Risk Communication: Clinicians' Reported Approaches and Perceived Values

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Despite significant conceptual and empirical advances in research on the risk assessment of violence during the last decade, there has apparently been no empirical research in the related area of risk communication. After summarizing the major theoretical and practical justifications for studying risk communication, this article describes the results of two studies of clinicians' risk communication practices. In Study 1, practicing clinicians (psychiatrists and psychologists; $n = 55$) were surveyed. Only one clinician indicated that he employed numerical probability figures in communicating risk; a total of nine reasons for not using numerical probabilities were cited, in varying combinations, by participants. Risk communication practices that were reportedly employed included a total of 11 approaches, endorsed in varying combinations. In Study 2, a separate sample of clinicians ($n = 59$) rated (1) the importance of the Study 1 reasons against using numerical probability figures in risk communication and (2) the value of the different forms of risk communication derived in Study 1. These data apparently offer the first empirical description of how clinicians communicate the results of risk assessments of violence and their reasons for communicating in such ways.

During the last decade we have witnessed significant conceptual and empirical advances in research on assessing the risk of violence toward others that is committed by mentally disordered individuals. Research by a number of investigators[1-11] has sharpened our awareness of base rates

and risk factors for violence, emphasized the critical role of violence outcome detection strategies, expanded the range of statistical techniques for evaluating risk data, and added considerably to the conceptual clarity of the research and applied tasks in this area.

The study of risk communication is important for a number of reasons. These reasons* are summarized as follows. First, there is currently a significant demand for risk assessment. For instance,

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there are risk assessment questions embedded in the evaluations of civil commitment, child custody litigation, juvenile sentencing and waiver, and capital and non-capital sentencing, *Hendricks*-type commitment for sexual offenders (involving the commitment of end-of-sentence sexual offenders under the provisions of *Kansas v. Hendricks*),[13] insanity defense proceedings, transfer between mental health and correctional facilities, a therapist's duty to protect identified others from the violence of psychotherapy patients, the decisions of managed care companies regarding the authorization of treatment (and their potential liability if treatment authorization is denied and violence occurs subsequent to such a denial), evaluations of violence in the workplace, and decisions regarding the reasonable accommodations that may be required by the Americans with Disabilities Act. Second, it is likely that these demands will increase in the future, given the increased research attention to and recent development of tools in the area of risk assessment. Third, risk communication has been identified as conceptually important.[14] Fourth, there is no published empirical research on the risk communication of violent behavior by mental health professionals. Fifth, risk communication serves as a link between risk assessment and decision-making; even if risk is accurately evaluated, this information cannot be incorporated into a legal decision unless it is understood by the decision-maker. Sixth, when risk *is* evaluated accurately and communicated effectively, this can result in better informed legal decision-making. Finally,

there are serious consequences to risk-relevant decisions, often involving public safety and individual liberty issues, which underscores the need to facilitate the accurate communication of risk.

Despite the evident importance of risk communication, however, the study of this area is only beginning. A recent issue of the *American Psychologist*, for example, featured a section on risk communication containing several theoretical and scholarly articles (although no empirical studies). In one article, Monahan and Steadman[15] identified a useful parallel between violent behavior and violent weather, in that approaches to communicating information about threatening weather (e.g., "no action," "hurricane watch," and "hurricane warning" as three categories of increasing concern, depending on overall risk and apparent imminence of the storm) may have implications for categories and forms of communication that could be used with violence risk. In a second article, Borum[16] reviewed the literature on risk assessment and risk management and commented on the absence of practice standards in these areas. It might be added that there are no existing practice standards for risk communication either, but risk communication has received far less theoretical and empirical attention than have other aspects of the risk assessment process.

The present study represents an initial effort to address this empirical deficit in the risk assessment literature. We begin with the anecdotal observation that clinicians who are asked to perform risk assessments may choose to describe such

risk in a variety of ways. For instance, one may communicate a conclusion by (1) describing risk on an ordinal scale (e.g., a "low," "moderate," or "high" likelihood for violence), (2) using numerical probabilities (e.g., 20%, 50%, or 95% probability that a violent act will be committed within a given time frame), or (3) describing risk-relevant information in a nominal way, without drawing a conclusion about level of risk. In this first study, we investigated the risk communication strategies reported by clinicians in a single state. Given the pilot nature of this study, we were interested in both identifying risk communication strategies and determining what reasons would be given by clinicians for using them.

