



# Racial Equity and Criminal Justice Risk Assessment

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Racial and ethnic disparity is a pervasive characteristic of the American criminal justice system. This starts at the beginning of the justice process with substantial racial disparities in arrest.<sup>1</sup> Once arrested, people of color face disparities in pretrial bail decisions (Schlesinger 2005) through disposition and sentencing, where they are imprisoned at 5.9 times the rate of their white counterparts (Carson 2018). Disparate outcomes by race continue to emerge at decision points that are even later in the justice process, such as in determining prison release on parole (Huebner and Bynum 2008). Many of these disparities arise from discretionary decisions and sentencing policies that disadvantage people of color. Disparities are also rooted in a history of structural racism and inequities that continue today, contribute to the overrepresentation of people of color in the justice system, and require action across multiple policy domains to address (Kijakazi et al. 2019).

As a result, addressing racial and ethnic disparity in the justice system requires acknowledging these structural inequities and examining all criminal justice practices with an eye toward whether they contribute to or mitigate disparity. In this brief, “disparity” is defined as differences in justice outcomes and involvement by race or ethnicity, regardless of cause. This is distinct from disparate treatment by race or ethnicity, which is captured in this brief by the term “bias.”

# The Role of Risk Assessment

The centrality of risk assessment to many justice system decisions has profound implications for people’s lives. Criminal justice agencies at all levels of government have increasingly adopted risk assessment tools to guide data-driven decisionmaking about who should be incarcerated as well as how to supervise, manage, and treat justice-involved populations. Many tool developers and implementers hope that risk assessment tools will reduce implicit and explicit bias among justice system decisionmakers, but it is unclear whether they mitigate, reinforce, or leave unaffected racial and ethnic bias in practice. This lack of clarity is partially because the answer likely depends on the setting. As such, the question of whether they support equity and justice for people of color—or simply reproduce existing structural inequities in the justice system—is critical to reform efforts. Justice reform advocates are increasingly posing that very question.

Recently, concerns about the potential for risk assessments to reproduce or exacerbate racial and ethnic disparities have gained widespread attention through public statements of policymakers, the media, justice reform advocates and people with justice involvement. In his 2014 address to the US Sentencing Commission, then–Attorney General Eric Holder expressed apprehension about the disparate and adverse impact of risk assessments on marginalized communities when sentencing decisions are made based on immutable characteristics associated with race.<sup>2</sup> A 2016 article by ProPublica about bias in a commonly used risk assessment instrument greatly elevated public attention paid to racial equity issues in the use of risk assessment.<sup>3</sup> In 2018, more than 100 civil rights and community-based organizations released a shared statement of civil rights concerns over the adoption of pretrial risk assessment tools as a substitute for ending money bail. They contend that both risk assessment and money bail could worsen racial disparities in the justice system (Leadership Conference on Human and Civil Rights 2018). Some justice reform advocates have gone further and oppose the use of risk assessment tools entirely (JustLeadershipUSA n.d.; PJI 2020).

Research has shown that actuarial, or statistical, methods of predicting the likelihood of future outcomes (e.g., failure to appear in court, rearrest, return to custody, successful completion of supervision) are more accurate than subjective judgment (Gottfredson and Moriarty 2006), and offer additional benefits of objectivity, transparency, and accountability among criminal justice actors. Furthermore, research has found that focusing correctional interventions based on risk levels and needs areas identified through validated assessment tools is important to improving outcomes for high-risk people and avoiding worse outcomes for low-risk people through the application of unnecessary programming and surveillance (Lloyd, Hanby, and Serin 2014; Smith, Gendreau, and Swartz 2009). Still, although the research base supports their use, they are not designed to confront the issues of disproportionate involvement and disparity.

Thus, practitioners and policymakers find themselves in a complicated position. They must determine how (or whether) to balance the use of risk assessment as a component of evidence-based practice with pursuing goals of reducing racial and ethnic disparities in the criminal justice system. This brief is intended to assist criminal justice stakeholders in thinking through these issues. It outlines the

primary concerns and potential advantages of using risk assessment tools to promote equity in the administration of justice. The brief concludes with some strategies that could be used to reduce racial and ethnic disparity in the development and use of risk assessments.

