool, which may not represent the rate of failure to appear among defendants who receive that score in other jurisdictions. For this reason, a pretrial risk assessment tool, no matter how well

validated in other jurisdictions, should be subjected to local evaluation, ideally in the form of a pilot study, before full-scale implementation. Doing so provides information regarding rates of failure to appear and rearrest for a new crime associated with the different scores in that jurisdiction. It also provides the opportunity to tailor pretrial release guidelines to these jurisdiction-specific failure rates.

RISK ASSESSMENT APPROACHES AND TOOLS

Approaches to Risk Assessment

There are several different approaches to risk assessment that range from subjective and qualitative to objective and empirical, or some combination thereof. Historically, the process of risk assessment — in the context of pretrial decision-making or otherwise — was qualitative and subjective, often referred to as *unstructured professional judgment*. That is, the decision maker, such as a judge, would rely on their professional training, their experience, and information gathered from the defendant, official records, or other sources to inform their subjective evaluation of risk for failure to appear and/or rearrest. This approach is "unstructured" insofar as it does not rely on a standardized checklist or protocol, although a decision maker may have a handful of factors they consider or set questions they ask defendants to inform their decisions.

This unstructured professional judgment was the standard of practice in risk assessment through the 1970s. However, on average, unstructured professional judgments of public safety risks have repeatedly been shown to be less accurate than empirically based risk assessment approaches.[6] Why? **Human judgment is inherently influenced by personal beliefs.** In some cases, these beliefs are accurate and relevant to the decision at hand. In other cases, including in the context of bail decisions, these beliefs can reflect inaccurate stereotypes that contribute to biased and erroneous decisions.[7]

Empirically based approaches, often referred to as *structured risk assessment*, are the accepted state-of-the-science when it comes to pretrial risk assessment, as well as risk assessment in other public safety domains. **Structured risk assessment tools were informed by more than 65 years of rigorous research studying factors that are statistically associated with public safety risks.**

There are two overarching approaches to structured risk assessment: (1) actuarial risk assessment, and (2) structured professional judgment. While proponents of each approach have debated their relative merits, research reviews show that they estimate the likelihood of public safety risks with comparable reliability (i.e., consistency between assessors) and predictive validity (i.e., accuracy in forecasting the outcome of interest).[8]

Actuarial risk assessment is the most prominent form of structured risk assessment in pretrial settings. Actuarial risk assessment tools assign numerical values to each risk and protective factor and then weight and combine the item ratings to produce risk scores. The methods through which item ratings are weighted and combined differ, but generally reflect the degree to which the items are related to the outcome of interest and the statistical association between the items in the development sample(s). The estimated likelihood of failure to appear and/or rearrest are then determined as a function of the rate of failure to appear and/or rearrest among defendants in the development sample(s) who received that same risk scores.

Whereas the actuarial risk assessment approach automates the scoring of the assessment, the *structured professional judgment* approach provides a framework for estimating risk, without removing professional judgment from the assessment process altogether. These tools guide assessors to consider a set list of evidence-based risk and protective factors. Although assessors rate the presence, severity, and/or relevance of the risk and protective factors, the item ratings are not summed to produce a numerical score that represents a likelihood or probability. Instead, assessors consider the item ratings as they relate to an individual's case and circumstances to inform their final, *professional* judgment of risk as low, moderate, or high. Widely used in other domains, the structured professional judgment approach is uncommon in pretrial risk assessment.

> Structured risk assessment tools were informed by more than 65 years of rigorous research studying factors that are statistically associated with public safety risks.

