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Perpetration of Violence, Violent Victimization, and Severe Mental Illness: Balancing Public Health Concerns

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Abstract

Objective—To review empirical studies, published since 1990, of the prevalence and incidence of violent perpetration and violent victimization among persons with serious mental illness and to compare their relative importance as a public health concern.

Methods—We searched three computerized bibliographic databases, MEDLINE, PSYCH INFO, and Web of Science, using the following keywords: (1) Violent perpetration: SMI, mental illness, mental disorder, psychiatric disorder, psychopathology, violence, violent behavior, and violent act(s); and (2) Violent victimization: SMI, mental illness, mental disorder, psychiatric disorder, psychopathology, and victimization.

Results—The search yielded 31 studies of violent perpetration and 10 studies of violent victimization. Few studies examined perpetration and victimization in the same sample. Prevalence rates varied by the type of sample and time frame (recall period). Half of the studies of violent perpetration examined inpatients; of these, about half studied only committed inpatients; these studies reported higher rates of violent perpetration (17% – 50%) compared with other samples. Among outpatients with severe mental illness, 2% to 13% had perpetrated violence in the past 6 months to 3 years, compared with 20% to 34% who had been violently victimized in the same time frame. Studies combining outpatients and inpatients reported that 12% to 22% had perpetrated violence in the past 6 to 18 months versus 35% who had been a victim of violence in the past year.

Conclusions—Violent perpetration and victimization are more common among persons with severe mental illness than in the general population. Victimization is a greater public health concern than perpetration. Ironically, the discipline's focus on the perpetration of violence among inpatients may contribute to the negative stereotypes of persons with severe mental illness.

Introduction

For decades, researchers have investigated violence perpetrated by persons with severe mental illness (1–6). This research has, in part, been driven by a common perception that persons with mental illness are dangerous (7–10). Far fewer empirical studies have examined the risk of violent victimization among persons with severe mental illness (11–20), and, to our knowledge, no literature review has been published. Moreover, no literature

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review has weighed the relative importance of violent perpetration and violent victimization in persons with severe mental illness.

Reviewing the literatures on perpetration and victimization is timely. Severe mental illness is estimated to affect 1 in 17 persons, or 6% of adults (13.2 million people) in the United States (21). Long-term psychiatric hospitalizations are now rare; the median length of stay has been reduced from 41 days in 1971 to 5.4 days in 1997 (22). Consequently, more persons with severe mental illness now live in the community. Moreover, the recent homicides in Omaha and at the Virginia Polytechnic Institute and State University (Virginia Tech) have highlighted the importance of examining the role of mental illness in violent perpetration.

In this article, we review empirical studies conducted in the United States of violent perpetration and violent victimization in persons with severe mental illness published since 1990. We also weigh the relative importance of violent perpetration and violent victimization in persons with severe mental illness as public health concerns. Finally, we suggest directions for future research and discuss the implications of our conclusions for treatment and public health policy.

Methods

Definitions

Severe mental illness refers to a subset of psychiatric disorders (psychotic disorders and major affective disorders) characterized by severe and persistent cognitive, behavioral, and emotional symptoms that reduce daily functioning (21). Symptoms, despite medication and treatment, periodically worsen such that short-term hospitalization is required (21).

Procedures

All searches, restricted to studies conducted in the United States, were performed on three commonly used computerized bibliographic databases: MEDLINE, PSYCH INFO, and Web of Science. Studies were included if they met the following criteria: (1) Published empirical investigations of recent (not lifetime) prevalence or incidence of violent perpetration or violent victimization; (2) Studies of persons in treatment for severe mental illness; of special populations (e.g., homeless persons) if separate rates were reported for persons with severe mental illness; and of non-treatment (community) samples if investigators compared persons with and without severe mental disorders.

Our searches and keywords are as follows:

1. **Violent perpetration by persons with severe mental illness:** SMI, mental illness, mental disorder, psychiatric disorder, psychopathology, violence, violent behavior, and violent act(s);
2. **Violent victimization of persons with severe mental illness:** SMI, mental illness, mental disorder, psychiatric disorder, psychopathology, and victimization. Violent victimization includes rape and sexual assault, robbery, and physical assault (23).

Results

Violence Perpetrated by Persons with Severe Mental Illness

Incidence—*Incidence* refers to the number of new cases of a disease that occur during a specified period of time in a population at risk for developing the disease (24). We could not find any studies that measured the incidence of violent perpetration.

Prevalence—*Prevalence* refers to the number of affected persons present in the population divided by the number of persons in the population within a given period of time (24). Table 1 lists studies of the prevalence of violent perpetration by the type of sample.