## Risk Assessment and Risk Factors: An Overview

Before discussing the main concerns over the use of risk assessment, it is helpful to understand how these tools are constructed and what they are intended to do. Risk assessments are intended to predict the likelihood of future reoffending or noncompliance with justice system requirements, such as appearing in court or complying with probation conditions. They are developed on samples of people who are justice involved by modeling the relationship between risk factors and misconduct outcomes within a set time frame. Tools developed for use in sentencing or postadjudication contexts are generally designed to predict future justice system involvement over a multiyear period, whereas pretrial risk assessment tools are usually designed to predict failure to appear in court and rearrest during a period of pretrial release only. Notably, measures of misconduct are often measures of justice system contact or response, such as official arrests or warrants for failing to appear in court.

Risk factors included in assessment tools are data points associated with the type of outcome predicted (generally defined in terms of misconduct or failure). The types of risk factors included in an assessment depend on the purpose of the tool, what type of decisions it informs, and the outcomes of interest. Some risk factors, or inputs, are historical and unchangeable, such as age at arrest, prior criminal history or arrests, and current charge. These are typically considered **static factors**, which are often derived from official records or administrative data. **Dynamic risk factors** are changeable risk factors that are often the targets for programming and case planning to reduce risk. These often include a person's attitudinal, behavioral, and lifestyle factors (e.g., education, employment, family and peers, and leisure activities). Dynamic risk factors are often measured through self-reported information from an interview.

In development of a risk assessment scale, the relationship of factors to the outcome of interest are modeled statistically and used to assign scoring weights to each item included in the instrument in the interest of creating the most effectively predictive overall model. Once the tool has been found to perform optimally (often through a set of metrics commonly used to "validate" risk models), the risk level (and need, for tools that measure it) is used to inform choices such as pretrial release, supervision level, and programming (see Kim [2017] for more information on tool validation).

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### BOX 1

#### Gaps in Knowledge Regarding Assessment and Disparity

Though the discussion of racial disparities is often focused on differences between Black and white people, it is hard to explore other racial or ethnic disparities because sufficient information and sample sizes for other groups can be unavailable or difficult to obtain.<sup>a</sup> Some jurisdictions do not record ethnicity or do so inconsistently. For example, in some jurisdictions, white, Black, and Hispanic are all

categorized as discrete racial categories, but in other places, Hispanic is an ethnicity that is separate from race (e.g., white Hispanic, Black Hispanic). In many instances, there are too few members of groups such as Asian Americans and Native Americans included in tool construction and validation samples to draw strong conclusions about how use of assessment interacts with disparities in their outcomes.

<sup>a</sup> Sarah Eppler-Epstein, Annie Gurvis, Ryan King, John Wehmann, Vivian Hou, Alexandra Tilsley, and Daniel Matos, “The Alarming Lack of Data on Latinos in the Criminal Justice System,” Urban Institute, December 2016, <https://apps.urban.org/features/latino-criminal-justice-data/>.

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## Common Areas of Concern

### Tool Construction Using Biased Data

Risk assessment tool development relies heavily on data generated by the justice system, such as number of prior arrests or convictions. Much of the concern around risk assessment arises from the use of such data to construct tools when those data are partially the product of existing racial inequities in the criminal justice system. Sometimes this concern is raised relative to dynamic factors such as educational attainment and housing situation, but the strongest predictors of misconduct included in risk assessment tools are criminal history factors, which are also correlated with race (Skeem and Lowenkamp 2016). Criminal history includes factors like previous arrests, convictions, and sentences that are coproduced by the person who is justice involved and justice system actors. Thus, past criminal justice outcomes are reflective of both individual offending behavior *and* system behavior, including differential treatment of certain people in the justice system.

