



Communicating Risk Information for Effective Decisionmaking

Cathy Hu, Kelly Roberts Freeman, Jesse Jannetta, and KiDeuk Kim

March 2021

Research on risk assessment often focuses on how to improve the predictive validity of instruments. Improving the performance of a risk assessment instrument, however, does not translate to better criminal justice outcomes unless the information produced by the assessment is actually used to inform decisionmaking. This topic gets relatively little attention in the research literature (Stevenson 2018). An important aspect of implementation is effectively communicating about risk—both the risk level of a specific person under consideration and the risk distribution across an entire population. Decisionmakers are unlikely to use assessment results properly unless the meaning of those results is communicated clearly. Thus, after assessing risk, effective risk communication is an essential next step in risk assessment implementation to link results to risk-informed decisionmaking and positive criminal justice outcomes.

With these things in mind, in this brief, we describe the purpose of effectively communicating about risk assessment practices and results, discuss the types of risk information that should be communicated, and recommend ways to effectively communicate risk information.

FIGURE 1

Risk Communication: A Neglected Step in the Implementation of Risk Assessment



Goals of Risk Communication

Effectively communicating risk information to relevant audiences serves several key purposes. Perhaps the most important is that it allows for **shared understanding** across agencies and stakeholders on how risk is defined and how responses can be tailored for a local jurisdiction. This includes an understanding of both the risk distribution across a target population and of the tool's intended use to meet the needs of people who are justice involved, criminal justice agencies, and communities. By translating risk information into action across all justice partners using assessment results, it is easier to **build general buy-in** for risk assessment and risk-informed decisionmaking, including among members of the general public.

In addition to generally accepting the purpose and value of risk assessment, stakeholders need to understand how to use risk information for making decisions in individual cases. It is crucial that the way risk is communicated in individual cases **facilitates effective and consistent decisionmaking**. That is, given the risk level of the person under consideration, how should practitioners make determinations such as whether and how to release someone pretrial, what community supervision levels to set, and what the right services and programming for a person are? In addition, how should practitioners explain the purpose of risk assessment to people who are justice involved and engage them in a discussion about how their specific risk factors influence these decisions? These questions are easier to address when an assessment is widely understood and accepted by those who use it.

Risk communication also **supports criminal justice responses** by providing clear, objective, and actionable indicators of risk. For members of the public concerned about public safety, it is important to communicate how the information derived from these tools is used to make communities safer and support people's success. In addition, criminal justice practitioners and service providers can feel more confident making and accepting decisions—such as whether someone is an appropriate candidate for supervision or treatment—given proper communication and understanding of risk assessment information. It is also essential to communicate that although risk assessment instruments are not infallible, actuarial risk predictions, or empirically driven predictions based on statistical models of weighted risk factors, have been shown to improve upon the status quo, or subjective human decisionmaking (Harris 2006).

Though there are numerous reasons to ensure risk is well communicated, actuarial risk predictions can be presented in various forms. Understanding how practitioners should interpret and communicate

this information to other relevant stakeholders will help guide objective, data-driven decisionmaking and improve criminal justice outcomes.

