Assessing the Risk of Violent Behavior Before Issuing a License to Carry a Handgun

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Handguns are intended to be used for protection, but they can also be used as weapons of assault that may endanger others or inflict self-harm and facilitate suicide. Research has revealed a direct correlation between firearm availability and suicide risk. Gun control is intended to reduce violence through legislation that restricts ownership and use of firearms. How can we ensure that firearms will not reach the hands of individuals who may pose a danger to themselves or to others, without infringing on the rights of other citizens to carry guns for protection, which is in the public interest? The potential to commit a crime will materialize, depending on dynamic interactions among personality factors, environmental factors, and the individual's history of offending. We present illustrative cases involving various aspects of gun control and a description of instruments for the assessment of dangerousness that can facilitate the licensing process for carrying and using firearms.

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Handguns are a two-edged sword; they are essentially intended to be used for protection, but can also serve as weapons of assault that may endanger the environment, inflict self harm, and facilitate suicide. Considering that having a gun in the home is associated with an increased risk of firearm-related homicide and suicide, do firearms belong in the hands of civilians? A gun kept in the home is 11 times more likely to be used to commit or attempt a suicide than to be used in self-defense. Most suicides (60%) are committed with firearms, and most (80%) individuals attempting suicide meet the diagnostic criteria for mental illness. On the other hand, civilians and soldiers on the home front who regularly carry handguns contribute to public safety.

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Based on data from the Centers for Disease Control concerning the 28,332 suicides in the United States in 2000, 16,418 (more than 57%) of the deaths involved firearms.⁴ Research has revealed a direct correlation between firearm availability and suicide risk. A household where a gun is present is five times more likely to experience a suicide than is one without guns.⁵ Legislation and regulatory measures reducing the availability of firearms in private households can distinctly strengthen the prevention of suicide by firearm.⁶

In Europe and the United States, scores of students and educators have been murdered and seriously injured in schools and college campuses in the past 10 years alone. In Israel, catastrophic shootings include the 1992 incident in the Kiryat Hayovel Mental Health Clinic which remains unfathomable to the professional mental health community. The killer reportedly had "mental and adjustment difficulties in the army" but during the two years before the incident had shown clear signs of improved social and employment functioning. This incident, in addition to the ongoing threat of terrorism and suicide bombers provided impetus for the revision of the regulations for licensing and renewal of licenses for firearms in Israel.

Licensing and registration increase the accountability of individual firearms owners and thereby promotes compliance with safe storage regulations and increases recognition of the risks and responsibilities of firearms ownership. Gun control is meant to reduce violence through legislation that restricts ownership and use of firearms. Society is duty bound to prevent the acquisition of firearms by individuals at high risk for violent behavior and by persons who have severe mental disorders. In the United States, federal and state laws have restricted the right of certain categories of persons with mental illness or substance abuse to possess, register, license, retain, or carry a firearm. ^{8,9}

On the other hand, Appelbaum and Swanson¹⁰ claim that the contribution of these laws to public safety is likely to be small, because only three to five percent of violent acts are attributable to serious mental illness, and most do not involve guns. In addition, the laws may deter people from seeking treatment, because they fear losing the right to possess firearms. The laws may reinforce stereotypes of persons with mental illnesses as dangerous.

How does one assess the risk of violent or destructive behavior in a particular individual? Assessment of dangerousness is an attempt to identify the capacity to realize a potential for violence and/or to commit an offense.

Prediction of dangerousness is not infallible. The potential to commit a crime will materialize depending on dynamic interactions among personality factors, environmental factors, and the individual's history of offending.

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Risk is the probability of outcome within a population of subjects. ¹¹ Risk assessment is generally defined as the prediction of future dangerousness toward oneself or others. ¹² Researchers have indicated that aspects that should be considered when predicting dangerousness include historical factors (e.g., arrest history and juvenile delinquency), demographic/dispositional factors (e.g., psychopathic personality), contextual factors (e.g., availability of weapons), and clinical factors (e.g. psychosis and substance abuse) that may interact and produce a potentially violent individual. ¹³

Assessment Tools

The following violence risk assessment tools enable assessment using instruments that are more objective than a clinical evaluation, and they may therefore be useful when deciding whether to issue a firearms license. This tool also enables an individual to appeal a decision and to relate to the evaluation quantitatively. The same applies to the court to which the appeal will be submitted.

