

10

VIOLENCE RISK ASSESSMENT: A QUARTER CENTURY OF RESEARCH

JOHN MONAHAN AND HENRY J. STEADMAN

The field now known as “violence risk assessment” has developed during the past quarter century. In the early 1970s, the empirical study of what was then the “prediction of dangerousness” was getting under way. In 1970, Steadman and Coccozza (1974) completed a study of the Baxstrom cases, which centered on the degree of “dangerousness” of the 967 patients transferred from maximum-security correctional forensic hospitals to regular-security civil state mental health hospitals as a result of *Baxstrom v. Herold* (1966), the first case in mental health law decided on constitutional grounds. Embedded within Steadman and Coccozza’s descriptive case study was the implicit question of the accuracy of the “predictions” made by the state psychiatrists who signed the court reports saying all 967 patients had mental illnesses and were dangerous. Later hospital and police reports, however, indicated that only about 20% of the patients were subsequently violent.

For our analysis in this chapter, it is the context of the Baxstrom research, rather than its results, that is important. The relevant context includes two essential components: (a) the state of empirical research on the prediction of dangerousness and (b) litigation from the mental health

advocacy movement, whose beginning may best be identified with the landmark decision *Lessard v. Schmidt* (1972) in mental health law and the Willowbrook consent decree in the mental retardation field (*New York State Association for Retarded Children v. Carey*, 1983).

No one better captured the state of empirical research on these issues as the Baxstrom research was in full bloom than Halleck (1967) in his classic treatise *Psychiatry and the Dilemmas of Crime* (see also Halleck, chapter 9, this volume). Halleck observed,

Research in the area of dangerous behavior (other than generalizations from case materials) is practically nonexistent. Predictive studies which have examined the probability of recidivism have not focused on the issue of dangerousness. If the psychiatrist or any other behavioral scientist were asked to show proof of his predictive skills, objective data could not be offered. (p. 11)

What helped make this empirical void so important from the law's standpoint was the spate of class action litigation successfully pursued by the young legal activists entering the mental health field in the late 1960s (see Brown, 1985). It is useful in tracing the evolution of violence risk assessment to realize how intertwined the law and research were at that time.

LEGAL APPROACHES TO RISK ASSESSMENT

Lessard v. Schmidt (1972) introduced "dangerousness" into civil commitment statutes as the sole basis for commitment. *Dangerousness* was defined as a high probability of inflicting imminent substantial physical harm based on a recent explicit act. This standard assumed that someone could make a connection between past and future behavior. In fact, to the contrary, the American Psychiatric Association concluded in its 1974 task force report *Clinical Aspects of the Violent Individual* that "psychiatric expertise in the prediction of 'dangerousness' is not established and clinicians should avoid 'conclusory' judgments in this regard" (p. 33). The main basis for the American Psychiatric Association's assertion was the Baxstrom research and the weak but consistent findings that the clinicians were wrong, at best, twice as often as they were right (Monahan, 1975). Thus, in the mid-1970s the mental health advocacy movement had established a legal criterion for civil commitment that it knew could not be met. It appears that this is exactly what the advocates of that time wanted; if no one could meet a legal standard of proof for dangerousness and if dangerousness was the only commitment standard, then no one could be committed.

This historical analysis highlights a linkage between empirical research and mental health law, and between constitutional law and mental

health practice, that no longer exists. Concerns about whether predictions of violence make “good enough” predicates for detention now seem distant. During the decade that followed, courts across the country and, in particular, the U.S. Supreme Court answered with a consistent and thunderous no the question, Does a reliance upon clinical predictions of violence make an otherwise valid law unconstitutional? Two of the many cases relevant to this point—*Barefoot v. Estelle* (1983) and *Schall v. Martin* (1984)—serve as examples.

In 1978, Thomas Barefoot was convicted of the capital murder of a police officer. At a separate sentencing hearing, the same jury considered the two questions put to it under the Texas death penalty statute: (a) whether the conduct causing the death was “committed deliberately and with reasonable expectation that the death of the deceased or another would result” (p. 884) and (b) whether “there is a probability that the defendant would commit criminal acts of violence that would constitute a continuing threat to society” (p. 884). The jury’s affirmative answer to both questions required the imposition of the death penalty. In *Barefoot v. Estelle* (1983), the Supreme Court considered the constitutionality of using clinical predictions of violence for the purpose of determining whom to execute. In an opinion upholding the Texas statute, Justice White wrote,