Communication of Statistical and Operational Risk Information

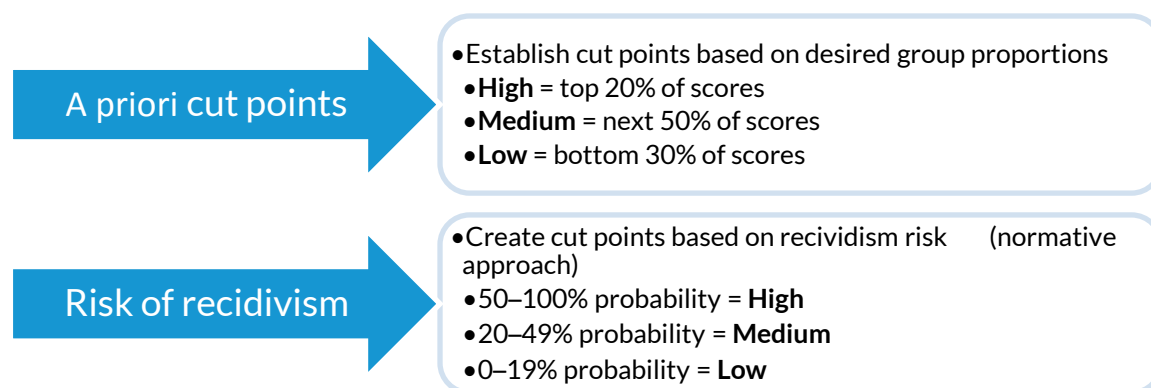
Risk assessment instruments predict the likelihood of a particular criminal justice outcome for the person being assessed based on validated risk factors. The initial output of the instrument often takes the form of numerical risk scores that correspond to statistical metrics such as the estimated probability or frequency of recidivism by risk level and percentile rank. This statistical information is then operationalized into categorical risk levels, based on a set of cutoff points—often between low, medium, and high risk.

Figure 2 provides examples of how risk classification groups can be operationalized based on either a priori proportion-driven cut points or risk of recidivism. The former may be a practical approach for developing cut points if the risk groups need to align with available resources and aid the allocation of treatment or services among a given population. If a set number of people can be assigned to higher levels of community supervision, for example, then proportion-driven cut points will result in a fixed number of people in each group. While this may be optimal for decisionmaking, a person can be classified differently depending on when they are assessed and other local factors.

Alternatively, cut points can be developed as part of tool construction or validation after estimating the probabilities of reoffending for a given study sample. This is the normative approach, and is used to classify people with similar risk of recidivism similarly (e.g., people in the low risk category have less than a 20 percent chance of recidivism). This ensures consistent application and scoring across people, but it does not reflect resource constraints or other factors that might need to inform risk classification cut points.

FIGURE 2

Operationalizing Risk: Two Approaches for Developing Risk Classification Groups



However operationalized, risk scores or classifications are predictions based on the past relationship of observable characteristics and outcomes. Risk levels do not indicate with certainty whether a person will reoffend. There will be people classified as high risk, for instance, who do not go on to reoffend or engage in misconduct, and some who are classified as low risk will do so. Risk classification indicates where a person's level of risk ranks compared with a group of peers.

Categorical or operational information about risk, in terms of risk-level classifications like “high” or “low,” is typically the primary information communicated to decisionmakers because it is simpler to understand than more complex statistical risk formats (e.g., predicted probability, percentiles). It is also more straightforward to link these discrete classifications to different levels of supervision and treatment (Heilbrun et al. 2000). A difficulty with this practice is *variation in understanding of what the categories mean*. Relying solely on descriptive risk categories can be problematic because one person's understanding of these terms might differ from another person's. High risk may be interpreted as a high probability—say, 80 percent—for one person and “more likely than not,” or 51 percent, for another.

This challenge is exacerbated by the fact that *negative outcomes by different risk assessment tools can be common or rare*. For example, the sample of parolees on whom the most recent iteration of the California Static Risk Assessment was validated had a recidivism rate (defined as felony arrest over the three years after release from prison) of 70.6 percent for men and 63.4 percent for women, and a violent recidivism rate of 23.9 percent for men and 11.3 percent for women (Turner et al. 2013). By contrast, the sexual offense recidivism rate (defined as a new conviction for a sex offense within four years of release) in the prison release sample of people with prior sex offenses used to refine the Minnesota Sex Offender Screening Tool–3 was 4 percent (Duwe and Freske 2016). Designation as “high risk” or “low risk” on these instruments will mean very different things because of the very different base rates of the type of recidivism being predicted. This classification of “high risk” can be misleading, then, if it is interpreted as a high likelihood, or even more likely than not, to sexually reoffend. It might then lead to overly strict liberty restrictions or high-intensity treatment for a person who does not require or benefit from it.

