

## **Risk Assessment and Release Decision-Making: Toward Resolving the Great Debate**

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Currently, there is a vigorous debate in the professional literature about the relative merits of clinical versus actuarial prediction of violent behavior in the broader context of risk assessment. In this editorial, we argue that the forced choice between these two models is unnecessary and we propose a model for incorporating both types of decision-making in the real world of forensic and correctional release.

The origins of this debate are not new, and they must be framed in the context of a larger debate about clinical versus actuarial judgment. As early as 1954, Paul Meehl (and later, Meehl and colleagues<sup>3</sup>) argued for the general superiority of actuarial approaches in circumstances in which the predictors and formula are available, validation research has been done, and the task involves maximizing the accuracy of the prediction. However, they noted there is a problem when the necessary predictors and validation research are not available or prediction is not the goal.

Quinsey et al.<sup>4</sup> argued strenuously that however accuracy is measured, "pure" actuarial tools yield superior predictions. Indeed, when clinical judgments (overrides) are incorporated into these actuarial predictions, their accuracy is said to "decrease." Steven Hart,<sup>5</sup> on the other hand, while supporting the utility of actuarial predictors as part of the puzzle, suggests that the limitations of actuarial prediction and the varied contexts in which risk assessment is performed mandate a 'meaningful role for clinical judgments.

Indeed, actuarial predictive schemes appear to be more accurate in predicting recidivism for groups of subjects who have characteristics consistent with the populations for whom each scheme was validated. However, the scientific goal of prediction and the legal goal of decision-making in individual cases are rarely the same. For example, a predictive tool that yields accuracy rates significantly above chance might have tremendous value scientifically (or in a casino.) However, because of the extreme consequences of each erroneous judgment in the legal system, that same tool might be less useful in a criminal justice context. Of course, the use of an actuarial tool would still yield more accurate predictions than clinical judgment—but for what, over what period of time, under what circumstances, and in light of what interventions? These are questions that behavioral science eventually may answer, but the research base is not yet adequate to address these and similar questions. Without explicit acknowledgment of the limits as well as the strengths of actuarial prediction in forensic contexts, there is the danger that the decision-maker will overvalue the applicability (legally, the "relevance") as well as the scientific support (legally, the "reliability") of the actuarial tool that is used.

Public mental health systems have to make real-life decisions about whether, when, and how to release psychiatric patients who have previously committed acts of violence. Important questions include the following. (1) Has the mental health system done everything it can reasonably do while the person is hospitalized to reduce subsequent

violence risk in the community? (2) Has the system developed a good plan for living in the community that incorporates and builds on the hospital's interventions? (3) Are there mechanisms for early detection of problems before they develop into violence? (4) Is all this enough? (Often, this last question is left to a judge; ideally, it would always be left to a judge or quasi-legal decision maker.) To answer these questions for individuals such as hospitalized insanity acquittees, or Hendricks-committed sexual offenders and incarcerated offenders, release decision-making should consider both an individual's risk of future violent behavior, the extent to which such risk has been altered through intervention, and the extent to which such risk can be altered after release by the conditions of the release itself; that is, the conditions applicable in the community.

To date, actuarial schemes rely almost entirely on static risk factors such as demographic and historical factors. With the exception of age (which for some of us changes all too predictably), these factors typically do not change; nor do they reflect changes that result from treatment or other interventions.

Of course, if the only decision were the release itself, it would be difficult to argue against using a purely actuarial approach. The only relevant outcome would be the accuracy of the prediction. Sometimes, this has been the case. At one time, many forensic mental health systems used "all-or-nothing" prediction schemes in making release decisions. In Virginia, for example, before the early 1980s, insanity acquittees were housed in the state's maximum security hospital until it was decided (i.e., predicted) that they could be returned safely to the community, at which point they were simply and summarily released. Similarly, even today many overstretched parole systems make all-or-nothing release decisions with few if any individualized conditions; even for those conditions that are imposed, parole officers often are unable to scrutinize compliance.