Though it is the risk factors included in these tools that have been most commonly criticized, there is also an argument that the outcomes being predicted are themselves partially products of structural racism. As mentioned, many risk assessment tools are validated with rearrest as an outcome. Because “pure” measures that capture actual offending behavior are not available, tool developers must rely on proxies that can be collected using administrative criminal justice data—measures such as arrest. To some extent, this captures actual criminal behavior, but it also reflects criminal justice practices and official discretion that are subject to biases and structural inequities of several kinds. For example, police often focus more attention and are more present in socially disadvantaged neighborhoods where there are more calls for service. A person living in such a neighborhood is therefore more likely to be detected and arrested for a crime such as drug possession than a person living in a neighborhood with lower levels of crime, even if both are equally likely to possess drugs. In this example, place-based policing strategies are part of what is being measured by the arrest outcome, and in some cases are more likely to raise the risk of arrest for people of color. Furthermore, people of color are more likely to be surveilled in any neighborhood, such as during targeted traffic stops (for example see Taniguchi and coauthors [2016]), and this further contributes to bias in arrest rates.

In short, part of what these tools *consider* and *predict* is past and future contact with the criminal justice system rather than simply offending behavior. To the extent that there are disparities in how

system contact occurs, risk assessment tools will reinforce inequities into their models. In other words, a race-neutral tool in an inequitable system will necessarily reproduce racial and ethnic disparities.

## **Disparately Punitive Outcomes of Risk-Based Decisionmaking**

A key reason for concern about bias in the tools used for risk-based decisionmaking is that it can lead to disparately punitive criminal justice decisions. That is, because Black people are more likely than white people to be assessed as high risk, they will disproportionately be subject to harsher criminal justice responses. This has serious implications on individual liberty if pretrial detention, sentencing, and release decisions are based on biased measurements of risk. More restrictive criminal justice responses like placement on electronic monitoring increase surveillance and can create new rules to break, thereby increasing the risk of failure. Conversely, when less restrictive criminal justice responses—such as pretrial release and diversion programs—are reserved for people assessed to be low risk, Black people will receive the benefits of these decisions at a lower rate than their white counterparts.

In these ways, risk-based decisionmaking can create cumulative disadvantage for people of color who are justice involved. The more the system decisionmaking structure responds to people scoring at the high-risk end of the risk continuum with control responses such as incarceration rather than options to remain in the community with necessary supports for success, the more harmful this dynamic will be. Using tools that incorporate individual strengths and protective factors in addition to risk factors can help decisionmakers identify opportunities to invest in supporting individual success. Part of this is ensuring that appropriate interventions (both in type and intensity) and community resources are targeted and allocated toward those with the highest needs.

Adding to the complexity, disparately punitive decisions can occur at many stages of the justice process. Recent coverage on racial disparities arising from the use of risk assessment tools has primarily focused on disparities in front-end decisionmaking, at pretrial and sentencing, rather than in postadjudication decisions. Specifically, people have expressed concerns about the use of risk assessment to make decisions about pretrial release or detention, or decisions about sentence type and length. Decisions at early stages in the justice process often have implications for what happens at later stages. To take two examples, research indicates that pretrial detention is related to an increased likelihood of receiving a sentence to incarceration (Baumer 2013; Lowenkamp, VanNostrand, and Holsinger 2013), and people with higher risk scores are more likely to have their probation revoked when they commit violations (Jannetta et al. 2014).

## **Lack of Transparency in Decisionmaking**

Algorithms are referred to as being a “black box” for several reasons. As described above, with proprietary tools, only the tool developer has access to the underlying data and source code that created the algorithm. Second, the tool might involve more advanced statistical modeling techniques such as machine learning, which can obscure the identification of specific inputs. Also, many of these algorithms adaptively learn from data through complex manipulations, making it difficult to interpret the meaning of those inputs individually. These statistical methods are relatively new and are not yet

widely implemented within criminal justice settings, but present additional reasons for concern for those criminal justice stakeholders interested in understanding what exactly goes into a risk assessment tool.