Furthermore, it is important to note that *to the extent that these classifications are normed for different jurisdictions or populations, the labels do not have the same meaning*. The rates of misconduct and associated risk categories will vary depending on the region or location, outcome measured (e.g., failure to appear for a court hearing, misconduct, rearrest), and the decision stage for which a person is being assessed. In short, risk category boundaries are not always drawn at the same points in different contexts. Without a clear understanding of what these classifications mean, it is difficult to use risk information to make objective, informed decisions regarding type and level of supervision and treatment.

Although often omitted in practice, statistical recidivism risk is a key piece of information to communicate because it offers additional insight into the likelihood of adverse outcomes for each person. Statistical risk communication also provides context for these risk levels to create a shared understanding among different criminal justice actors (Hilton, Carter, et al. 2008; Hilton, Harris, et al. 2005). A benefit is that these metrics are more consistent in meaning than the more ambiguously

defined operational risk-level classifications. A predicted probability of recidivism of 30 percent should mean the same thing to different people, whereas “low risk” might not. Relying solely on statistical estimates of risk can be problematic when more *complex statistical concepts such as percentile rank are not well described or readily understood* by consumers of risk assessment information. In addition, if the purpose of risk classification is to inform efficient decisionmaking and resource allocation across different risk groups, having more complex classifications might not necessarily be productive.

To increase the comprehensiveness and usefulness of risk information, statistical and operational forms should be incorporated into the communication process. Table 1 demonstrates the complementary nature of each. Communicating information on the resulting risk scale, including the distribution of risk in the population, the recidivism rates among groups, and the tool’s predictive accuracy can help situate individual risk-level results and allow for more effective risk assessment use in everyday practice. Most importantly, it highlights the difference between risk and certainty, while demonstrating the empirical foundation for making individual predictions of risk. This lends itself to confident, yet careful, interpretation and use of individual risk results.

TABLE 1
Statistical and Operational Risk Communication

	Statistical risk communication	↔	Operational risk communication
Example	Predicted probabilities or percentile rank by risk level—e.g., 25 percent probability of recidivism, 90th percentile for recidivism risk		High, moderate, and low risk classifications
Advantages	Specific and clearly defined numerical metrics used in the creation of risk classifications		Simplified information that can be linked to levels of supervision and treatment
Potential drawbacks	Without operational communication, this involves statistical concepts that might not be easily understood or used to inform decisionmaking		Without statistical communication, these category meanings and boundaries are ambiguous, particularly for offenses with high or low base rates

Recommendations for Effective Risk Communication

The following are recommendations for ways that criminal justice agencies and practitioners can improve risk communication in their jurisdictions. By using a more well-defined system of classification and supplementing risk information with contextual factors, producers, communicators, and consumers of risk assessment output will be better equipped to make more effective risk-informed decisions based on standardized and comprehensive information. They will also be better able to communicate to the public why and how risk assessment is being used.

Develop a more well-defined and standardized system of communication. Criminal justice agencies should carefully consider and design a risk communication approach that fits their jurisdiction, population, and type of outcome risk being assessed. The clearer the initial communication and understanding of risk, the easier it is for practitioners to translate risk scores into consistently applied

actions (Jannetta 2017). Although there is not yet a commonly agreed upon “gold standard” for risk communication, scholars have been developing frameworks for this type of communication, such as a five-level scheme of communicating risk that combines elements of operational and statistical risk classification, where each of the five descriptive categories is associated with a specific set of characteristics and range of risk of reoffending (Hanson et al. 2017). While a universal risk classification system might not be ideal, since there is significant variation across jurisdictions, criminal justice agencies should opt for a system of risk communication that incorporates both statistical and operationalized risk information *tailored for their specific population and agency goals and resources*. From this tailored system of risk classification and communication, agencies can then construct a structured decisionmaking scheme to link each of the risk levels to recommended actions (e.g., release/detention, supervision level, programming/treatment).