Finally, some pretrial risk assessment tools use a hybrid approach that combines features of actuarial risk assessment and structured professional judgment, through the inclusion of a *clinical* or *professional override.* These instruments typically use the actuarial risk assessment approach to produce the risk estimate, but they also provide the individual completing the assessment with the opportunity to "override" the actuarial risk estimate; that is, they can assign a higher or lower risk estimate before the results of the pretrial risk assessment are shared with the judicial decision-maker. **This professional override exists within the structure of the risk assessment tool itself and is separate and distinct from the exercise of judicial discretion.**

Pretrial Risk Assessment Tools

Recent reviews have identified more than two dozen different pretrial risk assessment tools in various jurisdictions across the United States. These tools differ not only in how they estimate risk, but also in the factors they assess and the source(s) of information necessary to complete the assessment (e.g., self-report, official records). Some tools were developed to assess specific populations, while others were developed for use in specific jurisdictions. Other tools were developed for widespread use across jurisdictions and others, still, were originally developed for a specific jurisdiction, but have since been adapted and/or validated for use in other jurisdictions. Some tools reside in the public domain, while others are proprietary. The proprietary nature of a tool, in turn, can have implications for transparency (or lack thereof) regarding the information and methods used to estimate risk.[9]

There have been dozens of studies conducted over the past 20 years that show risk assessment instruments can produce estimates of the likelihood of rearrest that are statistically and significantly more accurate than unstructured professional judgments of risk to public safety. However, the real-world performance of any given pretrial risk assessment tool for any given defendant will be affected by many things, including, among others, the training and experience of the individual completing the risk assessment and the amount and quality of information available to complete the risk assessment. **Even a well-validated risk assessment tool will not produce accurate estimates of risk for failure to appear and/or rearrest if it is not used correctly.**

Finally, pretrial risk assessment tools *estimate* the *likelihood* of failure to appear and/or rearrest. No matter how good the tool, there will always be cases in which an individual's level of risk is under (or over) estimated. However, research supports that the use of pretrial risk assessment tools — when implemented with fidelity — can help improve the calibration of pretrial decisions. Specifically, they can help reduce the frequency with which defendants are identified as high risk for failure to appear and threat to public safety when in reality they would have been successful on pretrial release, as well as the frequency with which defendants are identified as low risk, but fail to appear in court and/or are rearrested.

RESEARCH ON PRETRIAL RISK ASSESSMENT TOOLS

Research on pretrial risk assessment tools can largely be divided into two distinct tracks: (1) research on the tools' *predictive validity* and (2) research on the tools' *impact on decision-making.* For pretrial risk assessment tools to be considered "valid," they must be able to estimate the probability of failure to appear and/or pretrial rearrest at statistically significant and politically acceptable rates. But, research demonstrating *predictive validity* does not equate with research demonstrating *implementation success.* Indeed, even a well-validated tool may not produce the intended results of more accurate, decarceral, and racially and ethnically equitable decisions relative to practice as usual for many reasons, including problems with implementation.

Most research to date has focused on predictive validity.[10] These studies typically have produced promising results, showing that pretrial risk assessment tools can distinguish between defendants at low, moderate, and high risk of pretrial failure to appear and rearrest. That is, these studies find the lowest rates of failure to appear and rearrest

Even a well-validated risk assessment tool will not produce accurate estimates of risk for failure to appear and/or rearrest if it is not used correctly.

among defendants identified as low risk and the highest rates of failure to appear and rearrest among defendants identified as high risk. However, the research methods and statistics used in these studies often fail to meet the standards of practice in the field of risk assessment[11] and the standards for educational and psychological testing more generally.[12] Further, there has been no independent evaluation or synthesis of this research, limiting more definitive conclusions regarding the predictive validity of pretrial risk assessment tools overall and with respect to specific tools and pretrial outcomes.

There has been less research conducted on the implementation of pretrial risk assessment tools. As a result, their impact on pretrial decisions and outcomes is unclear. To demonstrate, one statewide evaluation found that rates of pretrial release, especially non-financial pretrial release, increased following implementation of pretrial risk assessment tools. However, these effects eroded over time and the impact on pretrial arrest rates was negligible. Moreover, several years after the implementation of the risk assessment tools in this jurisdiction, the rate of pretrial release was *lower* prior to implementation.[13] An evaluation of a different pretrial risk assessment tool in another jurisdiction also showed mixed results, finding lower rates of failure to appear but higher rates of new arrests following implementation.[14] Impact on release rates was minimal. Yet, evidence is emerging from evaluations of ongoing implementations that show increased rates of pretrial release attributable to the use of pretrial risk assessment tools.