[Barefoot argues] that his death sentence must be set aside because the Constitution of the United States barred the testimony of the two psychiatrists who testified against him at the punishment hearing. . . . [I]t is urged that psychiatrists, individually and as a group, are incompetent to predict with an acceptable degree of reliability that a particular criminal will commit other crimes in the future and so represent a danger to the community. . . . The suggestion that no psychiatrist’s testimony may be presented with respect to a defendant’s future dangerousness is somewhat like asking us to disinvent the wheel. In the first place, it is contrary to our cases. If the likelihood of a defendant committing further crimes is a constitutionally acceptable criterion for imposing the death penalty, which it is, *Jurek v. Texas*, 428 U.S. 262, 96 S. Ct. 2950, 49 L.Ed.2d 929 (1976), and if it is not impossible for even a lay person sensibly to arrive at that conclusion, it makes little sense, if any, to submit that psychiatrists, out of the entire universe of persons who might have an opinion on the issue, would know so little about the subject that they should not be permitted to testify. In *Jurek*, seven Justices rejected the claim that it was impossible to predict future behavior and that dangerousness was therefore an invalid consideration in imposing the death penalty. (pp. 896–897)

The Supreme Court thus upheld a process that relied on clinical risk prediction that contemporaneous research had asserted was inaccurate in two out of three cases.

The next year, in *Schall v. Martin* (1984), the Supreme Court upheld

a New York statute that authorized pretrial detention, without probable cause, of an accused juvenile delinquent based on a finding that there was a "serious risk" that the juvenile "may before the return date commit an act which if committed by an adult would constitute a crime" (p. 255). The district court had invalidated the statute after reviewing the research literature and concluding that "no diagnostic tools have as yet been devised which enable even the most highly trained criminologists to predict reliably which juveniles will engage in violent crime," (p. 262) and the Second Circuit had affirmed. In reversing the Second Circuit, Justice Rehnquist, writing for six members of the court, stated,

Appellees claim, and the district court agreed, that it is virtually impossible to predict future criminal conduct with any degree of accuracy. Moreover, they say, the statutory standard fails to channel the discretion of the Family Court judge by specifying the factors on which he should rely in making that prediction. The procedural protections are thus, in their view, unavailing because the ultimate decision is intrinsically arbitrary and uncontrolled.

Our cases indicate, however, that from a legal point of view there is nothing inherently unattainable about a prediction of future criminal conduct. Such a judgment forms an important element in many decisions, and we have specifically rejected the contention, based on the same sort of sociological data relied upon by appellees and the district court, "that it is impossible to predict future behavior and that the question is so vague as to be meaningless." (pp. 278–279)

Again, the U.S. Supreme Court stated that despite research showing low accuracy rates, as a matter of law clinical risk prediction is an acceptable means of assessing dangerousness.

Little has changed since the 1980s. In *Kansas v. Hendricks* (1997), the Supreme Court, by a 5–4 vote, upheld a civil means of lengthening the detention of certain criminal offenders scheduled for release from prison. Kansas's Sexually Violent Predator Act established procedures for the civil commitment to mental hospitals of people who may not have a major mental disorder, but who have a "mental abnormality or personality disorder" (in Hendricks' case, pedophilia) that makes them "likely to engage in predatory acts of sexual violence" (*Kansas v. Hendricks*, 1997, p. 350). A *mental abnormality* was defined in the act as a "congenital or acquired condition affecting the emotional or volitional capacity which predisposes the person to commit sexually violent offenses in a degree constituting such person a menace to the health and safety of others" (p. 352). The language of the act implied the need for a violence risk assessment to determine which individuals meet the defined standards. In upholding Hendricks's civil commitment under the act, the Supreme Court emphasized two specific facts of the case: Hendricks's own admission of his un-

controllable urges and a risk assessment predicting high risk. The Court noted,

Hendricks even conceded that, when he becomes “stressed out,” he cannot “control the urge” to molest children. This admitted lack of volitional control, coupled with a prediction of future dangerousness, adequately distinguishes Hendricks from other dangerous persons who are perhaps more properly dealt with exclusively through criminal proceedings. (p. 360)

In *Hendricks*, the Supreme Court thus reiterated its approval of risk assessment as an acceptable determinant of civil commitment.

Like the courts, professional organizations have concluded that predictions of violence are here to stay. For example, the American Bar Association’s (1989) *Criminal Justice Mental Health Standards* recommended that a person acquitted of a violent crime by reason of insanity be committed to a mental hospital if found currently to have a mental illness and to present “a substantial risk of serious bodily harm to others” (Standard 7-7.4). The American Psychiatric Association’s (1983) model state law on civil commitment included the involuntary hospitalization of people with mental disorders who are “likely to cause harm to others.” (p. 672). Likewise, the guidelines for involuntary civil commitment of the National Center for State Courts (1986) urged that

particularly close attention be paid to predictions of future behavior, especially predictions of violence and assessments of dangerousness. Such predictions have been the bane of clinicians who admit limited competence to offer estimates of the future yet are mandated legally to do so. [However,] such predictions will continue to provide a basis for involuntary civil commitment, even amid controversy about the scientific and technological shortcomings and the ethical dilemmas that surround them. (p. 493)

The professional consensus is that predictions of future dangerousness will remain a significant element in legal decisions to restrict the liberty of individuals with mental disorders.