Supplement basic risk classification with contextual factors. Beyond presenting a basic risk score or classification, it is important to supplement risk communication with discussion of other factors to portray a more comprehensive picture of a person’s risk (Cunningham and Reidy 1999). Additional components of risk communication and context include the following:

- **Considering base rates.** It is important to consider what the assessment is measuring and the base rates for the population of interest when making decisions. Certain groups, such as people who have committed violent offenses, have low base rates of reoffending. A high risk classification on a postadjudication risk assessment instrument that predicts violent recidivism might represent a 30 percent chance of reoffending. These people are not highly likely or even more likely than not to reoffend. In short, although a person is classified as high risk, they might not actually be very likely to commit such an offense again.
- **Providing risk estimates.** Reporting on the statistical risk for each category can include recidivism rates, percentile ranks, and risk ratios for each level. As described above for base rates, these estimates provide more detail regarding a person’s probability of reoffending to assist with decisionmaking regarding release, supervision, and treatment. The time frame for which these estimates were measured, such as the period of months during pretrial release or the number of years after release from prison, should also be provided.
- **Discussing severity.** The severity of the offense type being predicted should also influence decisionmaking about supervision level and treatment type. A person who is at a high risk of recidivating with a property offense poses a less severe risk to public safety than a person who is at a high risk of recidivating with a violent offense. Such differences in severity of stakes should be considered as important components of risk and in resource allocation decisions.
- **Distinguishing risk from certainty.** Risk assessments are not perfect predictors of future outcomes and risk should therefore not be conceptualized or communicated in terms of certainty. Communication of base rate and risk estimate information as described above will help convey this point. Decisionmakers should understand that simply because a person is assessed to be high risk does not necessarily mean they will go on to recidivate. Conversely, those designated as low risk still have a chance of reoffending. Furthermore, much of the

information that a tool uses (i.e., inputs) and provides (i.e., outputs) is already being considered by justice actors as part of subjective and informal decisionmaking. Risk assessment information is meant to improve decisionmaking so that it is more objective, consistent, and transparent.

- **Understanding tool validation.** Information on how and when the tool was validated—or, determined that it performs well at predicting risk for a relevant population—provides important background on the tool’s structure, use, and risk levels that might otherwise be missing from the individual computed scores (Kim 2017). Training on the tool could provide a great opportunity to communicate this information without having to rely on other sources (e.g., notices or other publications).

Conclusion

The criminal justice system requires independent decisionmakers across different agencies to work with people who are justice involved. To effectively collaborate, these actors need to have a common understanding of risk and ways of communicating key concepts involved in risk assessment. By developing a language and framework to describe risk that is both tailored to the specific context of a jurisdiction and standardized across various agencies within this jurisdiction, criminal justice stakeholders can increase buy-in to the practice of risk assessment and ensure that risk information is used consistently and effectively. This will guide agencies and criminal justice stakeholders in meeting their mandates to improve outcomes for people and communities.

References

- Cunningham, Mark D., and Thomas Reidy. 1999. “Don’t Confuse Me with the Facts: Common Errors in Violence Risk Assessment at Capital Sentencing.” *Criminal Justice and Behavior* 26 (1): 20–43.
- Duwe, Grant, and Pamela Freske. 2016. “The Minnesota Sex Offender Screening Tool-3.1.” In *Sexual Offending: Predisposing Antecedents, Assessments and Management*, edited by A. Phenix and H. M. Hoberman, 489–502. Berlin: Springer Science and Business Media.
- Hanson, R. Karl, Guy Bourgon, Robert J. McGrath, Daryl Kroner, David A. D’Amora, Shenique S. Thomas, and Lahiz P. Tavaréz. 2017. *A Five-Level Risk and Needs System: Maximizing Assessment Results in Corrections through the Development of a Common Language*. New York: The Council of State Governments Justice Center.
- Harris, Patricia M. 2006. “What Community Supervision Officers Need to Know about Actuarial Risk Assessment and Clinical Judgment.” *Federal Probation* 70 (2).
- Heilbrun, Kirk, Melanie L. O’Neill, Lisa K. Strohman, Quinten Bowman, and Judith Philipson. 2000. “Expert Approaches to Communicating Violence Risk.” *Law and Human Behavior* 24 (1): 137–48.
- Hilton, N. Zoe, Angela Carter, Grant T. Harris, and Amilynn Sharpe. 2008. “Does Using Nonnumerical Terms to Describe Risk Aid Violence Risk Communication? Clinician Agreement and Decision Making.” *Journal of Interpersonal Violence* 23 (2): 171–88.
- Hilton, N. Zoe, Grant T. Harris, Kelly Rawson, and Craig A. Beach. 2005. “Communicating Violence Risk Information to Forensic Decision Makers.” *Criminal Justice and Behavior* 32 (1): 97–116.
- Jannetta, Jesse. 2017. “Structured Decision-Making: Using Risk Assessment Outputs to Improve Practice.” Washington, DC: The Risk Assessment Clearinghouse.

