Gun Violence and Victimization of Strangers by Persons With a Mental Illness: Data From the MacArthur Violence Risk Assessment Study

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Objective: Highly publicized incidents in which people with apparent mental illnesses use guns to victimize strangers have important implications for public views of people with mental illnesses and the formation of mental health and gun policy. The study aimed to provide more data about this topic.

Methods: MacArthur Violence Risk Assessment Study data were analyzed to determine the prevalence of violence by 951 patients after discharge from a psychiatric hospital, including gun violence, violence toward strangers, and gun violence toward strangers.

Results: Two percent of patients committed a violent act involving a gun, 6% committed a violent act involving a stranger, and 1% committed a violent act involving both a gun and a stranger.

Conclusions: When public perceptions and policies regarding mental illness are shaped by highly publicized but infrequent instances of gun violence toward strangers, they are unlikely to help people with mental illnesses or to improve public safety.

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Enormous national attention has focused on people with apparent mental illnesses who use guns to victimize strangers. Recent examples include incidents at Virginia Tech and the Washington Navy Yard and in Aurora, Colorado; Newtown, Connecticut; Tucson, Arizona; and Santa Barbara, California. These acts have important implications not only for potential victims but also for the public's view of people with mental illness, for example, by increasing stigma and discrimination. They also have implications for the formation of mental health policy, for example, loosened standards for public reporting of protected health information or tightened standards for the possession and purchase of guns by persons with a mental illness (1). In recent years, a great deal of research has dealt with violence by people with mental illness, but to date there has been limited attention to either gun violence by people with mental illness (2) or violence against strangers by people with mental illness (3). Previously unexamined data from the MacArthur Violence Risk Assessment Study provide what appears to be the first empirical information on gun violence directed at strangers by people who had been psychiatrically hospitalized.

METHODS

The MacArthur Violence Risk Assessment Study followed a group of 1,136 patients who had been discharged from acute civil inpatient facilities at three U.S. sites (4,5). English-speaking male and female patients who were between the ages of 18 and 40; were of white, African-American, or Hispanic race-ethnicity; and had a chart diagnosis of bipolar disorder, depressive disorder, schizophrenia or other psychotic disorder, substance use disorder, or personality disorder were included in this research.

Three sources of information were used to ascertain the occurrence of violent acts in the community postdischarge. Interviews with patients, interviews with persons identified by the patient as being knowledgeable about his or her life ("collaterals"), and official sources of information (arrest and hospital records) were coded and reconciled. Discharged patients and collaterals were interviewed in person every ten weeks for approximately one year. Violence toward others was defined as acts of battery that resulted in physical injury; sexual assaults; assaultive acts that involved the use of a weapon; or threats involving the use of a weapon. According to the study, "For an incident to be coded as 'weapon threat,' the subject had to have a weapon in hand at the time of the incident; telling someone that a weapon would be obtained or having one available but not in hand (e.g., in a drawer of the room) did not constitute a weapon threat" (5).

RESULTS

Of the 951 persons available for at least one follow-up, 262 (28%) committed at least one act of violence. A total of 608 violent acts were committed by these 262 patients.

Of the 608 violent acts, 178 (29%) were categorized as "weapon threat/weapon use." In 67 (37%) of these incidents, the weapon was a gun; in 73 (41%) incidents, the weapon was a knife; in 19 (11%) incidents, the weapon—for example, a bat—was categorized as "other"; and in 19 (11%) incidents, the data were not known. The average time from discharge to an act of gun violence was 119 days.

The 67 acts of gun violence were perpetrated by 23 people, of whom 21 were males. Their median age was 24, and 61% were white. As shown in Table 1, these 23 people were well known to both the mental health and criminal justice systems before the hospitalization during which they were recruited for the MacArthur Study. Only five of the 23 patients had no prior psychiatric hospitalizations, with a group average of 3.1 prior hospitalizations. Similarly, only two of the 23 patients had no prior arrests, with 12 patients having three or more prior arrests.

The 23 people with gun violence tended to have admission diagnoses of major depression (N=14, 61%), alcohol abuse (N=17, 74%), or drug abuse (N=12; 52%). Three patients (13%) were diagnosed as having bipolar disorder, none were diagnosed as having schizophrenia, and three (13%) received other diagnoses. At the time of hospital admission, the 23 people with gun violence displayed symptoms of substance abuse (N=14, 61%), suicidal threats (N=15, 65%), hallucinations (N=5, 22%), paranoia (N=3, 13%), delusions (N=2, 9%), and anxiety (N=2, 9%). Historical variables showed that 15 of the 23 (65%) had fathers who were arrested two or more times, and 21 (91%) had experienced serious abuse as a child.

For 558 of the 608 total violent acts (92%), the relationship of the victim and the discharged patient was known. In 77 (14%) of these 558 violent incidents, the victim was a stranger to the patient. These 77 acts of violence toward strangers were committed by 55 discharged patients.