The lack of knowledge about which factors go into a risk assessment tool, as well as how those factors are weighted, is a valid concern that should be met with a concerted effort from the research and practitioner communities that develop and implement these tools to increase transparency. Tool developers should share which factors are included in actuarial algorithms with the criminal justice agency adopting the tool, and practitioners conducting the assessments should share these factors with the people being assessed. More broadly, agencies should decide how they will track, monitor, and communicate risk information in decisionmaking as they relate to individual outcomes.

## Advantages of Risk Assessment

Given these concerns, it is important to recognize that the justice system status quo is often subjective decisionmaking by individual criminal justice actors, which is harder to standardize. For instance, it is much more difficult to determine the factors considered by a judge making pretrial release decisions than to list out the risk factors included in a statistical risk assessment algorithm. Thus, despite limitations with the current development and use of risk assessment instruments, these tools have the potential to be far more transparent and consistent than the status quo of individual subjective decisionmaking. An agency's use of a risk assessment instrument, then, should be considered relative to the practices it is intended to replace or supplement.

### Greater Transparency and Accountability in Decision Inputs and Outputs

Subjective decisionmaking or professional judgment is inherently obscure and largely lacks standards for accountability and equity. Risk assessments, however, can work to enhance transparency when the *goals* and *inputs* of the tool are made explicit throughout implementation and everyday use. In addition, as previously described, a judge is unlikely to identify or even know all of the decision inputs used in a particular case, let alone for all of their cases. So, whether the same inputs used in one case will be used the same way in another, such as for a white person compared with a Black person, is unknowable, unlike with a risk instrument that standardizes these factors.

In addition, tool and decision *outputs*—such as the tool's recommendation for release and actual release decisions—can be compared to understand how often officials are relying on tool outputs and the ways in which they depart from them. Furthermore, given the imperatives to impose the least restrictive release setting possible and provide interventions relative to risk level, assessment results provide a standard for evaluating decisions. This ultimately serves to increase accountability through the tracking and review of decisionmaking across legal actors. Risk assessment tools also improve transparency to the extent that data and analysis on the tool's construction, performance, and impact on individual outcomes—such as during local validation or norming, and testing for disparate impact—is shared more widely. Thus, the more that is known regarding a tool and its use (or nonuse), the better

positioned agencies are to make adjustments to improve both the tool and local decisionmaking practices. This is typically not possible with professional judgment alone.

## **Consistency across Actors**

Similarly, these tools can improve consistency across criminal justice actors. Unlike traditional decisionmaking that can be driven by people's backgrounds, education, politics, and careers, risk-based decisionmaking provides a level of uniformity and objectivity to the justice process while lending itself to professional judgment and individualized outcomes. Risk assessments incorporate legally relevant and research-relevant factors that judges and other actors regularly rely on and are required to consider, such as criminal history and offense severity. The difference, however, is that a risk assessment tool applies and weights these factors consistently regardless of the person making the decision.

## **More Successful Practice and Outcomes**

The implementation of risk assessment instruments also supports evidence-based practice. Research shows that actuarial tools are better predictors of future justice system contact, misconduct, and success than clinical judgment alone (Andrews, Bonta, and Wormith 2006), and that risk has important implications for future conduct and program success. Mainly, risk assessment tools used to target resources, such as supervision and treatment, toward people who pose the greatest public safety risk see the largest returns in terms of reduced misconduct and improved reentry outcomes (Lowenkamp, Latessa, and Holsinger 2006). Providing greater guidance based on risk, then, leads to better individual outcomes as well as reduced misconduct, costs, and inefficiencies in the justice system.

# **Strategies to Assess and Manage Bias**

## **Test for Fairness and Accuracy**

A crucial step toward reducing racial disparity in risk assessments is to determine goals around fairness and how to achieve them without losing too much predictive accuracy. Measuring equity and fairness in criminal justice risk assessment tools is difficult because there is a lack of definitional clarity and agreement about the concept of fairness. However, any tests for equity or fairness generally involve examining the performance of an algorithm (i.e., a risk assessment instrument) across racial and ethnic groups. The question then becomes, what aspect of performance should be measured and compared?