Now that the Supreme Court clearly has rejected constitutional challenges to risk assessment, tort law frames the legal questions asked of violence prediction (Monahan, 1993). *Tarasoff v. Regents of the University of California* (1976) is, of course, the landmark case in this area. Initially the subject of vilification by mental health professionals, the California Supreme Court’s holding in *Tarasoff*, that psychotherapists who know or should know of their patient’s likelihood to inflict injury on identifiable third parties have an obligation to take reasonable steps to protect the potential victim, has become a familiar part of the clinical landscape. Although a few state courts have rejected *Tarasoff* and others have limited its scope, most courts addressing the issue have accepted the essence of the

"duty to protect," and several have even expanded that duty to include nonidentifiable victims (Appelbaum, 1988).

The duty to protect, in short, is now a fact of professional life for nearly all American clinicians and, potentially, for clinical researchers as well (Appelbaum & Rosenbaum, 1989; Monahan, Appelbaum, Mulvey, Robbins, & Lidz, 1994). One related unresolved legal issue is the development of professional standards for institutionalizing a potentially violent person or releasing that person from an institution (Poythress, 1990). Liability, rather than constitutionality, is the concern that motivates interest in the accurate prediction of violence in the mid-1990s.

SOCIAL SCIENCE APPROACHES TO RISK ASSESSMENT

Twenty-five years ago, only two published studies had addressed the accuracy of clinical predictions of violent behavior (Kozol, Boucher, & Garofalo, 1972; Steadman & Cocozza, 1974). Both studies looked at male forensic patients who had been institutionalized for lengthy periods of time. Both used long (four- to five-year) follow-up periods. Both used official records (arrest, rehospitalization, and ward reports) as the source of their criterion measure of violence. And both reported true-positive rates, or rates of accurate predictions of future violent events, in the 20% (Steadman & Cocozza, 1974) to 35% (Kozol et al., 1972) range.

Today, much more prediction research is available, and much of it involves both male and female civil patients who are subject to acute, rather than lengthy, hospitalization and about whom short-term, rather than long-term, predictions are made, with the predictions being validated by multiple-criterion measures. The conclusions reached by current researchers are somewhat more optimistic than those reached 20 years ago (e.g., Harris & Rice, 1997; Hart, Webster, & Menzies, 1993; Menzies, Webster, McMain, Staley, & Scaglione, 1994; Monahan, 1997; Mossman, 1994; Rice, 1997; but see Litwack, Kirschner, & Wack, 1993).

For example, Lidz, Mulvey, and Gardner (1993), in what is surely the most sophisticated study published on the clinical prediction of violence, took as their participants male and female patients being examined in the acute psychiatric emergency room of a large civil hospital. Psychiatrists and nurses were asked to assess potential patient violence toward others over the next 6-month period. Subsequent violence was measured using official records, patient self-reports, and the reports of a collateral informant in the community (e.g., a family member). Patients who elicited professional concern regarding future violence were found to be significantly more likely to be violent after release (53%) than were patients who had not elicited such concern (36%). The accuracy of clinical prediction did not vary as a function of the patient's age or race. The accuracy of clinicians' predictions

did vary by gender, however. Their predictions of male violence substantially exceeded chance levels for patients both with and without a prior history of violent behavior. In contrast, the accuracy of clinicians' predictions of female violence did not differ from chance. Although the actual rate of violent incidents among released female patients (46%) was higher than the rate among released male patients (42%), the clinicians had predicted that only 22% of the women, compared with 45% of the men, would be violent.

A study by McNeil and Binder (1991) illustrates research predicting inpatient violence. They investigated clinical predictions that patients would be violent during the first week of hospitalization. Of the patients who nurses had estimated had a 0% to 33% probability of being violent on the ward, 10% were later rated by the nurses as having committed a violent act; of the patients who nurses had estimated had a 34% to 66% chance of being violent, 24% were later rated as having committed a violent act; and of the patients who nurses had estimated had a 67% to 100% chance of being violent, 40% were later rated as having acted violently. Although in both recent studies clinicians overpredicted the likelihood of future violent acts, they were far more accurate than their colleagues in the earliest studies.