Of the 558 violent incidents in which the relationship between the victim and the patient was known, 19 (3%) involved both a gun and a stranger as victim. The 19 gun-and-stranger incidents involved nine patients, representing 3% of the 262 patients who committed at least one violent act and 1% of the 951 patients with at least one follow-up.

All nine people who committed gun-and-stranger violence were males. With a median age of 23, they were approximately the same median age as the 23 patients with any gun violence. The percentage of whites (67%) was the same among perpetrators of gun violence toward a known victim and perpetrators of gun violence toward a stranger.

Like the patients who committed any gun violence (Table 1), the nine patients who committed gun violence involving strangers were well known to both the mental health and the criminal justice systems. Eight had a prior mental hospitalization (mean=4.2 hospitalizations) and a record of prior arrests, and seven had three or more prior arrests.

The clinical profiles of the nine persons with gun-and-stranger violence were nearly the same as those of the entire group of 23 persons with any gun violence. These nine people tended to have admission diagnoses of major depression (N=5, 56%), alcohol abuse (N=8, 89%), or drug abuse (N=7, 78%). Two patients (22%) were diagnosed as having bipolar disorder, and none were diagnosed as having schizophrenia. At the time of hospital admission, the nine patients with gun-and-stranger violence displayed symptoms of substance abuse (N=6, 67%), suicidal threats (N=5, 56%), hallucinations (N=1, 11%), paranoia (N=1, 11%), and anxiety (N=2, 22%); none presented with delusional symptoms. Eight of the nine (89%) had fathers who had at least two arrests, and seven (78%) had been physically abused as a child.

TABLE 1. Hospitalization and arrest histories of 23 patients with any gun violence after discharge from a psychiatric facility

Variable	N	%
Prior hospitalizations		
0	5	22
1	2	9
2	5	22
≥3	11	48
Missing data	0	—
Prior arrests		
0	2	9
1	2	9
2	3	13
≥3	12	52
Missing data	4	17

DISCUSSION

Of the 951 discharged patients available for at least one follow-up, 23 (2%) committed a violent act involving a gun, 55 (6%) committed a violent act involving a stranger, and nine (1%) committed a violent act that involved both a gun and a stranger as the victim. Violent acts that involved both a gun and a stranger as the victim constituted 3% of the 558 violent acts in which the relationship of the victim and the discharged patient was known.

The data presented here were subject to two important limitations. The first limitation was that the data were collected between 1992 and 1995 (4,5). In the past 20 years, patterns of admissions to civil psychiatric facilities, rates of violent crime, rates of incarceration in jails and prisons, and the prevalence of gun ownership have all changed. Were the MacArthur Study replicated today, the levels of gun violence toward strangers might differ—in an unknown direction—from those reported here. The second limitation was that the small size of the sample with gun violence or with strangers as victims precludes meaningful statistical analyses.

Keeping these two limitations in mind, the data suggest that the relatively few discharged patients who committed any gun violence, as well as the smaller subgroup of discharged patients who committed gun violence toward strangers, had more criminogenic risk factors than the great majority of discharged patients. Prior hospitalization rates among discharged patients who committed gun violence were comparable to those of the overall sample in the MacArthur

Study (78% and 73%, respectively, among persons with at least one prior hospitalization) (4). However, the prior arrest rate of discharged patients who later committed gun violence was almost twice as high as the prior arrest rate of the overall MacArthur sample (89%, Table 1, and 49% [4], respectively), with prior arrest rate defined as the proportion having at least one prior arrest.

None of the discharged patients who committed gun violence had an admission diagnosis of schizophrenia, compared with 20% of the overall MacArthur Study sample (4). Rather, discharged patients who committed gun violence were more than twice as likely as the overall MacArthur Study sample to have an admission diagnosis of major depression (61% and 24%, respectively) (4). Compared with the overall sample, discharged patients who committed gun violence were also much more likely to have an admission diagnosis of alcohol or drug abuse (78% and 37%, respectively) (4).

These results are consistent with several other recent studies in emphasizing the overriding importance of criminogenic factors compared with psychotic symptoms as risk factors for violence among persons with mental illnesses (6,7). Such risk factors include prior arrests and alcohol and drug abuse. For example, Skeem and colleagues (8), analyzing repetitive violence in the MacArthur data set, concluded that for the great majority (80%) of patients who committed two or more violent acts, psychotic symptoms never preceded the violent acts. For 15% of patients who committed two or more violent acts, psychotic symptoms sometimes preceded the violence and other times did not. For 5% of patients who committed two or more violent acts, psychotic symptoms always preceded the violence.