Historical/Clinical Risk Management

This instrument (20 items; HCR-20)¹⁴ is a personality assessment tool that includes 20 risk factors for violent behavior in the past, present, and future.¹⁵ It also includes the abridged version of the Psychopathic Clinical List (PCL) to assess psychopathic traits. The abridged version of the PCL-SV takes about 45 minutes to administer and 30 minutes for coding; the complete version takes up to two hours.

Classification of Violence Risk

This instrument (COVR) was produced by the Violence Risk Assessment Study (VRAS). ¹⁶ The COVR is an interactive software program designed to estimate the risk of an acute civil psychiatric patient's becoming violent to others over the several months after discharge into the community. The program guides the evaluator through a brief chart review and a 10-minute interview with the patient. The COVR then generates a report that contains a statistically valid estimate of the patient's violence risk, including the confidence interval for that estimate and a list of the questions used to produce the estimate.

It assesses personal factors (e.g., demographic and personality variables), historical factors (e.g., past violence and mental hospitalizations), contextual factors (e.g., social support and social networks), and clinical factors (e.g., diagnosis and specific symptoms). The COVR is based on a classification tree method. This approach prioritizes an interactive and contingent model of violence. Each assessment is individualized; the particular questions asked depend on the answers given to prior questions. This approach contrasts with a regression approach in which a common set of questions is asked of everyone being assessed, and every answer is weighted to produce a score that can be used for purposes of categorization.

The program was designed to be administered to individuals 18 to 60 years of age from a wide variety

of racial and ethnic backgrounds, psychiatric diagnoses, and regions of the United States.

The Minnesota Multiphasic Inventory

The MMPI was developed in the late 1930s by psychologist Starke R. Hathaway and psychiatrist J. C. McKinley at the University of Minnesota. It underwent a revision in the late 1980s. The revised edition of the test was released in 1989 as the MMPI-2 and was revised again in 2001. The MMPI-2 is still in use today and is the most frequently used clinical assessment test.¹⁷

Composed of 338 items, with the RC (Restructured Clinical) Scales at its core, the MMPI-2-RF¹⁸ builds on the strengths of the MMPI-2 to create a new standard. Psychometrically up to date, the MMPI-2-RF is linked to current models of psychopathology and personality. A comprehensive technical manual for the MMPI-2-RF reports empirical correlates of the scales in a range of settings, including mental health inpatient and outpatient clinics, substance abuse treatment centers, criminal court proceedings, personal injury and disability evaluations, and public safety employment evaluations. Administration by computer takes only 25 to 35 minutes.

The MMPI-2-RF provides a valuable alternative to the MMPI-2 test, not a replacement. The MMPI-2 test continues to be published and fully supported by the University of Minnesota Press and is distributed exclusively by Pearson.¹⁸

These measures should not be considered replacements for systematic approaches to risk assessment, but rather adjunctive methods to inform the clinical evaluation process. ¹⁹ Indeed, tools that specify a certain percentage of violence over a specific period of time do not necessarily have predictive value. One advantage of clinical assessments is that the clinician can address whether the violence is likely (for example) to be directed toward a certain person.

Issuing a Firearms License in Israel

The Firearms Act (1949)²⁰ requires a license from the Ministry of the Interior for the possession and transport of firearms by civilians. Personal licenses are issued at the district offices of the Ministry of the Interior by licensing officers, after personal interviews of applicants to verify that they meet Ministry criteria.²¹ The licensing officers then perform background checks on all applicants with the police (as to

criminal record) and the Ministry of Health (as to physical or mental impairment). The Ministry of Health provides information from the national database of persons hospitalized for mental health treatment and of the national database of Physician Notifications. The Firearms Act requires all mental health professionals and physicians to notify the Mental Health Services Division if they consider a specific patient unfit to own a firearm. The law requires every psychiatrist and psychologist who treats an individual whom he believes may be a danger to himself or others if issued a license to carry a firearm, to complete a structured report concerning that patient to the Ministry of Health. This requirement applies to all patients under both voluntary and compulsory treatment, either as inpatients or ambulatory patients, mentally ill (psychotic) or not.

Applicants are also asked to report any current physical and mental health treatment. Applicants who report that they have or have had a mental problem or have been treated in the past with psychiatric drugs are sent for examination. The licensing officer consults the physician in the Mental Health Services Division of the Ministry of Health to schedule the examination.