Not only have research methods and findings changed during the past 20 years, but in important ways the research questions have changed as well. When the legal issue was the constitutionality of violence prediction, it made sense to focus on whether clinicians could accurately predict violence—that is, the validity of clinical prediction. However, after it became clear that courts, even when directly confronted with research findings of 20% to 35% accuracy (true-positive) rates, would uphold the constitutionality of laws that relied on clinical violence prediction, the research question began to shift from whether violence could be predicted to how violence prediction could be improved (Grisso & Appelbaum, 1992). Framed in this way, the answer for violence prediction has seemed to a number of researchers in recent years to lie in the same direction as the improvement of clinical prediction more generally—that is, in the use of actuarial methods. Borum (1996) pointed out that actuarial instruments have varying functions:

At a minimum, these devices can serve as a checklist for clinicians to ensure that essential areas of inquiry are recalled and evaluated. At best, they may be able to provide hard actuarial data on the probability of violence among people (and environments) with a given set of characteristics, circumstances, or both. (p. 948)

Thus, over the years, changes in the focus of research on violence prediction have led to an emphasis on improving actuarial analysis.

A prime example of the use of actuarial data to predict violence on

an acute inpatient ward is a study by McNeil and Binder (1994). They constructed an actuarial scale consisting of five variables, each scored yes or no, with one point given for each yes answer. The variables were

1. History of physical attack and/or fear-inducing behavior within two weeks before admission?
2. Absence of suicidal behavior (attempts, gestures, or threats within two weeks before admission)? (This item is checked if patient has *not* shown recent suicidal behavior).
3. Schizophrenic or manic diagnosis?
4. Male gender?
5. Currently married or living together? (p. 581)

Patients who scored three or above on this five-point actuarial scale were called "high risk," and patients who scored two or less were called "low risk." If "fear-inducing behavior" (i.e., "attacks on objects, threats to attack persons, or verbal attacks on persons") is included along with actual physical assault as "violence," 57% of the high-risk group were violent to others early in their hospitalization compared with 29% of the low-risk group (if one restricts the criterion to actual physical assault, the figures become 32% and 18%, respectively) (p. 581).

A noteworthy advance in the development of actuarial risk assessment to predict violence among forensic patients released into the community was reported by Harris, Rice, and Quinsey (1993; see also Webster, Harris, Rice, Cormier, & Quinsey, 1994). Participants included 618 men who were either treated or administered a pretrial assessment at a maximum-security forensic hospital in Canada. All had been charged with a serious criminal offense. A wide variety of predictive variables were coded from institutional files. The criterion variable was any new criminal charge for a violent offense or return to the institution for an act that would otherwise have resulted in such a charge. The average time at risk after release was almost 7 years. Twelve variables were identified for inclusion in the final statistical prediction instrument: (a) score on the Psychopathy Checklist (Hare, 1985), (b) separation from parents under age 16, (c) victim injury in index offense, (d) DSM-III schizophrenia, (e) never married, (f) elementary school maladjustment, (g) female victim in index offense, (h) failure on prior conditional release, (i) property offense history, (j) age at index offense, (k) alcohol abuse history, and (l) *DSM-III* personality disorder. For all variables except c, d, g, and j, the nature of the relationship to subsequent violence was positive. That is to say, participants who injured a victim in the index offense, who were diagnosed as schizophrenic, who chose a female victim for the index offense, or who were older were significantly less likely to be violent recidivists than other participants. If the scores on this instrument were dichotomized into high and low, the results indicated that 55% of the high-scoring participants committed violent re-

civism, compared with 19% of the low-scoring group. The authors concluded,

Clinical judgment can be improved . . . through the use of actuarial information; this has been referred to as "structuring discretion." In this approach to decision making about an individual, an actuarial estimate of risk is used to anchor clinical judgment. More specifically, clinicians can use dynamic (changeable) information such as progress in treatment, change in procriminal attitudes, and the amount and quality of supervision in the postrelease environment to adjust the risk level computed by the actuarial prediction instrument. If adjustments are made conservatively and *only* when a clinician believes, on good evidence, that a factor is related to the likelihood of violent recidivism in an individual case, predictive accuracy may be improved. (p. 331; but see Quinsey, Harris, Rice, & Cormier, 1998)

As Harris et al. (1993, p. 331) noted, additional research is necessary to determine the degree to which the impressive validity of these actuarial predictions generalizes to other populations. Attempts at cross validating some other instruments have yielded negative results (Klassen & O'Connor, 1990).