There are several indices that can be used to measure performance. Accuracy is one of the most used (and preferred) metrics to evaluate performance because it intuitively summarizes how well the tool correctly identifies both recidivists (or those who engage in misconduct) and nonrecidivists. As summarized in table 1, there are also other metrics that can be used for group comparisons. Recall and precision can provide a more intuitive sense of performance when the outcome predicted is highly skewed (e.g., sexual recidivism). However, many definitions of fairness are not possible to maximize

simultaneously, and are also in tension with maximizing predictive accuracy (see Berk et al. [2018] for a fuller treatment of these issues).

**TABLE 1**  
**Possible Measurements of Fairness (Recidivism Prediction Tool)**

Measurement	Definition	Equity example
Overall accuracy	Of all predictions, how many were correct as a recidivist and a nonrecidivist?	% correctly classified as recidivist and nonrecidivist is similar across racial/ethnic groups
Precision (predictive parity)	Of all positive predictions (i.e., recidivists), how many turned out to be a recidivist?	% predicted to recidivate that recidivated is similar across racial/ethnic groups
Recall (sensitivity)	Of all the recidivists, how many were correctly predicted as such?	% recidivists that were predicted to be a recidivist is similar across racial/ethnic groups
Specificity	Of all the nonrecidivists, how many were correctly predicted as such?	% predicted not to recidivate that did not recidivate is similar across racial/ethnic groups
Distributional equity	Equitable share of issues and benefits across subgroups	% recidivists or recidivism rates for each risk category are similar across racial/ethnic groups
<i>Error rate balance (Type I and Type II Errors)</i>		
Type I: false positives	Predicted positives that did not recidivate	% incorrectly classified as recidivist is similar across groups
Type II: false negatives	Predicted negatives that did recidivate	% incorrectly classified as nonrecidivist is similar across groups

Depending on the focus of attention, it is also useful to examine prediction errors—the opposite notion of accuracy. As an example, ProPublica evaluated the equity of a commonly used instrument, the COMPAS, by comparing the false positives (those people incorrectly assessed as high risk, meaning they did not reoffend) and false negatives (people incorrectly assessed as low risk, who did reoffend) that appeared across Black and white people. They found that Black people were more likely than their white counterparts to be incorrectly assessed as high risk.<sup>4</sup> This conclusion has been challenged on the basis that differences in recidivism rates between groups will automatically lead to these differences in prediction error rates because of the nature of the statistical construct.<sup>5</sup>

Furthermore, some scholars add another layer to this comparison by examining a tool’s performance within risk categories (Dieterich, Mendoza, and Brennan 2016). Risk assessments usually categorize people into a three- or five-point schema of low, low-moderate, moderate, moderate-high, and high risk. Accuracy measures or error rates can be compared between racial/ethnic groups within each risk level. Similarly, the extent of misconduct (e.g., recidivism rates) can be compared between racial/ethnic groups within each risk level.

Across each of these metrics lies the potential to increase fairness, but at the expense of accuracy. It is not possible, for instance, to have no false positives and no false negatives. We can eliminate false positives if no one is predicted to reoffend, but we dramatically increase false negatives. In short, there are trade-offs involved in achieving each of these goals. In addition, eliminating or altering certain risk factors, especially criminal history, could reduce the association between race and risk classifications but is likely to also significantly reduce the predictive power of these tools. For tools that are used to allocate operational and system resources to people based on risk level, such as those used to make referrals to certain programs or treatment, these adjustments can have serious implications for a person's case plan. For example, if people at higher risk levels are no longer classified into those levels, they may no longer be prioritized for treatment programs.

## **Use Tools to Support Disparity-Reduction Goals**

If researchers, policymakers, and practitioners are intentional in setting goals to reduce justice system involvement for people of color through the use of risk assessment instruments, there are ways that these tools and the data they build upon can be modified to achieve these goals. However, using risk assessment instruments as they are designed without carefully thinking about how to ensure equitable performance will not necessarily produce outcomes that promote equity. Therefore, it is essential that criminal justice stakeholders come together to discuss and determine whether reducing justice system involvement for people of color and mitigating racial and ethnic disparities is a priority for their jurisdiction, and if so, what approach to take to accomplish this. It is also important for everyone involved in these efforts to understand that the application of an empirical assessment tool does not divorce system decisionmaking from implicit and explicit biases for all of the reasons already discussed. More deeply investigating the root causes of system inequities remains necessary, whether a validated assessment tool is used or not.