Handgun licenses are valid for three years and must then be renewed. Licensing procedures for persons required to carry firearms for their jobs and for personal safety differ. The owners of security companies are issued a Special License under the provisions of the Private Investigators and Protection Services Act, 1972, and Clause 10(c) of the Firearms Act. Holders of the special license may issue their employees a Certificate of Authority to carry a firearm. Before doing so, they must forward the identification of the intended certificate holder to a firearms licensing officer, who will perform the same background checks as for personal license applicants, except for the personal interview. Thus, security guards do not hold personal licenses, but rather their employers have a collective certificate.

After submitting a request and medical certificate (standardized questionnaire completed by the family physician), the licensing clerk verifies that the applicant does not appear in the Ministry of Health file of psychiatric inpatients or in the file of patients whose therapists reported that they may pose a danger if granted a license to carry firearms, and the family physician does not reject the application on medical grounds.

If the licensing clerk decides not to issue a license based on the above information, the applicant may appeal to an examining physician (from a list of physicians appointed by the Director General of the Ministry of Health for that purpose). If denied a license by the examining physician, he may appeal in certain cases to a special committee of the Ministry of the Interior, which includes a psychiatrist who evaluates dangerousness. This committee has legal status.

Illustrative Cases

We present three cases that were deliberated in the Israeli Courts and that illustrate the complexity of the current licensing procedure.

Case 1: Haifa District Court, Civil Case 000751/93 With Civil Case 001789/94, November 21, 2003

An armed gatekeeper employed by a manufacturing plant stopped a vehicle for a routine check and suddenly shot and killed the driver. A psychiatric evaluation determined that he had schizophrenia and had been in a psychotic state for some time. He killed the driver, whom he did not know, under the delusion that "the driver had committed Nazi-like deeds, that he was on the driver's liquidation list, and that the driver belonged to some larger group and so he shot him."

Claims were also filed against the State of Israel. The court found the state liable on the grounds that it had issued a firearms license to a person who had been dismissed from the police force due to mental illness. The judicial ruling stated that a citizen is entitled to assume that, before a firearms license is issued, appropriate background checks have been performed by the pertinent authorities, especially since, at the time in question, licensing officers were authorized to request a medical examination before granting a license.²⁰

Case 2: G.L. and Others v. State of Israel and Others, Civil Case 8636/99, Jerusalem Magistrates Court (1999)

In 1992, at a mental health clinic, a patient shot and killed four female employees and wounded two more with a handgun he was licensed to carry (the incident in the Kiryat Hayovel Mental Health Clinic, mentioned in the introduction). A civil claim for damages found the state negligent of its duty on several counts: There was no coordination among

the various government agencies. The information that he had been discharged from military service after having been found unfit for duty and that he had been under psychiatric care was not reported to the licensing bureau.

Case 3: Administrative Appeals 1062/06. Nazareth District Court Sitting as Administrative Affairs Court (2006)

In an administrative appeal against the Ministry of the Interior, the Population Registry, and the Israel Police, the petitioner appealed the decision of the Ministry of the Interior Appeals Committee not to reverse the decision of a licensing officer who had refused to issue the appellant a firearms license on the grounds of the appellant's criminal record. The appellant argued that the criminal charges in question had passed the statute of limitations and also that he had never been formally indicted. In addition, he had since been granted a firearms license, although he had inadvertently not renewed it. The court weighed the issue of breach of peace versus the appellant's request to obtain a firearms license and granted the appeal.

Discussion

Mental health professionals are increasingly expected to assess dangerousness. Most decisions concerning levels of dangerousness are based on clinical assessments. ^{22,23}

The cases presented here illustrate the problems involved in determining the nature of the information crucial to assessing fitness to possess and use firearms and to whom it must be conveyed. In the first case, information concerning the applicant's mental illness and consequent dismissal from the police force was not communicated to the relevant authorities. This gap in information processing has since been corrected. Security companies are now obliged to examine potential employees' work histories and must confirm that there are no counterindications in the databases of the Ministries of Health and the Interior that would prohibit the candidates from carrying weapons.

The second case illustrates the difficulty of reaching an informed decision regarding dangerousness and in particular highlights the subject of the Physician's Notification. In this case, the individual's dangerousness had been weighed and debated by a range of professionals over a considerable period of time,

but a Physician's Notification was never issued. These notifications are the information bridge between the medical authorities (Ministry of Health) and the administrative authorities (Ministry of the Interior). Since that tragic event, the procedure and requirements for the Physician's Notification have been enforced.

The third case deals with an administrative concern closely connected to the medical question—namely, does dangerousness fade? If there is a significant time lapse from a criminal act with no intervening incidents, can it be assumed that the individual is rehabilitated and is no longer dangerous?