### **Prediction Versus Risk Management**

There is an important difference between prediction of violent behavior and risk management/risk reduction. The decision of which strategy (prediction versus management) to adopt is crucial for a number of very practical reasons. First, whether a system focuses on prediction or management of risk has important implications for the kinds of risk factors that are considered. Second, this decision (prediction versus risk management) largely determines the kinds of interventions that the system will implement as it seeks to affect the lives of the people for whom it bears some responsibility.

Fortunately, long ago, most forensic mental health systems throughout the United States abandoned the all-or-nothing (i.e., solely predictive) approach to releases. Indeed, one of the few points of general agreement in this area is that the safest way to return someone from confinement to freedom is in carefully managed increments of decreased structure and increased freedom. Thus, release decisions have ceased to be all or nothing, and, fortunately, there is no need to choose between actuarial tools and clinical judgment.

Decision making under this model should draw a distinction between three aspects of risk: likelihood (i.e., probability), imminence, and severity of outcome. Systematic consideration must be given to individuals considered in each of these ways and incorporating a priori risk and risk reduction status. Individuals with high a priori risk, for example, should be considered very conservatively and treated intensively while incarcerated, as well as monitored intensively if released. The combination of high likelihood of risk, coupled with either high imminence or high severity, would constitute reasonable grounds for rejecting a release request. When release is considered, there should be a contingent element to the

decision; factors such as the level of monitoring, case management services, housing, social support, work, and treatment services (with anticipated adherence) should be considered as they relate to the conditional aspects of such decision making.

The development of risk reduction strategies can be guided by at least two approaches. One approach uses empirical data obtained using effectiveness and efficacy designs in research on the impact of programs on risk reduction.<sup>4</sup> A second approach involves considering the dynamic, risk-relevant needs and deficits of an individual and delivering a series of "modular" interventions targeted at addressing each deficit.

There appears to be a role for guided clinical judgment using either approach. Such judgment would be used in ratings made directly from the intervention, such as participation and progress in risk-relevant interventions and the assessment of the extent to which deficits have been reduced or protective factors enhanced through such interventions. Progress in risk reduction also can be monitored through information obtained from other sources as well. Using a "demonstration model," some populations can be checked for progress using data obtained from a variety of hospital sources (e.g., job, ward behavior, off-unit behavior). This is true particularly when institutional behavior is clearly relevant to violence risk, but less so with populations in which institutional behavior is less relevant to specialized kinds of outcomes (such as those who sexually abuse children). Other valuable "demonstration" data likewise can be obtained from an individual's performance under a graduated series of less restrictive (but still monitored) conditions on the hospital grounds and in the course of community visits.

Thus, most forensic systems have adopted what we will call a risk management approach to the release of once violent patients. However, while prediction has ceased to be the only goal of such decisions, predictive tools remain an important source of information in the development of case-specific management plans.

Under the risk management approach, an individual's risk may be seen as changing over time and in response to interventions, as contrasted with the single, unchanging risk estimate yielded under the prediction model by actuarial tools that use static (unchangeable through planned intervention) risk factors. Common sense dictates somewhat different treatment and decision making for higher risk individuals; the public will (and ought to) demand that more intensive intervention be delivered to those individuals who pose the greatest risk to public safety, if those individuals are to be released to the community. This requires some fair and accurate mechanism for deciding which patients are "high risk" or assigning a relative level of a priori risk that will influence their release planning. In some cases, there may not be an applicable prediction tool available to assess the person's a priori risk. When such tools have not been developed for a particular population, then an alternative may be the use of strong actuarial variables that have demonstrated value in violence prediction across a variety of populations. The factors included in such measures typically are static and based heavily on the person's history of previous violence and other kinds of antisocial behavior. Alternatively, systems may rely on potentially inaccurate proxies such as the severity of the current offense. However, even when empirically based, static risk factors typically do not reflect the impact of interventions. Thus, for hospitalized or incarcerated subjects, static risk appraisal is unlikely to be significantly changed by the course of their confinement.