Some ways to recognize the potential for bias and reduce it to the extent possible include improving data quality, carefully selecting the risk factors and outcome measures included, and statistically correcting for inherent system bias. It might be easier to systematically correct for bias by recognizing when and where it exists in a tool than to identify and target human bias that enters subjective decisions across each point of the justice process. Although there are no perfect measures available, one recommendation might be to use conviction data over arrest records to measure criminal history and recidivism. This is because greater legal safeguards are in place at this decision stage and, as has been suggested, convictions are “more legally accurate” (Kleiman, Ostrom, and Cheesman II 2007, 128). To the extent that racial disparities are reduced at conviction and sentencing, these measures of offending will exhibit less bias in a risk instrument compared with the use of arrests. Other more statistically involved modeling processes to identify and correct for bias can be conducted at various stages, including before data processing, during validation, or after scale development. For an example of how equity considerations can be integrated into algorithm decision rules, see Kleinberg and coauthors (2018).

Notably, although these statistical corrections for bias are possible, they are not yet being used in the construction of risk assessment tools. If criminal justice stakeholders are interested in using tools to support disparity reduction, they should partner with researchers and communities most impacted by the justice system to operationalize these goals. By engaging in these types of data and statistical corrections, risk assessment tools not only aid understanding of risk and misconduct among populations, but also serve to recognize and potentially mitigate racial and ethnic disparities at different criminal justice decision stages.

## **Use Tools to Support Parsimony in Application of Control**

Risk assessment can also address a paradoxical issue in the justice system whereby justice involvement is heightened through new initiatives or policies aimed at reducing recidivism. Well-intentioned efforts, such as drug courts or diversion programs, can lead to net-widening when they are not targeted toward the people who benefit the most from them. In other words, these activities bring greater shares of people—often people at the lowest risk to begin with—into the justice system and in a manner that is very disruptive to their lives and social productivity. Risk assessment, as previously described, can serve to limit criminal justice interventions. Likewise, they have been employed as part of broader strategies to reduce rates of incarceration by reserving this most restrictive form of punishment for people who pose the greatest public safety risk.

Although it is possible that this kind of targeting can exacerbate disparity if it leads to greater control of people of color, risk assessment itself does not require or inevitably lead to severe sanctioning, even for people assessed at the highest risk. Rather, local criminal justice agencies can decide to use risk assessment information to determine the best use of alternatives or where to provide greater supports and resources (see Jannetta [2017] on structured decisionmaking). Moreover, judicial actors maintain some independence and discretion in using risk information.

## **Measure System Performance, Decisions, and Outcomes**

In addition to designing tools to support disparity reduction goals and testing that they perform fairly and equitably in terms of predictive validity, it is essential that criminal justice agencies collect and analyze performance metrics on actual outcomes by racial and ethnic groups. That is, how are different racial and ethnic groups assessed to be at different risk levels, and how is this risk assessment information translated into criminal justice decisions and involvement? Even if a risk assessment tool performs at the same level of predictive validity across race, but low-risk people of color are more likely than their white counterparts to receive harsher sentences, fewer opportunities for diversion, or other stricter liberty restrictions, then the tool does not accomplish racial equity goals. This additionally allows for greater transparency when clear performance metrics can be communicated. Therefore, it is important to track actual decision outcomes in conjunction with assessed risk levels in order to measure performance across racial and ethnic groups to ensure professional discretion at various decisionmaking stages does not undermine disparity reduction efforts.