Study 1

Method. Participants A total of 60 psychiatrists and doctoral-level psychologists were randomly selected (stratified to ensure equal distribution between these two groups) from a directory of individuals who had received Basic Forensic Evaluator Training through the Institute of Law, Psychiatry and Public Policy at the University of Virginia. Of these, a total of 55 agreed to participate in the study. A total of 65.8 percent of participants were male. The average number of years of postdegree experience was 15.28 ($SD = 9.99$), ranging from 3 to 43 years.

Materials The survey questions addressed (1) whether clinicians communicated their conclusions regarding a person's potential for violence to others by using a numerical probability estimate, and (2) the reasons given by the respondents for their preference about using

probabilities. In addition, clinicians were asked to identify *how* they preferred to communicate their conclusions about violence risk, illustrating with an example of a previous evaluation.

Procedure Participating clinicians were first contacted by letter and were subsequently interviewed by telephone. using information available from a directory of individuals who had participated in Basic Forensic Evaluator Training. Four clinicians declined participation and were replaced with four others obtained in the same randomly stratified fashion. Five clinicians could not be located using the addresses provided in the directory.

Results Content analysis was conducted to identify categories of responses for two questions on the survey ("reasons regarding probability use" and "preferred way of communicating risk"). Responses that were consistent with multiple categories were coded for each category represented.

Only 1 of the 55 responding clinicians indicated that he used numerical probability figures in communicating risk. Nine categories were developed to reflect clinicians' responses to the question "What are the reasons why you don't use probabilities?" The reason cited most often (49.1% of participants) was "the state of the research literature doesn't justify using specific numbers." A similar reason, citing the absence of the necessary research or scales that would facilitate the use of probabilities, was also cited by a fair number (21.8%) of participants. Other reasons offered by at least 25 percent of those participating reflected the view that a misleading impression would

Table 1
Clinicians' (*N* = 55) Cited Reasons for Not Using Probabilities in Risk Communications

Reasons for Not Using Probabilities	*N*	%
The state of the research literature doesn't justify using specific numbers	27	49.1
I don't feel that precise	21	38.2
Numbers can be misinterpreted more easily	14	25.5
I don't know (research, scales, procedures) that would let me do it differently	12	21.8
I don't know how to go from base rates to single cases	8	14.5
I don't want to be held accountable for being that precise	6	10.9
Should be dichotomous	3	5.5
I don't need numbers in order to be accurate	1	1.8
Wouldn't be accepted by the court	1	1.8

be created by using numbers (38.2% indicated "I don't feel that precise," while 25.5% said that "numbers can be misinterpreted more easily") (see Table 1).

Responses to the question "How do you prefer to communicate your conclusions about a person's potential for violence to others?" were also content-analyzed, with 11 categories emerging. The most frequently cited preferences included describing how specific risk factors raise or lower risk (36.4% of participants) and using categories (low, moderate, and high, or low versus high) in communicating conclusions (32.7%) (see Table 2).

Study 1 yielded information about why participating clinicians report that they do not use numerical probability figures in risk communication, as well as the ap-

Table 2
Clinicians' (*N* = 54) Cited Preferences for Communicating Violence Risk

Communication Preference	*N*	%
How specific risk factors raise or lower risk	20	36.4
Use categories—low, moderate, and high, or low vs. high—in communicating conclusions about risk	18	32.7
Just describe history and present behavior, but do not use predictors	12	21.8
Describe recent and present behavior; give clinical impressions based on history, current behavior, mental status, and dynamics, and make a prediction	10	18.2
Communicate in terms of generic risk factors	8	14.5
Over a certain period of time	5	9.1
In legal or policy-prescribed fashion	3	5.5
Use cautionary or explanatory language	3	5.5
Risk expressed in category relative to norm or base rate	2	3.6
Communicate differently depending on client	2	3.6
Make risk management recommendations linked to risk factors	2	3.6

proaches to risk communication that they do employ. The importance of such reasons and approaches was not rated in this study and can only be inferred indirectly from the frequency with which each reason/approach was endorsed. A second study was indicated, therefore, to replicate the basic pattern of Study 1 findings and to obtain direct ratings of the perceived value of reasons for using different forms of risk communication.