To interpret the static risk level yielded by an actuarial tool as evidence that an individual's risk level never changes is scientifically unsupported for two reasons. First, the instruments themselves were never intended to reflect changes in risk status over time and

in response to interventions. Second, clinical studies of risk reduction efforts, especially for high risk individuals, are in their infancy. Further, the assumption that risk level never changes would be enormously problematic for the legal goal of individualized decision-making. We cannot accurately gauge the impact of violence risk reduction interventions until we have studied them systematically. During the last decade, the field has made very significant scientific advances in violence prediction and virtually none in the scientific study of violence risk reduction. The next challenge for the medical and behavioral sciences in the area of violence risk appraisal is to develop an accurate way of measuring those aspects of violence risk that change, particularly when we know something about the individual's a priori risk. (Some risk tools, such as the HCR-207 and the LSI-R,<sup>8</sup> measure both static and potentially changeable aspects of risk; using either would facilitate research in measuring the impact of risk reduction interventions.) When this has been accomplished, the resulting tool will have broader applicability in forensic release decision-making contexts, partly because the conclusion "once high risk, always high risk" will be less automatic and better informed by data.

With such a tool, a forensic clinician could make a more accurate prediction/classification regarding future risk and specifically consider and target the individual's dynamic risk and protective factors for intervention planning and decision-making. It would not be helpful to use clinical judgment to replace or even modify the score or level yielded by the actuarial part of the tool. However, we should contextualize this score or level. We can explain it, describing both its strengths and limitations. We can indicate that if the court wants to hear our best attempt at a prediction, we must go with the score (assuming it's applicable—another part of the contextualizing). However, we can assert that risk also depends on a number of considerations and explain what those considerations are—information that can be obtained through individualized clinical assessment.

For example, the MacArthur Iterative Classification Tree (ICT),<sup>9</sup> when ready for use, will yield a three-way risk classification—above, at, or below base rate, with the base rate described. Suppose the individual is classified as above base rate. Is there further information that should be considered regarding whether violence will occur? Examples might include access to a victim, the availability of a weapon, the presence of a job, the nature of the living situation, or the intensity of the monitoring. Are protective factors present, such as treatment involvement or a good reason not to be violent? Providing this information would not change the ICT classification of the individual as above base rate in risk for serious violence over the next year, but it would put it into a clearer context.

## **Risk Communication**

The prediction versus risk management decision also will affect the ways in which clinicians and systems of care communicate levels of risk to each other and to other relevant actors in the community. A priori risk (a classification or probability estimate of an individual's likelihood of future violent behavior, based largely on stable factors) is best measured using an actuarial measure such as the Violence Risk Appraisal Guide<sup>4</sup> or the Iterative Classification Tree.<sup>10</sup> The value in using such measures presumes that the necessary data have been collected and the actuarial formula for the prediction developed and validated.

The communication of risk should reflect, integrate, and convey the decision-making rationale and outcome in an understandable way, using no technical language. It also should reflect what we know about the language used to communicate the results of our predictive efforts.<sup>12</sup> In addition, it is important to communicate the results of risk

assessment in a way that is consistent with what has been done. If a predictive tool has been used, then the most consistent form of communication would involve a conclusion that an individual is "high versus moderate versus low" risk, or is "x percent likely to commit y acts over z period of time." On the other hand, risk reduction approaches are better communicated by describing the applicable risk factors and the risk reduction intervention strategies for each, a form that is consistently preferred by clinicians across a variety of disciplines.<sup>13</sup> Risk communication is a particularly important component of the larger assessment process; even risk assessment that is relevant, empirically supported, and applicable to the individual may be useless if the results are not understood by the decision-maker.