## Summary

Criminal justice stakeholders must seriously consider these concerns about racial disparity, as well as the empirical evidence and policy implications surrounding the issue, to determine the future direction of risk assessment practices. The following are key takeaways from this exploration of issues and perspectives on racial disparity in risk assessment:

- Making improvements in risk assessment construction and practice first requires thinking about these issues relative to the status quo alternative. Much of the discussion of the value of risk-based justice decisionmaking has been driven by its potential to **improve upon the traditional practice of subjective decisionmaking** by individual actors.
- Using risk assessment instruments has the potential to **boost transparency, accountability, and consistency** of decision outcomes by formalizing and standardizing decisionmaking processes. Though risk assessment is not a panacea to the deeper issues inherent in the criminal justice system, it is one tool that can be part of the solution.
- We should hold risk assessments and their users to **higher standards of fairness and transparency**. With increasing awareness of the limitations and implications of this practice, criminal justice stakeholders can work together to ensure that risk assessments and the use of risk information are made fairer and more objective.
- If we understand how data used to construct and validate these tools is biased and limited, as well as how these algorithms might produce racial disparities, we can consider **data and statistical corrections**. Although the degree to which data and statistical corrections can correct for the impacts of structural racism is limited, such corrections are a critical step to mitigate bias and disparity as much as possible.

Opportunities to improve the experiences and outcomes of people involved in the criminal justice system will be missed if we immediately dismiss risk assessment because of its current limitations. Rather, practitioners, researchers, policymakers, and the public should remain open to the idea that these instruments can be improved and serve their intended purpose of increasing fairness in decisionmaking. It is also important to remember that risk assessment instruments are tools and, as with any tool, what an agency, system, or community is trying to do matters greatly in determining its value. If there is an adamant effort for processes to address and reduce disparity, risk assessment tools can help achieve that.

Ultimately, carefully constructed and properly used risk assessment instruments that account for fairness can help limit racial bias in criminal justice decisionmaking. In addition, researchers, practitioners, policymakers, and community members should engage in greater dialogue and collaboration to determine a clearer vision of the goals and standards of risk assessment. If reducing racial disparity or decreasing liberty-restrictive outcomes are explicit goals of the field, we are better positioned to create solutions in research, policy, and practice to achieve them.

# Notes

- <sup>1</sup> “Crime in the US 2015,” Federal Bureau of Investigation Uniform Crime Reporting Program, accessed March 5, 2021.
- <sup>2</sup> “Attorney General Holder Urges Changes in Federal Sentencing Guidelines to Reserve Harshest Penalties for Most Serious Drug Traffickers,” US Department of Justice, press release 14-263, updated September 15, 2014, <https://www.justice.gov/opa/pr/attorney-general-holder-urges-changes-federal-sentencing-guidelines-reserve-harshest>.
- <sup>3</sup> Julia Angwin, Jeff Larson, Surya Mattu, and Lauren Kirchner, “Machine Bias,” ProPublica, May 23, 2016, <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
- <sup>4</sup> Angwin, Larson, Mattu, and Kirchner, “Machine Bias.”
- <sup>5</sup> Jennifer L. Doleac and Megan Stevenson, “Are Criminal Risk Assessment Scores Racist?” Brookings, August 22, 2016, <https://www.brookings.edu/blog/up-front/2016/08/22/are-criminal-risk-assessment-scores-racist/>.