Outpatients—Table 1 shows that four studies examined outpatients (11,12,25,26). Prevalence of violence ranged from 2.3% (11) to 13.0% (25) and varied by the time frame (recall period) and the type of measure. The rates in the study by Brekke et al. (11) were lower than other studies' because of their narrow definition of violence -- criminal charges for a violent crime in the past 3 years (2.3%) and contacts with police for aggression against others (6.4%). Conversely, the rates in the study by Bartels et al. (25) were likely higher than other studies' rates because they examined self-reported violence among "the most severely disturbed patients" discharged from a state hospital. One study (26) used a sample too small (n=42) to generate reliable prevalence rates.

Psychiatric Emergency Room Patients—Table 1 shows that two studies examined psychiatric emergency room patients. Prevalence of violence ranged from 10.0% in the 2 weeks prior to patients' emergency room visits (27) to 36.0% in the previous 3 months (28). McNiel et al. (27) may have found lower rates than other studies because they used mental health records to assess violence instead of self-report. Conversely, Gondolf et al. (28), who studied an "accidental" sample (n=389), may have found rates higher than other studies because they used self-reports *and* hospital records.

Inpatients—Table 1 shows that of the 31 published articles on violent perpetration in persons with severe mental illness, approximately half (48%, 15/31) (29–43) examined samples composed solely of inpatients. Of these, more than half (53%, 8/15) (29,34–39,41) included *committed* inpatients in their sample; four studies examined *only* committed inpatients (29,34,35,41). Prevalence rates vary widely, depending on the measure of violence and when the violence took place relative to the hospitalization.

Violence before hospitalization: Findings varied by time frame and by the type of illness; prevalence ranged from 14.2% among voluntary inpatients in the month before hospitalization (43) to 50.4% among committed inpatients in the 4 months prior to hospitalization (41). Committed inpatients may have higher rates of violence than other inpatients because of the national dangerousness standard used in many states' commitment procedures, in which being "imminently" or "probably" dangerous precipitates hospitalization (44). Overall, the prevalence of violence was highest in studies of committed inpatients; those that used broader definitions of violent behavior (35,41); and those that measured self-reported violence (35,41) instead of using medical chart reviews (29,40) or official records (medical records, police records, and civil commitment forms) (31).

Violence during hospitalization: Prevalence rates varied from 16.0% (during the first week of hospitalization) to 23.0% (occurring any time during hospitalization). Table 1 shows that all four studies of violence during hospitalization examined patients in locked units and assessed violence using medical chart reviews (29,32,34).

Violence after hospitalization: Findings varied by type of sample and time frame; the lowest prevalence rates of self-reported "physical violence" (3.7%) were reported within two weeks after discharge by voluntary inpatients (42); the highest rates (27.5%) were reported in inpatients participating in the MacArthur Risk Violence Assessment Study one year after discharge, of whom over two-fifths were involuntarily committed (39). Involuntary patients were significantly more likely to be violent at follow-up than voluntary patients (45). Table 1 shows that the prevalence of violence in the MacArthur Risk Violence

Assessment Study decreased with time. Of note, after controlling for substance abuse, there were no significant differences in the prevalence of violence between their sample and a control group of persons without mental disorders who lived in the community (39).

In sum, studies of inpatients with severe mental illness show that violent perpetration is most prevalent among committed patients prior to hospitalization, when violence may have precipitated their commitment. Moreover, prevalence rates are higher in studies that assess a broad range of self-reported violent acts than in those that rely solely on medical chart reviews.

Studies Combining Inpatients and Outpatients—Six studies combined inpatients and outpatients. All collected self-reported data; time frames varied from the past six months (46,47) to the past 18 months (48). Prevalence rates of violence ranged from 12.3% to 26.0% (46–51), lower than prevalence rates found in most studies of inpatients and higher than those found in most studies of outpatients. The highest rate (26.0%), reported by Elbogen et al. (49), combined self-reported violent behavior and *any* arrest (violent and non-violent), which may have inflated their rates.

Community Samples—Table 1 shows that only four of the 31 articles examined community samples (52–55). Data for these four articles were drawn from two multi-site community surveys of mental disorders (National Institute of Mental Health Epidemiologic Catchment Area [ECA] survey (53–55) and the National Comorbidity Survey [NCS] (52)). Because these surveys were not designed to assess violent behavior, the authors derived a dichotomous variable, *any violence* (yes/no), from the sections on mental disorders, physical health, and recent life events.