Taken together, the current body of research on pretrial risk assessment tools supports their ability to identify defendants at different rates of failure to appear and pretrial arrest, and leaves open the possibility that they could have a positive impact on pretrial decisions and outcomes. However, there have been relatively few methodologically rigorous investigations of the use of pretrial risk assessment tools in practice. A survey conducted about 10 years ago, for example, showed that nearly half of all jurisdictions using pretrial risk assessment tools had not evaluated the validity of the risk estimates in that jurisdiction;[15] fewer, still, had evaluated their impact. To the extent that jurisdictions adopt pretrial risk assessment tools, the implementation should be accompanied by an independent evaluation of the relationships between

the items, risk estimates, and pretrial outcomes in that jurisdiction, as well as the degree to which the implementation contributes to more equitable and less carceral decisions.

COMMON OBJECTIONS TO THE USE OF PRETRIAL RISK ASSESSMENT TOOLS

Some judges, prosecutors, defense attorneys, and others have objected to the use of pretrial risk assessment tools, challenging their utility, validity, comprehensiveness, and fairness. Below we discuss some of the common objections. Many of these issues are contentious — even among legal and social science scholars — and remain unresolved. A future critical issue brief will address these objections in greater depth.

Pretrial risk assessment tools will fail to achieve — and may frustrate — the aims of bail reform.

A national coalition of more than 120 civil rights organizations announced in 2018 that "[w]e believe that jurisdictions should not use risk assessment instruments in pretrial decision-making, and [should] instead move to end secured money bail and decarcerate most accused people pretrial."[16] The signatories to this statement argue that pretrial risk assessment tools do not consistently or meaningfully reduce rates of pretrial incarceration or ameliorate racial and ethnic inequities.[17] These concerns are shared by others: more than 80% of public defender respondents to a recent survey, for example, believed that the pretrial risk assessment tool used in their jurisdiction "contributed to racial and ethnic disparities in the criminal justice system."[18] At the same time, advocates contend that pretrial risk assessment may distract from other reforms, such as increasing supportive services that help people succeed on release; narrowing the "net" of charges that make defendants eligible for pretrial detention; or requiring a meaningful adversarial hearing before preventive detention can be imposed.

The extant research evidence neither supports nor refutes these concerns. There have been few studies examining the impact of the use of risk assessment tools on pretrial decision-making. There has been even less methodologically rigorous study of whether the use of a pretrial risk assessment tool will contribute to reductions in racial and ethnic inequities. What research exists generally shows

> Pretrial risk assessment tools are designed to provide evidence that informs pretrial decision-making; they are not intended to make the pretrial decision.

parity in risk assessment scores and comparable levels of accuracy in estimating the likelihood of *pretrial outcomes* across groups defined by race and ethnicity (although the outcome measures themselves, include rearrest, may reflect systemic inequities).[19] Some research also shows that the use of risk assessment tools can contribute to increased rates of pretrial release among racial and ethnic minorities over decisions made in the absence of pretrial risk assessment tools.[20] However, only a few pretrial risk assessment tools implemented in a handful of jurisdictions have been evaluated in this way.

Pretrial risk assessment tools are too simplistic.

Pretrial risk assessment tools simply cannot adequately capture all aspects of a defendant's circumstances and case. They do not purport to do so. Instead, they are intended to capture and summarize the most statistically robust predictors of failure to appear and/or rearrest. They are designed for efficiency of administration, often without a defendant interview,[21] and as a strategy to reduce consideration of factors empirically unrelated to pretrial outcomes. Consequently, they can be used to assess pretrial defendants in a relatively short period (i.e., between booking and arraignment). And, as described earlier, many pretrial risk assessment tools incorporate an explicit process through which the assessor can override the mathematically produced risk estimate through consideration of a defendant's individual circumstances and case.

Pretrial risk assessment tools are designed to provide evidence that informs pretrial decision-making; they are not intended to *make* the pretrial decision. They provide information regarding how a given defendant's score relates to scores of other defendants and to rates of failure to appear and/or rearrest among defendants who received the same score. Even so, pretrial decisions

must still include consideration the defendant's unique circumstances and characteristics — which is the job of the court actors, prosecutors, and defense attorneys. Pretrial risk assessment tools can change the starting point for those conversations by providing group-based information on the likelihood of success on pretrial release, rather than relying solely on subjective interpretations of a defendant's charge, record, and life circumstances.