Gardner, Lidz, Mulvey, and Shaw (1996) recently made an important methodological contribution to the use of actuarial information in predicting violence by civil patients in the community. They contrasted the usual regression equation model, in which points for various risk factors are summed to yield a prediction score to which cutoffs are applied (as in McNiel & Binder, 1994, and Harris et al., 1993), with newer "regression tree" methods:

A regression tree is a structured sequence of yes/no questions that lead to the classification of a case. . . . Statistical predictions requiring calculations may be infeasible in many clinical settings, while a decision procedure specified by a tree is easy to perform. A regression tree is also easy to grasp and explain because it generates a series of statements about a patient that provide reasons for the prediction. We therefore believe that clinicians will be more likely to accept regression trees than numerical formulas as methods for making actuarial predictions. (pp. 36–37)

The four yes/no questions contained in the Gardner et al. (1996) regression tree were (a) "Is BSI Hostility [score on the Hostility subscale of the Brief Symptom Inventory] greater than 2?" (b) "Is age less than 18?" (c) "Is the patient a heavy drug user?" and (d) "Are there more than 3 prior violent acts?" (p. 40). This regression tree identified a small group of patients (3% of the patient population) who committed violent acts at the high rate of 2.75 incidents per month.

As a final illustration of the use of actuarial approaches to improve the prediction of violence, the MacArthur Risk Assessment Study (Stead-

man et al., 1994) assessed a large sample of male and female acute civil patients at several facilities on a wide variety of variables believed to be related to the occurrence of violence. The risk factors fall into four domains. One domain consists of “dispositional” variables: the demographic factors of age, race, gender, and social class, as well as personality variables (e.g., impulsivity and anger control) and neurological factors (e.g., head injury). A second domain consists of “historical” variables, or significant events participants experienced in the past, such as family history, work history, mental hospitalization history, history of violence, and criminal and juvenile justice history. A third domain consists of “contextual” variables, which are indices of current social supports, social networks, and stress, as well as physical aspects of the environment, such as the presence of weapons. The final domain consists of “clinical” variables: types and symptoms of mental disorders, personality disorders, drug and alcohol abuse, and level of functioning. Community violence is measured during interviews with the patients and with a collateral that occur postdischarge in the community, as well as from official records.

The principal results of the MacArthur Violence Risk Assessment Study are reported in Steadman et al. (2000) and in Monahan et al. (2000). In brief, we were able to classify approximately three-quarters of the patients we assessed into one of two risk categories. “High violence risk” patients were defined as being at least twice as likely as the average patient to commit a violent act within the first 20 weeks following hospital discharge. “Low violence risk” patients were defined as being at most half as likely as the average patient to commit a violent act within the first 20 weeks following hospital discharge. Because 18.7% of all patients committed at least one violent act during this period, this meant that high violence risk patients had at least a 37% likelihood of being violent, and low violence risk patients had at most a 9% likelihood of being violent. Risk factors identified for the MacArthur instrument for given groups of patients included a screening version of the Hare Psychopathy Checklist (Hare, 1985), serious abuse as a child, and whether the patient was suicidal (which had a negative weight). Of the patients scoring in the low-risk category on this instrument, 4% committed a violent act during the follow-up, whereas of the patients scoring in the high-risk category, 44% committed a violent act. In the two most extreme low and high groups, the rates of violence were 0.0% and 58.5%, respectively. Even more dramatic results were reported in Monahan et al. (2001).

FUTURE ISSUES IN VIOLENCE RISK ASSESSMENT

The past 25 years—in particular, the past decade—have produced an enormous amount of research on what is now known as violence risk

assessment. The field today, with its emphasis on actuarial assessment, bears little resemblance to the field dominated by clinical prediction in the early 1970s. Monahan and Steadman (1994), reflecting on recent developments in decision theory and in public health, suggested that research on violence prediction in the coming decades, if it is to advance the state of the science, must have seven characteristics:

1. "Dangerousness" must be disaggregated into its component parts, the factors used to predict violence ("risk factors"), the amount and type of violence being predicted ("harm"), and the likelihood that harm will occur ("risk").
2. A rich array of theoretically chosen risk factors in multiple domains must be chosen.
3. Harm must be scaled in terms of seriousness and assessed with multiple measures.
4. Risk must be treated as a probability or frequency estimate that changes over time and context.
5. Priority must be given to actuarial research that establishes a relationship between risk factors and harm.
6. Large and broadly representative samples of patients at multiple, coordinated sites must participate in the research.
7. Managing risk as well as assessing risk must be a goal of the research (Heilbrun, 1997, p. 347).