There are no unequivocal solutions. To assess dangerousness, a physician must incorporate relevant information, clinical tools, and structured questionnaires as needed. The question also arises regarding who is the best assessor of dangerousness: mental health professionals, lawyers, criminologists, the courts? Norris *et al.*⁸ recommend that a psychiatrist who is asked to evaluate or certify a patient for a firearms application be certain that the patient understands the questions. What is the role of a clinical response in a legal issue? Clinicians must be cognizant of the professional responsibility inherent in assessment for a firearms-related matter.

In his 1981 book, after reviewing five cases, Monahan claimed that:

... psychiatrists and psychologists are accurate in no more than one out of three predictions of violent behavior over a several-year period among institutionalized populations that had both committed violence in the past (and thus had high base rates for aggression) and who were diagnosed as mentally ill [Ref. 24, pp 47–49].

Monahan's findings reverberated widely and reinforced the trend of relying exclusively on actuarial variables and instruments (sometimes called second-generation violence prediction tools). Actuarial assessments, in contrast to clinical assessments, make use of mathematical decision-making models. The use of these was further justified by the argument that clinicians attach different weights to different variables, often unconsciously, and combine the different variables in a nonsystematic and nontransparent manner. Among others, Kapur²⁶ concluded that clinical assessments were, overall, inferior to actuarial assessments.

This distinction between a clinical and an actuarial evaluation is one of degree, not quality, with each standing at opposite ends of the same continuum. Clinical evaluations often draw on clinical theories of

personality, even though the correlation between personality components and clinical phenomena is by no means proven. Similarly, actuarial evaluations tend to rely on stable variables, such as demographic and historical ones, even though their stability is far from guaranteed.

Violence risk assessments are performed for individuals with mental disorders in both civil and criminal settings. The civil context focuses on whether an individual should be placed in a psychiatric institution or should be medicated, even against his will. In criminal settings, in the context of sentencing and parole decisions, the risk of future violence and criminal behavior is an important consideration and is concerned with the longer term possibility of acute violence that would necessitate involuntary psychiatric hospitalization.¹⁹

It is by and large accepted that a clinical assessment predicts violent behavior at a rate better than chance. There is further consensus that an actuarial assessment does at least as well and perhaps better. In a meta-analysis of 58 research studies published up to 1994, Mossman found that a single variable, violent behavior in the past, predicted future violent behavior better than any clinical assessment. We believe that the concentration of all information in one agency authorized to grant licenses for firearms is beneficial in expediting the dispensing of licenses when appropriate and denying them when necessary, despite the shortcomings that may be associated with the all-knowing big brother.

Grinshpoon *et al.*,³¹ after studying a group of firearms license applicants, came to the conclusion that, to improve the quality of the assessments and for economic considerations, it is vital to entrust dangerousness assessment to a single agency that specializes in the field.

Would the cases reported here have had better outcomes if actuarial tools had been used before issuing a license to carry firearms? Not necessarily. A completed questionnaire is also a useful basis for group discussion when opinion is divided as to a subject's dangerousness. Furthermore, medical decisions are presently increasingly liable to judicial review, and it is expected that a professional medical opinion will be based on testable considerations. However, there is no substitute for clinical judgment that is based on an examination of the individual concerned—a judgment, however, that also takes into account the individual's record, known behav-

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ior, background, mental disorders, history of offending, and other factors. Structured questionnaires are definitely helpful and point the clinician to additional sources and information that might otherwise not be considered. They are a necessary component of the decision-making process, but they cannot replace professional judgment. The final decision should be made by the authority that collected all of the relevant information including the prior risk assessments of the applicant.