Pretrial risk assessments tools have limited utility in managing risk.

Some have argued that pretrial risk assessment tools offer limited value beyond estimating risk for failure to appear and/or rearrest because they do not explain *why* the individual received the score that they did nor *what can be done* to improve likelihood of success. This is true. Pretrial risk assessment tools are limited in the information they can provide regarding the reasons for possible failures to attend court or for being rearrested; it is a combination of factors rather than any given factor that contribute to an individual defendant's likelihood of success.

Pretrial risk assessment tools are not intended to inform case management and treatment per se, but rather to estimate the likelihood of failure to appear and/or rearrest if a defendant is released to the community without conditions. **Any conditions of pretrial release should only be imposed to increase the likelihood a defendant will appear in court with no new arrest.** For instance, research shows that court reminders and pretrial supervision, for some, can increase rates of court appearance for some categories of defendants.[22] While some pretrial risk assessment tools may include treatment-relevant information, this information should not be used to impose conditions during the pretrial period for purposes other than risk management.

> Any conditions of pretrial release should only be imposed to increase the likelihood a defendant will appear in court with no new arrest.

Pretrial risk assessment tools are not valid in my jurisdiction.

A common refrain is that pretrial risk assessment tools may work in some jurisdictions but will not work in others. A related concern is that the validity of pretrial risk assessment tools may change over time. These concerns speak to two overarching issues discussed elsewhere in this brief. First, the implementation of a pretrial risk assessment tool should be accompanied by an evaluation of predictive validity and impact of the tool on pretrial decision-making and outcomes in that jurisdiction. While research demonstrates that the factors that predict criminal behavior are typically fairly stable across time and jurisdiction,[23] there nonetheless may be factors that are jurisdiction-specific or whose relevance to failure to appear and/or rearrest change over time.[24] Second, the key to ensuring the utility of a given pretrial risk assessment tool in a given jurisdiction is to tailor risk estimates and pretrial decision-making policies to jurisdiction-specific failure rates over relatively recent timeframes.

COMMON PROBLEMS IN IMPLEMENTING PRETRIAL RISK ASSESSMENT TOOLS

The successful implementation of pretrial risk assessment tools into front-end decision-making processes is not without its challenges. Although individual jurisdictions may encounter unique challenges, below we summarize and discuss some of the common problems in implementing pretrial risk assessment tools.

Pretrial risk assessment tools are time-intensive and costly to implement.

The simple truth is that it can be time-intensive and costly to implement a pretrial risk assessment tool. Implementation requires staff time and training, not only for those who will be administering the tool, but also for those other stakeholders who will receive their results, including judges and magistrates, defense attorneys, and prosecutors. Efforts to adapt and validate a pretrial risk assessment tool for a specific jurisdiction also take time and resources. And, validation efforts and ongoing monitoring of pretrial outcomes require jail and court data systems to interface, often necessitating a minimum level of shared technological infrastructure. Implementation also may require dedicated staff to administer the tool, technology

to score and track results, and processes to ensure the communication of results to decision makers.

Post-implementation, in contrast, the ongoing use of a pretrial risk assessment tool is more about repurposing existing resources than creating new resources. Many pretrial risk assessment tools are free and very short, taking only minutes to complete. Further, if implementation of a pretrial risk assessment tool results in less carceral pretrial decision-making, then implementation costs could be offset by reductions in pretrial incarceration, contributing to cost savings over time.[25]

Pretrial risk assessment tools require stakeholder buy-in.

Successful adoption of any new practice requires stakeholder buy-in; implementation of pretrial risk assessment tools is no exception. Collaboration between court administration, pretrial services, judges, and other stakeholders is essential to ensuring that risk assessment information is used to inform pretrial decision-making consistently. There is critical work that must be completed *before* implementing a pretrial risk assessment tool, including education and consultation. Best practice is that judges and other stakeholders are educated regarding the research on pretrial risk assessment tools, as well as the role of risk assessment tools in supporting (not replacing) judicial discretion. Judges and other stakeholders also should be engaged in the process of selecting a pretrial risk assessment tool, as well as the development of local policies and guidelines for its use, including the "risk tolerance" of the community and the response to different levels of risk presented by defendants (e.g., conditions of supervision).