## **Conclusions**

The safest way to return someone from confinement to freedom is in increments of decreased structure and increased freedom. As likelihood, severity, and imminence of predicted violent behavior increase, the patient should be required to negotiate a greater number of increments, each of which is thus smaller, and there should be a more demanding threshold used to define successful completion of each increment. The increments themselves should each include demonstration of skill acquisition that is related to specific risk factors that emerge from careful clinical study of the patient's history.

Forensic release decision-making should distinguish between three aspects of risk: probability, imminence, and severity of outcome. Severity is best defined by prior violence to date, including the current charges; probability is best defined by actuarial models; and imminence is defined by the pattern of violence in the person's prior career, as well as their statements, plans, target availability, and life circumstances.

These goals can be advanced through the continued development of empirically driven risk assessment procedures. Our view about the debate between actuarial and clinical approaches in this area can be captured in the same phrase we find useful in responding to a judge or attorney who asks whether an individual is dangerous: It "depends". If the court is interested, entirely or in part, on the best available prediction of violence risk, then one should rely on an applicable actuarial tool. If the court wants to know how an individual's violence risk might be reduced through hospital or community interventions, then one should provide a strategy that encompasses interventions addressing potentially changeable violence risk factors in a specific case or recommend interventions that have empirically demonstrated risk reduction value.

The field has carefully studied violence prediction but understudied violence intervention effectiveness. If we are to become better able to address the full range of a court's questions about an individual's violence risk, we must remedy this deficit in the coming decade. Until we do, we can answer some predictive questions when there is applicable research and an appropriate tool but should not make specific predictions where there is not. We also must exercise caution in responding to risk reduction questions, indicating that we can determine from some sources what would be helpful in reducing risk while acknowledging that the field has not yet systematically studied the area.

## **References**

1. Mehl P: Clinical versus statistical prediction: a theoretical analysis and review of the evidence. Minneapolis: University of Minnesota Press, 1954
2. Dawes R, Faust D, Mehl P: Clinical versus actuarial judgment. *Science* 243:1668-74,

1989

3. Grove W, Meehl P: Comparative efficiency of informal (subjective, impressionistic) and formal (mechanical, algorithmic) prediction procedures: the clinical-statistical controversy. *Psychol Public Policy Law* 2:293-323, 1996
4. Quinsey VL, Harris GT, Rice ME, Cormier CA: *Violent offenders: appraising and managing risk*. Washington, DC: American Psychological Association Press, 1998
5. Hart SD: The role of psychopathy in assessing risk for violence: conceptual and methodological issues. *Legal Criminol Psychol* 3:123-40, 1998
6. Heilbrun K, Nezu C, Kenney M, Chung S, Wasserman A: *Sexual offending: linking assessment, intervention, and decision making*. *Psychol Public Policy Law* 4:138-72, 1998
7. Webster C, Douglas K, Eaves D, Hart S: *HCR-20: Assessing Risk for Violence (Version 2)*. Burnaby, BC, Canada: Mental Health, Law, and Policy Institute, Simon Fraser University, 1997
8. Andrews D, Bonta J: *Level of Service Inventory-Revised*. Toronto: Multi-Health Systems, 1995
9. Monahan J, Steadman HJ, Appelbaum P, et al: Developing a clinically useful actuarial tool for assessing violence risk. *Br J Psychiatry*, in press
10. Harris GT, Rice ME, Quinsey VL: Violent recidivism of mentally disordered offenders: the development of a statistical prediction instrument. *Crim Just Behav* 20:315-35, 1993
11. Heilbrun K, Dvoskin J, Hart S, McNeil D: Violence risk communication: implications for research, policy, and practice. *Health Risk Soc* 1:91-106, 1999
12. Slovic P, Monahan J, MacGregor D: Violence risk assessment and risk communication: the effects of using actual cases, providing instruction, and employing probability versus frequency formats. *Law Hum Behav* 24:271-96, 2000
13. Heilbrun K, O'Neill M, Strohman L, Bowman Q, Philipson J: Expert approaches to communicating violence risk. *Law Hum Behav* 24:137-48, 2000