We would add one additional item to this list. Risk communication as an essential adjunct to risk assessment is an issue that we believe will become increasingly salient over the next two decades (Monahan & Steadman, 1996). After a clinician, perhaps with the assistance of an actuarial risk device, has estimated the likelihood of harm that a person represents, how is the clinician to communicate this information to decision makers? The National Research Council (1989) defined *risk communication* as

an interactive process of exchange of information and opinion among individuals, groups, and institutions; often involves multiple messages about the nature of risk or expressing concerns, opinions, or reactions to risk messages or to legal and institutional arrangements for risk management. (p. 322)

Currently, the language used to assess and communicate risk varies widely. For example, most states have adopted the language of the California "dangerousness standard": that to be admitted to a mental hospital against his or her will, a person must have a mental disorder and be "dangerous to self or others" (Brakel, Parry, & Weiner, 1985). But some states refer to the "likelihood" that the individual will cause "serious harm" (Brakel et al., 1985, p. 34). The National Center for State Courts (1986) spoke of "predictions of violence" (p. 409), and the American Bar Asso-

ciation (1989) made reference to “a substantial risk of serious bodily harm to others” (p. 418). Finally, one influential court decision phrased the issue in terms of a “probability” of future harm (*Barefoot v. Estelle*, 1983).

“Dangerousness,” “likelihood,” “risk,” and “probability,” therefore, often have been used fungibly to refer to the level of uncertainty of undesirable outcomes that may occur if some people with mental disorders are left at liberty. However, the extensive literature in the area of risk perception and behavioral decision theory (e.g., Slovic, Fischhoff, & Lichtenstein, 1982) has uncovered many subtle and anomalous effects that suggest that these various terms may not be fungible. They may, in fact, have differential effects on the judgments rendered by clinicians and courts. For example, in Slovic and Monahan (1995), adults were shown hypothetical stimulus vignettes describing mental patients and were asked to judge (a) the probability that the patient would harm someone else, (b) whether the patient should be categorized as “dangerous,” and (c) whether coercion should be used to ensure treatment. Probability and dangerousness judgments were systematically related and were predictive of the judged necessity for coercion. However, judged probability was strongly dependent on the form of the response scale, suggesting that probability was not represented consistently and quantitatively in the respondents’ minds.

For example, one response scale for expressing the probability of harm went from 0% to 100% in 10% increments. Another response scale went from “less than 1 chance in 1,000” to “greater than 40%” (p. 51). Judgments about the probability of violence were much higher using the first response scale than using the second. In a second study, Slovic and Monahan (1995; see also Slovic, Monahan, & MacGregor, 2000) replicated these findings with experienced forensic clinicians as participants. How to communicate the results of clinical risk assessments to relevant audiences so as to facilitate effective risk management and risk reduction is an issue that the field will likely begin to confront over the next two decades.

CONCLUSION

If three federal reports are to be believed, the next two decades may see much more research on the prediction of violence than the past two. The first of these reports, the National Institute of Mental Health’s *Caring for People with Severe Mental Disorders: A National Plan of Research to Improve Services* (1991), stated as follows:

The practices of criminal and civil commitment rest on untested assumptions about violent behavior and about the ability of professionals to predict such violence. More study is needed on the extent of clinical accuracy in predicting violence by individuals with severe mental illness. Particularly informative would be investigations of the relation-

ship between violence and specific aspects of mental illness—for example, the nature, extent, and effect of delusions. (p. 44)

The second report, the National Research Council's *Understanding and Preventing Violence* (Reiss & Roth, 1993), recommended major increases in federal support for research on violent behavior. Prominent among the new research initiatives proposed by the Council to the Centers for Disease Control, the National Institute of Mental Health, the National Institute of Justice, and the National Science Foundation was the intensified study of risk factors for violent events.

Finally, the National Institutes of Health (NIH, 1994) released a *Report of the Panel on NIH Research on Antisocial, Aggressive, and Violence-Related Behaviors and Their Consequences* that included the following among its recommendations: "NIH should substantially increase its funding for research on antisocial, aggressive, and violence-related behaviors and their consequences. Focus on preventive intervention studies and on social, legal, and ethical issues is essential" (p. 18).

The context of research on violence risk assessment in the future may be quite different than the context of past research. We hope that the following are among the questions asked by researchers over the next 25 years:

1. How are issues of community violence being played out in the new world of "managed" care provision? For example, under managed care, are community members who are assessed to be at high risk for violence more likely than others to have access to care (because of the provider's fear of tort liability if care is denied), or more likely to be denied access to care (because of the higher costs of care for this difficult group of patients)? And can the use of formal risk assessment tools affect both access to services and the types of services to be reimbursed for (e.g., anger control training)?
2. What degree of legal restrictiveness will be placed on high-risk people receiving mental health care in the name of "community supervision" or "community monitoring" to ensure the public health and safety? Can the use of formal risk assessment tools by clinicians or courts affect these patterns of risk management?
3. In light of the strong relationship in many studies between violence and co-occurring substance abuse and mental disorder, how can the services systems be better integrated, or reconfigured, to better manage and ultimately to reduce the risk of violence?