There is a lack of resources in the community to address defendants' needs.

Unfortunately, there is a lack of resources in communities across the United States to address the systemic inequities, as well as the individual risks and needs, that lead to — and result from — criminal justice contact. This reality will exist regardless of whether or not a pretrial risk assessment tool has been used. But, the implementation of a pretrial risk assessment tool may help clarify where there are unmet needs by providing individual- and population-level information; for example, the percentage of defendants

presenting with current substance use problems or experiencing homelessness. In this way, the results of pretrial risk assessment tools may provide empirical evidence to support requests for increased resources and funding to address unmet needs through enhanced community treatment services, housing programs, etc.

CONCLUSION

The role of risk assessment tools in pretrial decision-making is heavily debated within the context of bail reform. This critical issue brief does not take a position on the relative policy merits of pretrial risk assessment tools as a mode of bail reform. Instead, our objectives were more limited, but equally important: to provide legal stakeholders with an overview of pretrial risk assessment tools and how they operate; to describe the state of the research on their predictive validity and impact on pretrial decision-making; and to clearly communicate common objections and implementation problems. Future critical issue briefs will more thoroughly address civil rights concerns and critiques of pretrial risk assessment tools, as well as emergent methods and research surrounding machine learning techniques.

ENDNOTES

1 See, for example, the Public Safety Risk Assessment Clearinghouse: https://psrac.bja.ojp.gov/

2 National Conference of State Legislatures, *Trends in Pretrial Release: State Legislation* Update, April 2018.

3 M. Stevenson and S. Mayson, Pretrial Detention and Bail, Academy for Justice, *A Report on Scholarship and Criminal Justice Reform* (Erik Luna ed., 2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2939273

4 For meta-analytic reviews of research conducted over the past six decades, see W. M. Grove, et al. *Clinical versus mechanical prediction: a meta-analysis*, 12 Psychological Assessment 19-30 (2000) and S. Ægisdóttir, et al. *The meta-analysis of clinical judgment project: Fifty-six years of accumulated research on clinical versus statistical prediction.* The Counseling Psychologist 341-382 (2006). For one recent exception see J. Dressel & H. Farid, *The accuracy, fairness, and limits of predicting recidivism, Science Advances* (2018), http://advances.sciencemag.org/content/4/1/eaao5580 (last visited Dec 3, 2018), but note critiques of their methodology and conclusions presented in A. M. Holsinger et al. A *rejoinder to Dressel and Farid: A new study finds computer alogrithm is more accurate than humans at predicting arrest and as good as a group of 20 lay experts*, 82 Federal Probation 51-56 (2018).

5 J. Monahan & J. L. Skeem, *Risk assessment in criminal sentencing*, 12 Annual Review of Clinical Psychology 489-513 (2016).

6 See supra note 4.

7 D. Arnold et al., *Racial bias in bail decisions*, 133 The Quarterly Journal of Economics 1885-1932 (2018).

8 J. P. Singh, et al., A comparative study of violence risk assessment tools: *A systematic review and metaregression analysis of 68 studies involving 25,980 participants*, 31 Clinical Psychology Review 499-513 (2011); S. L. Desmarais, et al., *Performance of recidivism risk assessment instruments in U.S. correctional settings*, 13 Psychological Services 206-222 (2016); M. A. Campbell, et al., *The prediction of violence in adult offenders: A Meta-analytic comparison of instruments and methods of assessment*, 36 Criminal Justice and Behavior 567-590 (2009).

9 The vast majority of pretrial risk assessment tools have made their content and methods of estimation available to stakeholders and the public at large.