Study 2

Method. Participants A total of 59 mental health clinicians participated in this study. All were participants in a continuing education workshop on risk assessment and thus had some training in this area as well as significant interest in forensic mental health assessment. Almost all participants were doctorate-level psychologists ($n = 55$), with two masters-level psychologists, one MD, and one whose degree was not specified. Of the sample, 78 percent were male, 20 percent were female, and one participant did not indicate gender. The average number of years of postdegree experience was 14.4 ($SD = 7.6$), ranging in years from 0 to 32. Some 47 participants (80%) indicated a specialization in clinical psychology, with another six (10%) specializing in counseling, one (2%) in school, and five (9%) not indicating a specialization. For "number of potentially violent patients seen during the last year," the mean response was 67.7 ($SD = 84.3$), with a range from 0 to 500. The mean "number of risk assessments performed during the last year" was 57.0 ($SD = 116.2$), with a range from 0 to 690.

Materials The one-page, written survey developed for Study 2 first sought basic identifying and experiential information about participants (degree, years of postdoctoral experience, gender, specialization, number of potentially violent patients seen during the last year, and number of risk assessments performed during the last year). It then asked whether participating clinicians use numerical probability figures in communicating their conclusion regarding a person's risk of violence toward others.

For participants who indicated that they did not use probabilities in risk communication, the survey contained two further questions. In the first, participants were asked to assign a value (on a five-point Likert scale ranging from "not at all important" to "very important") to each of the nine reasons for not using probability figures derived in Study 1: (1) the state of the research literature doesn't justify using specific numbers; (2) I don't feel that precise; (3) numbers can be misinterpreted more easily; (4) I don't know the research/scales/procedures that would let me do it differently; (5) I don't know how to go from base rates to single cases; (6) I don't want to be held accountable for being that precise; (7) the conclusion should be dichotomous; (8) you don't need numbers to be accurate; and (9) it wouldn't be accepted by the court.

Next, participants were asked to assign values on a five-point scale, ranging from "contraindicated" to "essential," regarding 8 of the 11 approaches to communicating risk conclusions obtained in Study 1: (1) describe how specific risk factors

raise or lower risk, and present a conclusion; (2) use categories in communicating conclusions about risk; (3) describe the history and present behavior, but do not state a conclusion about risk; (4) describe history and present behavior; give clinical impressions based on history, current behavior, mental status and dynamics, and draw a conclusion; (5) discuss generic risk factors and describe how they apply to the individual, but do not state a conclusion about risk; (6) specify the period of time over which the risk is described; (7) communicate in the way prescribed by legal standard or policy; and (8) express risk relative to norm or base rate for that population. The three approaches that were not used in Study 2 were excluded because they had been endorsed by so few participants in Study 1 (5.5%, 3.6%, and 3.6%, respectively).

Procedure The survey was administered to participating clinicians in the workshop prior to any discussion of risk communication practices, to avoid influencing participants' responses. Participants were informed that the survey would address risk communication practices among clinicians. All attending clinicians agreed to participate.

Results Relatively few participants reported using numerical probability figures to communicate their conclusions about risk. Some 90 percent ($n = 53$) indicated they did not, 7 percent ($n = 4$) reported that they did, and 3 percent ($n = 2$) did not respond. Those who did not use probabilities were asked to assign values ($1 = $ not at all important, $2 = $ not important, $3 = $ somewhat important, $4 = $ important, $5 = $ very important) to various

reasons for not using probability estimates. Assigned mean values reflected emphasis on the same five reasons that were most frequently endorsed by participants in Study 1: (1) I don't feel that precise; (2) I don't know how to go from base rates to single cases; (3) the state of the research literature doesn't justify using specific numbers; (4) I don't know the research/scales/procedures that would let me do it differently; and (5) numbers can be misinterpreted more easily (see Table 3). These five, as well as one additional reason ("I don't want to be held accountable for being that precise"), were all significantly different from the scale value of 2 ("not important") when multiple t tests were conducted using both the Bonferroni-type correction and the Holms correction for multiple comparisons.