In studies using the ECA data (53–55), the authors used five questions from the Diagnostic Interview Schedule's antisocial personality disorder and alcohol use disorder modules; respondents were scored as *violent* if they responded positively to one or more items. Items varied in severity, from “physical fighting while drinking” to “used weapon in a fight.” Among persons with severe mental illness, prevalence of any violent behavior in the past year ranged from 6.8% to 8.3% (53–55) -- up to 4 times higher than among persons who were *not* diagnosed with a mental disorder. Swanson et al. also examined differences by age, gender, and socioeconomic status when comparing persons with major mental disorders and persons without any disorder (54,55); however, cell frequencies were too small to estimate the effect of major mental disorder separately within sociodemographic categories (56).

In the study using the NCS data (52), respondents were scored as violent if they reported they “had serious trouble with the police or the law” or “had been in a physical fight.” Analyses focused on differences among diagnostic groups. Prevalence of violence ranged from 4.6% in the past year for a lifetime diagnosis of major depressive disorder to 16.0% for a past-year diagnosis of bipolar disorder, 2 to 8 times higher than persons without a mental disorder. Findings from this study, however, conflate violent behavior with involvement with the police, which may or may not have been precipitated by violence.

Violent Victimization in Persons with Severe Mental Illness

Incidence—Most general population studies of crime victimization -- such as the National Crime Victimization Survey (NCVS) (23) -- examine incidence. To our knowledge, only one study of adults in treatment with severe mental illness investigated the incidence of recent violent victimization (19). Using the same instruments as the NCVS, Teplin et al. (19) examined 936 randomly selected persons with severe mental illness from a random sample of treatment facilities --outpatient, day treatment, and residential treatment -- in Chicago, Illinois. There were 168.2 incidents of violent victimization per 1000 persons per year, more

than 4 times greater than general population rates. Incidence ratios remained statistically significant even after controlling for sex and race/ethnicity.

Prevalence—Table 2 shows that all 10 studies examined self-reported prevalence of victimization. Prevalence varies because of differences in sample sizes, time frames, and the type of sample. Some studies had samples too small to generate reliable prevalence rates of relatively uncommon events such as violent victimization (15). Studies of treatment populations with larger samples ($n \geq 100$) found prevalence rates of recent violent victimization between 8.2% (in the past 4 months) (16) and 35.0% (in the past year) (14). The largest study of homeless persons with severe mental illness (17) found that 44.0% had been victimized violently in the past 2 months. Among studies that assessed violent victimization occurring within the past year -- the same time frame as the NCVS -- prevalence rates ranged from 19.7% (19) to 35.0% (14), compared with 2.9% in the NCVS.

Prevalence rates appear to vary by type of victimization. However, these differences may be because of the way victimization was measured. For example, White et al. (20) asked only one question about victimization in the past 6 months. Other studies (13,14,17,19) collected detailed information on the type of victimization.

Prevalence rates also varied by the type of sample. For example, 19.0% of the sample of outpatients and residential treatment patients in the study by Teplin et al. (19) and 35.0% of the combined sample of inpatients and outpatients in the study by Goodman et al. (14) had been victims of physical assault in the past year. Similarly, prevalence of rape and sexual assault in the past year ranged from 2.6% (19) among outpatients to 12.7% (14) in a combined sample of outpatients and inpatients. Prevalence of victimization in homeless persons with severe mental illness is generally higher than in treatment samples (13,17). Irrespective of the type of sample and victimization, prevalence is much higher in all studies listed in Table 2 than in the general population, as found in the NCVS (23).

Comparing Violent Perpetration and Violent Victimization

Are persons with severe mental illness more likely to be perpetrators of violence or victims of violence? Table 3 summarizes and compares the prevalence of violent perpetration and victimization from the studies in Table 1 and Table 2.

Only three studies assessed perpetration *and* victimization in the same participants. Brekke et al. (11) found that among outpatients with schizophrenic disorders, 6.4% had contact with police for “aggression against others” in the past three years compared with 34.0% who reported being violently victimized. The marked differences in rates may be because violent perpetration was counted only if the person had contact with the criminal justice system; many violent behaviors do not come to the attention of the police or culminate in formal processing (57,58). Had the authors used a broader measure of violence, the reported differences between violent perpetration and victimization might have been less dramatic. Brunette and Drake (12) had similar findings; 6.4% of their sample had been physically aggressive in the past year compared with 19.8% who had been a victim of a violent crime in the past year. In the Outpatient Commitment Study, Swanson et al. (41) found that among committed inpatients, the prevalence of violent perpetration in the four months prior to commitment ranged from 17.8% (for “serious violence”) to 50.4% (using a broader measure of violence) (41); in contrast, 8.2% reported violent victimization (16).