In addition, the levels of child abuse in this study are consistent with prior studies showing high rates of trauma in the criminal justice population (9), and the role of childhood physical abuse, in combination with substance use, in subsequent violence is consistent with prior findings (10). It is also worth noting that over half of the individuals with gun-and-stranger violence also had suicidal thoughts upon admission. This is important, given that persons with mental illness present a much higher risk of suicide, both generally and by gun, than of violence to others (11). Risk management on an individual basis for discharged patients with these kinds of challenges, described elsewhere (12), can be critical in maximizing safe discharge planning.

CONCLUSIONS

Public perceptions and public policies shaped by highly publicized but highly unusual instances of gun violence toward strangers are unlikely to be constructive for people with mental illnesses or for the formation of mental health policy. For the small group of people with mental illness who are at risk of committing gun violence, improved collaborations with the criminal justice system are clearly indicated (13). However, directly targeting mental illness as the major driver of gun violence is misguided. According to the best estimates available, only 4% of violence in the United States can be attributed to people with mental illness (14). Prior violence, substance use, and early trauma are more likely to contribute to subsequent violence than is mental illness per se. In this regard, the politically inspired haste to focus gun control efforts on people being treated for a mental illness, rather than on people with demonstrated indicators of violence risk, such as restraining orders related to domestic violence, seems particularly misdirected (15). Finally, federal law prohibits the possession of a gun by anyone convicted of a felony. Given that 91% of the patients who committed gun violence had previously been arrested, it is likely that many of these people should have been legally precluded from possessing a gun on the basis of their criminal history, completely independent of mental health diagnosis or history of psychiatric hospitalization.

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REFERENCES

1. Appelbaum PS: Public safety, mental disorders, and guns. JAMA Psychiatry 70:565–566, 2013
2. Swanson JW, Robertson AG, Frisman LK, et al: Preventing gun violence involving people with serious mental illness; in Reducing Gun Violence in America. Edited by Webster DW, Vernick JS. Baltimore, Johns Hopkins University Press, 2014
3. Nielssen O, Bourget D, Laajasalo T, et al: Homicide of strangers by people with a psychotic illness. Schizophrenia Bulletin 37:572–579, 2011
4. Steadman HS, Mulvey EP, Monahan J, et al: Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. Archives of General Psychiatry 55: 393–401, 1998
5. Monahan J, Steadman HS, Silver E, et al: Rethinking Risk Assessment: The MacArthur Study of Mental Disorder and Violence. New York, Oxford University Press, 2001
6. Skeem JL, Manchak S, Peterson JK: Correctional policy for offenders with mental illness: creating a new paradigm for recidivism reduction. Law and Human Behavior 35:110–126, 2011
7. Peterson JK, Skeem J, Kennealy P, et al: How often and how consistently do symptoms directly precede criminal behavior among offenders with mental illness? Law and Human Behavior 38:439–449, 2014
8. Skeem J, Kennealy P, Monahan J, et al: Psychosis uncommonly and inconsistently precedes violence among high-risk individuals. Clinical Psychological Science, in press
9. Wolff N, Shi J: Childhood and adult trauma experiences of incarcerated persons and their relationship to adult behavioral health problems and treatment. International Journal of Environmental Research and Public Health 9:1908–1926, 2012
10. Van Dorn R, Volavka J, Johnson N: Mental disorder and violence: is there a relationship beyond substance use? Social Psychiatry and Psychiatric Epidemiology 47:487–503, 2012

11. Pinals D: Firearms and mental illness: preventing fear and stigma from overtaking reason and rationality. Civil and Criminal Confinement 40: 379–402, 2014
12. Sherman ME, Burns K, Ignelzi J, et al: Firearms risk management in psychiatric care. Psychiatric Services 52:1057–1061, 2001
13. Mayor's Task Force on Behavioral Health and the Criminal Justice System: Action Plan. New York, Office of the Mayor, 2014. Available at www1.nyc.gov/assets/criminaljustice/downloads/pdf/annual-report-complete.pdf
14. Swanson JW: Mental disorder, substance abuse, and community violence: an epidemiological approach; in Violence and Mental Disorder: Developments in Risk Assessment. Edited by Monahan J, Steadman HJ. Chicago, University of Chicago Press, 1994
15. Pinals DA, Cabaj PJ, Appelbaum PS, et al: Position Statement on Firearm Access, Acts of Violence and the Relationship to Mental Illness and Mental Health Services. Arlington, Va, American Psychiatric Association, 2013

Correction to Horgan et al. (2015)

The following sentence should not have appeared in the article by Horgan and colleagues, "Health Plans' Early Response to Federal Parity Legislation for Mental Health and Addiction Services": "For the latter, on average in 2010, reviews were conducted every 31 days for mental health conditions and every 16 days for substance use disorders." The article, which was published online in *Psychiatric Services* in Advance on September 15, 2015, was reposted on September 28, 2015, with this sentence removed.