10 See, for example, J. Austin, et al., Kentucky Pretrial Risk Assessment Instrument Validation, JFA Institute and Pretrial Justice Institute (2010); J. Austin, et al., Florida Pretrial Risk Assessment Instrument, JFA Institute (2010); E. J. Latessa, et al., *The development and validation of a pretrial screening tool*, 72 Federal Probation 2-9 (2008); M. VanNostrand & K. J. Rose, Pretrial Risk Assessment in Virginia, Luminosity (2009); L. Winterfield, et al., Development of an Empirically-based Risk Assessment Instrument, Urban Institute (2003).

11 J. P. Singh et al. *Reporting guidance for violence risk assessment predictive validity studies: The RAGEE statement.* 39 Law and Human Behavior 15-22 (2015); K. S. Douglas et al. Research methods in violence risk assessment, Research Methods in Forensic Psychology (B. Rosenfeld & S. D. Penrod eds., 2011).

12 American Education Research Association, American Psychological Association, and National Council on Measurement in Education (2014). The Standards for Educational and Psychological Testing. Washington, DC.

13 M. T. Stevenson, *Assessing risk assessment in action*, 103 Minnesota Law Review (2018), https://papers.ssrn.com/abstract=3016088 (last visited Nov 30, 2018).

14 J. Hedlund, et al. Development and Validation of an Assessment For Pretrial Conditional Release. (2005), http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.599.6812&rep=rep1&type=pdf (last visited Dec 3, 2018)

15 Pretrial Justice Institute, 2009 Survey of Pretrial Services Programs (2009).

16 Leadership Conference on Civil and Human Rights et al., The Use of Pretrial "Risk Assessment" Instruments: A Shared Statement of Civil Rights Concerns (2018), http://civilrightsdocs.info/pdf/criminal-justice/Pretrial-Risk-Assessment-Full.pdf.

17 See Shared Statement, supra ("implementation of these tools has not curtailed the continued over-incarceration of people of color pretrial . . . .

18 M. DeMichele et al., What Do Criminal Justice Professionals Think about Risk Assessment at Pretrial? (2018), https://papers.ssrn.com/abstract=3168490 (last visited Sep 3, 2018).

19 An investigative report asserted bias against black defendants in algorithmic pretrial risk assessments; based on the analysis of one risk assessment tool using data from one jurisdiction. See J. Angwin et al., *Machine bias*, ProPublica (2016), https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing (last visited Dec 3, 2018). For critique of their methods and conclusions, see A. W. Flores et al. *False positives, false negatives, and false analyses: A rejoinder to "Machine Bias: There's Software Used Across the Counrty to Predict Future Criminals. And It's Biased Against Blacks"*, 80 Federal Probation 38-46 (2016).

20 C. M. B. Brooker, Yakima County, Washington Pretrial Justice System Improvements: Pre- and Post-Implementation Analysis (2017), https://justicesystempartners.org/wp-content/uploads/2015/04/2017-Yakima-Pretrial-Pre-Post-Implementation-Study-FINAL-111517.pdf.

21 See M. VanNostrand & C. T. Lowenkamp, Assessing Pretrial Risk Without a Defendant Interview (2013), https://jpo.wrlc.org/bitstream/handle/11204/1781/Assessing%20Pretrial%20Risk%20without%20a%20Defendant%20Interview.pdf?sequence=3 (last visited Apr 9, 2018).

22 C. T. Lowenkamp & M. VanNostrand, Exploring the Impact of Supervision on Pretrial Outcomes (2013), https://www.arnoldfoundation.org/wp-content/uploads/2014/02/LJAF_Report_Supervision_FNL.pdf.

23 P. Gendreau, et al., *A meta-analysis of the predictors of adult offender recidivism: What works*, 34 Criminology 575–608 (1996).

24 For instance, research conducted in New York City about 20 years ago showed that having a telephone in the residence was associated with lower rates of pretrial failure among defendants. Yet, the fact that households are increasingly abandoning their landline telephones for cell phones suggests that this would no longer be a reliable predictor of pretrial success.

25 S. Ferrere, Estimating the Costs of Implementing Pretrial Assessment and Monitoring Services (2018), Pretrial Justice Institute.

SAFETY+JUSTICE
CHALLENGE

Supported by the John D. and Catherine T. MacArthur Foundation

www.SafetyandJusticeChallenge.org