If such questions are addressed in creative ways that capitalize on developments—particularly the use of actuarial instruments—already un-

der way in the field, then the next 25 years will be an exhilarating time to be studying the risk assessment of violence.

REFERENCES

- American Bar Association. (1989). *ABA criminal justice mental health standards*. Chicago: American Bar Association.
- American Psychiatric Association. (1974). *Clinical aspects of the violent individual*. Washington, DC: Author.
- American Psychiatric Association. (1983). Guidelines for legislation on the psychiatric hospitalization of adults. *American Journal of Psychiatry*, 140, 672–679.
- Appelbaum, P. (1988). The new preventive detention: Psychiatry's problematic responsibility for the control of violence. *American Journal of Psychiatry*, 145, 779–785.
- Appelbaum, P., & Rosenbaum, A. (1989). *Tarasoff* and the researcher: Does the duty to protect apply in the research setting? *American Psychologist*, 44, 885–894.
- Barefoot v. Estelle, 463 U.S. 880 (1983).
- Baxstrom v. Herold, 383 U.S. 107 (1966).
- Borum, R. (1996). Improving the clinical practice of violence risk assessment: Technology, guidelines, and training. *American Psychologist*, 51, 945–956.
- Brakel, S., Parry, J., & Weiner, B. (1985). *The mentally disabled and the law* (3rd ed.). Chicago: American Bar Association.
- Brown, P. (1985). *Mental health care and social policy*. Boston: Routledge and Kegan Paul.
- Gardner, W., Lidz, C., Mulvey, E., & Shaw, E. (1996). A comparison of actuarial methods for identifying repetitively-violent patients with mental illness. *Law and Human Behavior*, 20, 35–48.
- Grisso, T., & Appelbaum, P. (1992). Is it unethical to offer predictions of future violence? *Law and Human Behavior*, 16, 621–633.
- Halleck, S. (1967). *Psychiatry and the dilemmas of crime: A study of causes, punishment and treatment*. New York: Harper & Row.
- Hare, R. (1985). *Manual for the Hare Psychopathy Checklist—Revised*. Toronto: Multi-Health Systems.
- Harris, G., & Rice, M. (1997). Risk appraisal and management of violent behavior. *Psychiatric Services*, 48, 1168–1176.
- Harris, G., Rice, M., & Quinsey, V. (1993). Violent recidivism of mentally disordered offenders: The development of a statistical prediction instrument. *Criminal Justice and Behavior*, 20, 315–335.
- Hart, S., Webster, C., & Menzies, R. (1993). A note on portraying the accuracy of violence predictions. *Law and Human Behavior*, 17, 695–700.

- Heilbrun, K. (1997). Prediction versus management models relevant to risk assessment: The importance of legal decision-making context. *Law and Human Behavior*, 21, 347–359.
- Kansas v. Hendricks, 521 U.S. 346 (1997).
- Klassen, D., & O'Connor, W. (1990). Assessing the risk of violence in released mental patients: A cross validation study. *Psychological Assessment*, 1, 75–81.
- Kozol, H., Boucher, R., & Garofalo, R. (1972). The diagnosis and treatment of dangerousness. *Crime and Delinquency*, 18, 371–392.
- Lessard v. Schmidt, 349 F. Supp. 1078 (E.D. Wisc. 1972).
- Lidz, C., Mulvey, E., & Gardner, W. (1993). The accuracy of predictions of violence to others. *Journal of the American Medical Association*, 269, 1007–1011.
- Litwack, T., Kirschner, S., & Wack, R. (1993). The assessment of dangerousness and predictions of violence: Recent research and future prospects. *Psychiatric Quarterly*, 64, 245–273.
- McNiel, D., & Binder, R. (1991). Clinical assessment of the risk of violence among psychiatric inpatients. *American Journal of Psychiatry*, 148, 1317–1321.
- McNiel, D., & Binder, R. (1994). Screening for risk of inpatient violence: Validation of an actuarial tool. *Law and Human Behavior*, 18, 579–586.
- Menzies, R., Webster, C., McMain, S., Staley, S., & Scaglione, R. (1994). The dimensions of dangerousness revisited: Assessing predictions about violence. *Law and Human Behavior*, 18, 1–28.
- Monahan, J. (1975). The prediction of violence. In D. Chappell & J. Monahan (Eds.), *Violence and criminal justice* (pp. 15–31). Lexington, MA: Lexington Books.
- Monahan, J. (1993). Limiting therapist exposure to *Tarasoff* liability: Guidelines for risk containment. *American Psychologist*, 48, 242–250.
- Monahan, J. (1997). Clinical and actuarial predictions of violence. In D. Faigman, D. Kaye, M. Saks, & J. Sanders (Eds.), *Modern scientific evidence: The law and science of expert testimony* (pp. 300–318). St. Paul, MN: West.
- Monahan, J., Appelbaum, P., Mulvey, E., Robbins, P., & Lidz, C. (1994). Ethical and legal duties in conducting research on violence: Lessons from the MacArthur Risk Assessment Study. *Violence and Victims*, 8, 380–390.
- Monahan, J., & Steadman, H. (1994). Toward the rejuvenation of risk research. In J. Monahan & H. Steadman (Eds.), *Violence and mental disorder: Developments in risk assessment* (pp. 1–17). Chicago: University of Chicago Press.
- Monahan, J., & Steadman, H. (1996). Violent storms and violent people: How meteorology can inform risk communication in mental health law. *American Psychologist*, 51, 931–938.
- Monahan, J., Steadman, H., Appelbaum, P., Robbins, P., Mulvey, E., Silver, E., Roth, L., & Grisso, T. (2000). Developing a clinically useful actuarial tool for assessing violence risk. *British Journal of Psychiatry*, 176, 312–319.
- Monahan, J., Steadman, H., Silver, E., Appelbaum, A., Robbins, P., Mulvey, E., Roth, L., Grisso, T., & Banks, S. (2001). *Rethinking risk assessment: The Mac-*