Finally, rated values for the desirability of communicating risk in different ways were assigned by participants along a five-point scale, ranging from 1 ("contraindicated") to 5 ("essential"). Six forms of communication were rated as significantly higher than the scale midpoint ("optional"), suggesting perceived value to their use: (1) describe recent and present behavior, and make a prediction; (2) describe how specific risk factors raise or lower risk; (3) specify the period over which the risk is described; (4) use categories in communicating conclusions; (5) communicate in legally or policy-prescribed fashion; and (6) express risk relative to norm or base rate for that population (see Table 4). All six forms of communication, plus a seventh ("discuss generic risk factors and describe how they

Table 3
Clinicians' (N = 53) Rated Importance for Reasons Against Using Probabilities in Risk Communication[a]

Reason Against Using Probabilities	Mean Rated Importance	t Value[b]
I don't feel that precise	3.8	10.5[c,d]
I don't know how to go from base rates to single cases	3.7	9.9[c,d]
The state of the research literature doesn't justify using specific numbers	3.6	8.4[c,d]
I don't know the (research, scales, procedures) that would let me do it differently	3.5	8.2[c,d]
Numbers can be misinterpreted more easily	3.4	8.0[c,d]
I don't want to be held accountable for being that precise	2.8	4.9[c,d]
It wouldn't be accepted by the courts	2.3	1.7
You don't need numbers to be accurate	2.2	1.4
The conclusion should be dichotomous	1.9	−0.8

[a]Values used in ratings: 1 = not at all important; 2 = not important; 3 = somewhat important; 4 = important; 5 = very important.
[b]Comparing mean rated value against rating of 2 ("not important").
[c]Significant using Bonferroni-type multiple testing correction.
[d]Significant using Holms' procedure for multiple testing correction.

Table 4
Clinicians' (N = 59) Rated Values for Different Forms of Risk Communication[a]

Risk Communication Form	Mean Rated Value	t Value[b]
Describe recent and present behavior; give clinical impressions based on history, current behavior, mental status, and dynamics, and make a prediction	4.5	20.7[c,d]
Describe how specific risk factors raise or lower risk, and present a conclusion	4.4	32.3[c,d]
Specify the period of time over which the risk is described	4.0	16.6[c,d]
Use categories in communicating conclusions	3.9	18.1[c,d]
Communicate in legally or policy-prescribed fashion	3.7	11.5[c,d]
Express risk relative to norm or base rate for that population	3.6	11.8[c,d]
Discuss generic risk factors and describe how they apply to the individual, but do not reach a conclusion	2.7	4.4[c,d]
Describe history and present behavior, but do not state a conclusion about risk	2.3	2.2[d]

[a]Values used in ratings: 1 = contraindicated; 2 = not desirable; 3 = optional; 4 = desirable; 5 = essential.
[b]Comparing mean rated value against rating of 2 ("not desirable").
[c]Significant using Bonferroni-type multiple testing correction.
[d]Significant using Holms' procedure for multiple testing correction.

apply to the individual, but do not reach a conclusion") were significantly higher than the scale value of 2 ("not desirable"), when using either the Bonferroni or Holms corrections, and the final form was also significantly higher than the scale value of 2 using the Holms correction. These differences suggested that participants considered each form of communication to be at least somewhat valuable.

Discussion

Risk communication by mental health professionals is an understudied component of the larger process of risk assessment. Important advances have been made during the last decade in risk assessment; the empirical study of normative and desirable approaches to risk communication is important to determine how such advances can be implemented in practice.

The two studies described in this article are apparently the first empirical efforts to examine clinicians' values and self-reported practices in risk communication. Both the exploratory nature and the relatively small sample sizes in these studies should suggest caution in considering these results, and the need for replication with larger samples is clear. The preliminary identification of a number of approaches to risk communication is one of the more important aspects for consideration by future investigators.