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References

- Dahlberg LL, Ikeda RM, Kresnow MJ: Guns in the home and risk of a violent death in the home: findings from a national study. Am J Epidemiol 160:929-36, 2004
- 2. Kellermann AL, Somes G, Rivara FP, et al: Injuries and deaths due to firearms in the home. J Trauma 45:263–7, 1998
- Price JH, Thompson AJ, Khubchandani J, et al: Firearm anticipatory guidance training in psychiatric residency programs. Acad Psychiatry 34:417–23, 2010
- Centers for Disease Control and Prevention. National Vital Statistics Report, 50. Atlanta: CDC, September 16, 2002
- Cummings P, Koepsell TD, Grossman DC, et al: The association between the purchase of a handgun and homicide or suicide. Am J Public Health 87:974–8, 1997
- Ajdacic-Gross V, Killias M, Hepp U, et al: Changing times: a longitudinal analysis of international firearm suicide data. Am J Public Health 96:1752–5, 2006
- Bauer A, Grinshpoon A, Garashonvinsky A, et al: A comparison of firearms-related legislation in four countries (in Hebrew). Refuah V'Mishpat 22:105–11, 2003
- 8. Norris DM, Price M, Gutheil T: Firearm laws, patients, and the roles of psychiatrists. Am J Psychiatry 163:1392–6, 2006
- 9. Price M, Norris DM: Firearm laws: a primer for psychiatrists. Harv Rev Psychiatry 18:326–35, 2010
- Appelbaum PS, Swanson JW: Law and psychiatry: gun laws and mental illness—how sensible are the current restrictions? Psychiatr Serv 61:652–4, 2010
- 11. Kraemer HC, Kazdin AE, Offord DR, et al: Coming to terms with the terms of risk. Arch Gen Psychiatry 54:337–43, 1997
- Monahan J, Steadman JH, Silver E, et al: Rethinking Risk Assessment: The MacArthur Study of Mental Disorder and Violence. New York: Oxford University Press, 2001
- Archer RP, Buffington-Vollum JK, Stredny RV, et al: A survey of psychological test use patterns among forensic psychologists. J Pers Assess 87:84–94, 2006

- Webster DC, Douglas SK, Eaves D: HCR-20 Assessing Risk for Violence (Version 2). Mental Health, Law and Policy Institute. Vancouver: Simon Fraser University, 1997
- Douglas KS: Description of the HCR-20 Violence Risk Assessment Scheme. Abstract retrieved April, 2003, from: http://kdouglas.files.wordpress.com/2007/10/hcr-20-annotated-bibliosept-2010.pdf. Accessed October 12, 2011
- Monahan J, Steadman HJ, Robbins PC, et al: An actuarial model of violence risk assessment for persons with mental disorders. Psychiatr Serv 56:810-5, 2005
- Cherry K: The Minnesota Multiphasic Personality Inventory, MMPI-2: History and Use of the MMPI-2. About.com. Available at http://psychology.about.com/od/psychologicaltesting/a/ mmpi.htm. Accessed August 18, 2009
- Ben-Porath YS, Tellegen A: Empirical correlates of the MMPI-2 Restructured Clinical (RC) Scales in mental health, forensic, and nonclinical settings: an introduction (review). J Pers Assess 90: 119–21, 2008
- Rosenfeld B, Pivovarova E: Psychological testing in violence risk assessment, in Textbook of Violence Assessment and Management. Edited by Simon R, Tardiff K. Arlington, VA: American Psychiatric Publishing Inc., 2008, pp 59–76
- 20. Firearms Act, 1949. (Articles 4-5; in Hebrew.) Ministry of Justice. Jerusalem, Israel.
- Ministry of the Interior, Department for Licensing Firearms (in Hebrew). Available at http://www.nbn.org.il/aliyahpedia/ government-offices/post-aliyah-government-processing/1054licensing-a-firearm.html. Accessed October 12, 2011
- Dolan M, Doyle M: Violence risk prediction: clinical and actuarial measures and the role of the psychopathy checklist. Br J Psychiatry 177:303–11, 2000
- Gardner W, Lidz C, Mulvey E: A comparison of actuarial methods for identifying repetitively violent patients with mental illness. Law Hum Behav 20:35–48, 1996
- Monahan J: Predicting Violent Behavior: An Assessment of Clinical Techniques. Beverly Hills, CA: Sage, 1981
- Buchanan A: Risk and dangerousness. Psychol Med 29:465–73, 1999
- 26. Kapur N: Evaluating risks. Adv Psychiatr Treat 6:399-406, 2000
- 27. Monahan J, Steadman JH: Toward a rejuvenation of risk assessment research, in Violence and Mental Disorder: Developments in Risk Assessment. Edited by Monahan J, Steadman JH. Chicago: University of Chicago Press, 1994, pp 1–18
- Lidz C, Mulvey E, Gardner W: The accuracy of predictions of violence to others. JAMA 269:1007–11, 1993
- Borum R: Improving the clinical practice of violence risk assessment: technology, guidelines and training. Am Psychol 51:945– 56, 1996
- Mossman D: Assessing predictions of violence: being accurate about accuracy. J Consult Clin Psychol 62:783–92, 1994
- 31. Grinshpoon A, Bauer A, Mark M: Assessing mental capacity for firearms use: ethical and practical issues (in Hebrew). Harefuah 141:26–9, 2002