- Arthur Study of Mental Disorder and Violence*. New York: Oxford University Press.
- Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. *Journal of Consulting and Clinical Psychology*, 62, 783–792.
- National Center for State Courts. (1986). Guidelines for involuntary commitment. *Mental and Physical Disability Law Reporter*, 10, 409–514.
- National Institute of Mental Health. (1991). *Caring for people with severe mental disorders: A national plan of research to improve services*. Washington, DC: U.S. Government Printing Office.
- National Institutes of Health. (1994). *Report of the panel on NIH research on anti-social, aggressive, and violence-related behaviors and their consequences*. Washington, DC: U.S. Government Printing Office.
- National Research Council. (1989). *Improving risk communication*. Washington, DC: National Research Press.
- New York State Association for Retarded Children v. Carey, 706 F.2d 956 (2d Cir. 1983).
- Poythress, N. (1990). Avoiding negligent release: Contemporary clinical and risk management strategies. *American Journal of Psychiatry*, 147, 994–997.
- Quinsey, V., Harris, G., Rice, M., & Cormier, C. (1998). *Violent offenders: Appraising and managing risk*. Washington, DC: American Psychological Association.
- Reiss, A., & Roth, J. (1993). *Understanding and preventing violence*. Washington, DC: National Academy Press.
- Rice, M. (1997). Violent offender research and implications for the criminal justice system. *American Psychologist*, 52, 414–423.
- Schall v. Martin, 467 U.S. 253 (1984).
- Slovic, P., Fischhoff, B., & Lichtenstein, S. (1982). Facts versus fears: Understanding perceived risk. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases* (pp. 463–489). New York: Cambridge University Press.
- Slovic, P., & Monahan, J. (1995). Danger and coercion: A study of risk perception and decision making in mental health law. *Law and Human Behavior*, 19, 49–65.
- Slovic, P., Monahan, J., & MacGregor, D. (2000). Violence risk assessment and risk communication: The effects of using actual cases, providing instruction, and employing probability versus frequency formats. *Law and Human Behavior*, 24, 271–296.
- Steadman, H., & Cocozza, J. (1974). *Careers of the criminally insane*. Lexington, MA: Lexington Press.
- Steadman, H., Monahan, J., Appelbaum, P., Grisso, T., Mulvey, E., Roth, L., Robbins, P., & Klassen, D. (1994). Designing a new generation of risk assessment research. In J. Monahan & H. Steadman (Eds.), *Violence and mental disorder: Developments in risk assessment* (pp. 297–318). Chicago: University of Chicago Press.

- Steadman, H., Silver, E., Monahan, J., Appelbaum, P., Robbins, P., Mulvey, E., Grisso, T., Roth, L., & Banks, S. (2000). A classification tree approach to the development of actuarial violence risk assessment tools. *Law and Human Behavior*, 24, 83–100.
- Tarasoff v. Regents of the University of California, 551 P.2d 334 (1976).
- Webster, C., Harris, G., Rice, M., Cormier, C., & Quinsey, V. (1994). *The violence prediction scheme: Assessing dangerousness in high risk men*. Toronto, Canada: Centre of Criminology, University of Toronto.