Both studies suggested that the substantive aspects of risk communication are influenced by the perceived shortcomings in the research literature (the remediation of which might incline some clinicians toward the use of numerical

probabilities rather than broader categories) and the sense of imprecision about predicting future violent behavior (both clinicians' own uncertainties and their concern that their conclusions might not be interpreted correctly if probabilities were employed).

It may be worthwhile to distinguish some legal circumstances in which a prediction is indicated from others, in which the goal would better be described as risk management (see Heilbrun[17] for a fuller discussion). Some of the risk communication forms in these studies are clearly prediction-oriented (e.g., describe behavior, clinical impressions, and make a prediction), while others appear better-suited to management conclusions (e.g., despite how specific risk factors raise or lower risk). Would a certain form of risk communication be valued more highly if it were oriented toward yielding the kind of conclusion most relevant to the legal context? Does the level of perceived risk affect the preference for risk communication form? Questions such as these are among those in need of further study on the topic of risk communication.

The sources of reluctance by clinicians to use formal (mechanical, algorithmic) approaches to prediction, which are more amenable to being communicated using probabilities, rather than informal (subjective, impressionistic) procedures have been discussed recently.[18] Given that the literature has demonstrated the superiority of statistical over clinical approaches to prediction,[†19, 20] the authors considered

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[†] Grove W, Zald D, Lebow B, *et al*: Clinical vs. mechanical prediction: a meta-analysis. Submitted for publication.

the possible sources of resistance to using actuarial approaches to prediction. These included (1) fear of technological unemployment (being "displaced" by a less costly formula or actuarial table); (2) self-concept (the need to feel that professional status and experience enhance predictive skills); (3) attachment to theory (invoking theoretical views of human nature that add nothing, and may detract, from predictive accuracy); (4) misperception of the actuarial method as dehumanizing to clients or patients; (5) general dislike of computers successfully competing with human minds; and (6) poor education (being unaware of or misinformed about the relative accuracy of clinical and statistical approaches to prediction).

It is interesting to compare these speculations with the reasons that clinicians in the present research actually gave when asked why they did not use probability figures in risk assessment. There was no explicit support for any of the first five reasons described in the previous paragraph. Instead, clinicians cited one concern regarding the state of the research literature (e.g., not justifying using specific numbers) and several others (e.g., not feeling that precise, not knowing how to go from base rates to single cases, not knowing the research, scales, or procedures that would allow them to do it differently) that could be interpreted in at least two ways. If the available literature actually *did* provide the appropriate empirical base and specific procedures to apply actuarial approaches to risk assessment, then these answers might reflect the participants' lack of sufficient education in these areas. On the other hand, if it

were argued that the literature has not yet provided both the empirical support and specific actuarial approaches to yield probabilistic estimates of risk, then these concerns could be seen as more justified.

While the superiority of actuarial over clinical approaches to prediction has been demonstrated, it has only been recently that purely actuarial tools for predicting violent behavior with mentally disordered offenders, such as the Violence Risk Appraisal Guide[21] have been developed. Other promising approaches to risk assessment, such as the Violence Prediction Scheme[22] and the HCR-20,[12] integrate clinical and objective data, as well as clinical judgment and actuarial data in combination, in the assessment of violence risk. The actuarial assessment of violence risk should also be greatly enhanced by the publication of the risk data collected by the MacArthur Research Network on Mental Health and Law (see Monahan and Steadman[8] for a discussion of this project and Steadman et al.[11] for an initial report of research findings).

When the task is most clearly predictive, these results would suggest that two things are needed. The first involves continued progress in the empirical study of violence prediction; the second is a relatively straightforward, easily understood mechanism for translating empirical results into predictions in single cases, that can be understood by clinicians and communicated to decision-makers. Advances in both areas may increase the frequency with which clinicians use quantitative approaches in risk assessment. Further study of risk communication practices may facilitate the application of empiri-

cally based procedures or enhance our understanding of the obstacles to their application in legal contexts.

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