Kim, KiDeuk. 2017. "Validation of Risk Assessment Tools." Policy Brief Number 2017-04. Washington, DC: The Public Safety Risk Assessment Clearinghouse.

Minnesota Department of Corrections. (2012). The Minnesota Sex Offender Screening Tool-3.1 (MnSOST-3.1): An Update to the MnSoST-3. St. Paul, MN: Minnesota Department of Corrections.

Turner, Susan, James Hess, Charlotte Bradstreet, Steven Chapman, and Amy Murphy. 2013. *Development of the California Static Risk Assessment (CSRA): Recidivism Risk Prediction in the California Department of Corrections and Rehabilitation*. Irvine: University of California Irvine, Center for Evidence-Based Corrections.

Stevenson, Megan. 2018. "Assessing Risk Assessment in Action." *Minnesota Law Review* 103: 303–83.

About the Authors

Cathy Hu is a former research analyst at the Urban Institute, where her portfolio focused on the evaluation of criminal justice programs, the design of national statistics on public defenders, and the provision of training and technical assistance on risk and needs assessments.

Kelly Roberts Freeman is a research associate in the Justice Policy Center, where she conducts research on criminal justice case processing at the local, state, and federal levels. Her primary focus is on the courts and sentencing, data-driven decisionmaking, and recidivism-reduction policies and practices. She is currently leading a state court data collection project and a mixed methods study of probation revocations.

Jesse Jannetta is a senior policy fellow in the Justice Policy Center, where he leads projects on prison and jail reentry, community antigang and antiviolenace initiatives, police-community relations, parole and probation supervision, and risk prediction. He is the project director for the Safety and Justice Challenge Innovation Fund, the principal investigator for the Evaluation of Procedural Justice in Probation project, and a member of the leadership team for the Prison Research and Innovation Initiative.

KiDeuk Kim is a senior fellow in the Justice Policy Center, where he leads multidisciplinary research teams to examine issues related to criminal justice interventions and policies. He has extensive research experience and national expertise in actuarial decisionmaking in criminal justice, criminal case processing, and policy evaluations.

Acknowledgments

This brief was supported by Grant No. 2015-ZB-BX-K004 awarded by the Bureau of Justice Assistance. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission. The Bureau of Justice Assistance is a component of the Department of Justice's Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the Office for Victims of Crime, and the SMART Office. Points of view or opinions in this document are those of the authors and do not necessarily represent the official position or policies of the US Department of Justice.

The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute’s funding principles is available at urban.org/fundingprinciples.



500 L'Enfant Plaza SW
Washington, DC 20024

www.urban.org

ABOUT THE URBAN INSTITUTE

The nonprofit Urban Institute is a leading research organization dedicated to developing evidence-based insights that improve people's lives and strengthen communities. For 50 years, Urban has been the trusted source for rigorous analysis of complex social and economic issues; strategic advice to policymakers, philanthropists, and practitioners; and new, promising ideas that expand opportunities for all. Our work inspires effective decisions that advance fairness and enhance the well-being of people and places.

Copyright © March 2021. Urban Institute. Permission is granted for reproduction of this file, with attribution to the Urban Institute.