# References

- Andrews, Don A., James Bonta, and J. Stephen Wormith. 2006. “The Recent Past and Near Future of Risk and/or Need Assessment.” *Crime & Delinquency* 52 (1): 7–27.
- Baumer, Eric P. 2013. “Reassessing and Redirecting Research on Race and Sentencing.” *Justice Quarterly* 30 (2): 231–61.
- Berk Richard, Hoda Heidari, Shahin Jabbari, Michael Kearns, and Aaron Roth. 2021. “Fairness in Criminal Justice Risk Assessments: The State of the Art.” *Sociological Methods & Research* 50 (1):3–44.
- Carson, E. Ann. 2018. “Prisoners in 2016.” Washington, DC: US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Dieterich, William, Christina Mendoza, and Tim Brennan. 2016. *COMPAS Risk Scales: Demonstrating Accuracy, Equity, and Predictive Parity*. Traverse City, MI: Northpointe.
- Gottfredson, Stephen D., and Laura J. Moriarty. 2006. “Clinical Versus Actuarial Judgments in Criminal Justice Decisions: Should One Replace the Other?” *Federal Probation* 70 (15).
- Huebner, Beth M., and Timothy S. Bynum. 2008. “The Role of Race and Ethnicity in Parole Decisions.” *Criminology* 46 (4): 907–38.
- Jannetta, Jesse. 2017. “Structured Decision-Making: Using Risk Assessment Outputs to Improve Practice.” Policy Brief 2017-05. Washington, DC: The Public Safety Risk Assessment Clearinghouse.
- Jannetta, Jesse, Justin Breaux, Helen Ho, and Jeremy Porter. 2014. *Examining Racial and Ethnic Disparities In Probation Revocation: Summary Findings and Implications from A Multisite Study*. Washington, DC: Urban Institute.
- JustLeadershipUSA. n.d. “Policy Brief: Risk Assessment Tools (RATs).” New York: JustLeadershipUSA.
- Kim, KiDeuk. 2017. “Validation of Risk Assessment Tools.” Policy Brief Number 2017-04. Washington, DC: The Public Safety Risk Assessment Clearinghouse.
- Kleinberg, Jon, Himabindu Lakkaraju, Jure Leskovec, Jens Ludwig, and Sendhil Mullainathan. 2018. “Human Decisions and Machine Predictions.” *The Quarterly Journal of Economics* 133 (1): 237–93.
- Kijakazi, Kilolo, Steven K. Brown, Donnie Charleston, and Charmaine Runes. 2019. “What Would It Take to Overcome the Damaging Effects of Structural Racism and Ensure a More Equitable Future?” Washington, DC: Urban Institute.
- Kleiman, Matthew, Brian J. Ostrom, and Fred L. Cheesman II. 2007. “Using Risk Assessment to Inform Sentencing Decisions for Nonviolent Offenders in Virginia.” *Crime & Delinquency* 53 (1): 106–32.

- Leadership Conference on Human and Civil Rights. 2018. "The Use of Pretrial 'Risk Assessment' Instruments: A Shared Statement of Civil Rights Concerns." Washington, DC: Leadership Conference on Human and Civil Rights.
- Lloyd, Caleb D., Laura J. Hanby, and Ralph C. Serin. 2014. "Rehabilitation Group Coparticipants' Risk Levels Are Associated with Offenders' Treatment Performance, Treatment Change, and Recidivism." *Journal of Consulting and Clinical Psychology* 82 (2): 298–311.
- Lowenkamp, Christopher T., Edward J. Latessa, and Alexander M. Holsinger. 2006. "The Risk Principle in Action: What Have We Learned From 13,676 Offenders and 97 Correctional Programs?" *Crime & Delinquency* 52 (1): 77–93.
- Lowenkamp, Christopher T., Marie VanNostrand, and Alexander Holsinger. 2013. *Investigating the Impact of Pretrial Detention on Sentencing Outcomes*. Washington, DC: Laura and John Arnold Foundation.
- PJI (Pretrial Justice Institute). 2020. "The Case Against Pretrial Risk Assessment Instruments." Washington, DC: PJI.
- Schlesinger, Traci. 2005. "Racial and Ethnic Disparity in Pretrial Criminal Processing." *Justice Quarterly* 22 (2): 170–92.
- Skeem, Jennifer L., and Christopher T. Lowenkamp. 2016. "Risk, Race, and Recidivism: Predictive Bias and Disparate Impact." *Criminology* 54 (4): 680–712.
- Smith, Paula, Paul Gendreau, and Kristin Swartz. 2009. "Validating the Principles of Effective Intervention: A Systematic Review of the Contributions of Meta-Analysis in the Field of Corrections." *Victims and Offenders* 4 (2): 148–69.
- Taniguchi, Travis, Josh Hendrix, Brian Aagaard, Kevin Strom, Alison Levin-Rector, and Stephanie Zimmer. 2016. *A Test of Racial Disproportionality in Traffic Stops Conducted by the Fayetteville Police Department*. N.p.: RTI International.

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