Why is the prevalence of violent perpetration so high in the Outpatient Commitment Study? Most likely, it was because participants were sampled soon after commitment. The authors did not indicate the proportion of their sample that was committed *because* of their violent behavior. Discrepancies between violent perpetration and victimization might also have

occurred because of differences in the definitions of violence. Victimization was narrowly defined as self-reported “violent crimes;” violent perpetration referred to a range of violent behaviors elicited from patients and their collaterals, as well as hospital records.

The MacArthur Violence Risk Assessment Study provides some information comparing violent perpetration and violent victimization among discharged inpatients. The authors report that 13.5% had perpetrated violence (39) and 15.2% had been victims of violence (18) ten weeks after discharge from a psychiatric inpatient unit. However, because one article used a subsample (18), the rates are not directly comparable.

Other studies listed in Table 3 show that irrespective of the type of sample and regardless of the time frame, violent victimization is more prevalent than violent perpetration. For example, among outpatients and residential patients with severe mental illness, 20.0% to 34.0% (11,12,19,20) (depending on the time frame and gender) had been a victim of recent violence compared with 2.0% to 13.0% (11,12,25) who had perpetrated violence. Similarly, in samples combining outpatients and inpatients, 35.0% had reported a violent victimization in the past year (14) compared with 12.0% to 22.0% (depending on whether the time frame was 12 months or 18 months) who had reported recent violent perpetration (46–50).

Conclusions

Violent perpetration and victimization are more common in persons with severe mental illness than in the general population (19,53–55). Studies analyzing the Epidemiologic Catchment Area data found that approximately 2% of persons without a mental disorder perpetrated violence in the past year compared with 7% to 8% of persons with severe mental illness (53–55). For victimization, the disparity between the general population (3%) and persons with severe mental illness (25%) is even greater, as found in the NCVS (19).

Overall, our review does not support the stereotype that persons with severe mental illness are typically violent (7–10). This stereotype may persist, in part, because of researchers’ focus on inpatients. Although fewer than 17% of persons with severe mental illness in the United States are hospitalized (59), nearly half of the studies that investigate violence in persons with severe mental illness examined only inpatients (29–43). Among these, the largest and most well-cited studies focused on *involuntarily* committed inpatients. The Outpatient Commitment Study included *only* involuntarily committed inpatients. Two-fifths of the MacArthur Risk Assessment Study’s sample had been involuntarily committed, a significant predictor of subsequent violence (45). Because commitment criteria include imminent dangerousness (to self or others) (44), findings derived from samples of involuntarily committed patients are generalizable only to the most acutely disturbed patients who have required the courts to intervene.

How much violence in the United States is caused by persons with mental illness? One study found that overall, the attributable risk of mental illness to perpetrating violence in the United States is approximately 2% (52); by comparison, demographic variables -- gender and age -- are more powerful predictors of violence (52); 75% of violent crimes are perpetrated by males younger than 18 years (60).

Despite the small attributable risk of severe mental disorders on violent perpetration, negative stereotypes of persons with severe mental illness dominate the public’s view (61,62) and behavioral scientists’ focus. Among 39 studies that met our inclusion criteria, 79% (n=31) studied violent perpetration. The focus on violent perpetration extends to non-empirical articles as well. A computerized search of MEDLINE and PsycINFO yielded 283 empirical or review articles mentioning crime victimization in persons with mental illness; more than 13 times that many articles were found on violent perpetration (19).

Based on our review, we suggest the following directions for research and mental health policy.

Directions for Future Research

We suggest that future studies:

1. **Focus on victimization.** Symptoms of severe mental illness -- poor judgment, impaired reality testing, disorganized thought processes (63–66) -- and homelessness, a phenomenon common among persons with severe mental illness (13,17), increase susceptibility to violent victimization. To guide the development of effective interventions, the field needs studies of patterns of vulnerability, risk, and sequelae of violent victimization. For example, studies must investigate how clinical symptoms and environment (e.g., homelessness, lifestyle, impoverished neighborhoods) interact to affect victimization. Researchers must also investigate the long-term consequences.
2. **Study perpetration and victimization in the same sample using comparable definitions and measures.** The field has been hampered by the paucity of studies that examine perpetration and victimization in the same sample and by the lack of consistency in definitions and measures within and across studies. We recommend that future studies use established, validated definitions and measures of violence and victimization. Standardized instruments such as the NCVS provide comprehensive data on the prevalence, incidence, and patterns of victimization and are comparable to national general population data. We also recommend multimethod/cross-validated designs (e.g., using self-reports *and* arrest records) and suggest that future investigators study incidence as well as prevalence.
3. **Investigate community populations, not only persons in treatment.** Nearly 90% (27/31) of the studies of perpetration that we reviewed sampled patients from clinics or hospitals (11,12,25–43,46–51); among studies that examined prevalence of victimization, all sampled persons in treatment. We need information on the estimated 5 million persons with severe mental illness in the United States who do *not* receive treatment (67). Cost-effective strategies include adding items from the NCVS and from established assessments of violence to community-based epidemiologic surveys (19).
4. **Improve the prediction of violent perpetration.** Some “positive” symptoms of psychosis -- persecutory delusions, suspiciousness, hallucinations, grandiosity, and symptoms that undermine internal control and threaten harm -- *increase* the risk of perpetrating violence (47,48,68–70) (In contrast, see Appelbaum et al., 2000 (71). In addition, specific “negative” symptoms of psychosis -- lack of spontaneity and flow of conversation, passive/apathetic social withdrawal, blunted affect, poor rapport, and difficulty in abstract thinking -- may *decrease* the risk of serious violence (47). To improve the prediction of violence, however, the field must focus on a broader array of variables, not only on *symptoms* of mental illness. Multiple iterative classification trees are a promising approach, whereby researchers combine personal, clinical, contextual, and historical risk factors to predict the likelihood of future violence (37,72,73). To date, however, this technique has been applied only to discharged psychiatric inpatients to predict their short-term outcomes (20 weeks). Studies should be replicated in other populations -- outpatients and persons who are not in treatment -- and should examine long-term outcomes. Understanding the key risk factors for violence will provide the foundation for effective prevention strategies.

5. **Disentangle the causal relationships among severe mental illness, victimization, and perpetration.** Violent perpetration and victimization occurs within a socio-environmental context. Hiday et al. (74) posit a theoretical model whereby social disorganization and poverty -- phenomena common among many persons with severe mental illness -- increase persons' vulnerability to victimization *and* their propensity to perpetrate violence. Repeated victimizations may lead to suspicion and mistrust, which, in turn, may lead to conflictive and stressful situations -- in short, a *cycle* of victimization and perpetration (74). Future studies should examine how the socio-environmental context moderates and mediates the relationship between victimization and perpetration.

Implications for Treatment and Mental Health Policy

We suggest the following:

1. **Encourage mental health centers to assess risk for victimization *and* perpetration.** Improving detection is the first step to improving services (19). Mental health service providers can then implement programs for those at greatest risk. To reduce victimization, interventions should include information about modifiable risk factors -- substance abuse, homelessness, medication adherence, conflictual relationships -- that can help persons with severe mental illness to develop skills that enhance personal safety and improve conflict management. To reduce violent perpetration, interventions should address managing symptoms -- identifying triggers, coping with psychotic symptoms or mood changes, and adhering to medication regimens.
2. **Disseminate information about the relative risk of violent perpetration and victimization.** To reach policy makers and the general public, researchers should disseminate research findings in lay journals and newspapers (75). Media campaigns -- on television and in newspapers -- may reduce stigma by improving the public's image of persons with severe mental illness. Increased public awareness may also stimulate needed community and federal support for employment, housing, and social services for persons with severe mental illness.
3. **Reduce barriers to mental health treatment.** Treatment that combines medication management, psychotherapy, and case management can decrease victimization (76) and violent behavior (45,77,78). However, persons with severe mental illness often face substantial barriers to receiving mental health services; the Epidemiologic Catchment Area survey found that 40% of persons with severe mental illness did not receive any care in a one-year period (59). Internal barriers, such as the stigma of mental illness and the denial of illness, may prevent persons from seeking care (59,79). Structural barriers include limited access to public transportation, transient living conditions that interfere with continuity of care, and language barriers (59,80). Reducing barriers to treatment could concomitantly reduce victimization and violent behavior.
4. **Develop and evaluate innovative programs for persons with severe mental illness and comorbid substance use disorders.** The Substance Abuse and Mental Health Services Administration estimates that approximately half of persons with severe mental illness have also had a substance use disorder in their lifetime (81). Treating substance abuse in persons with severe mental illness is crucial to reducing victimization and perpetration. Despite its importance, the development of effective treatments for persons with comorbid mental and substance use disorders has lagged behind the need (82). Effective treatments will reduce exposure to risk

factors associated with the environment of substance abuse and thus the likelihood of victimization and perpetration.

Although society may regard persons with mental illness as dangerous criminals (8,10), our review of the literature shows that violent victimization of persons with severe mental illness is a greater public health concern than violent perpetration. Although some symptoms of severe mental illness are correlated with violence, serious mental disorder accounts for only a modicum of violence. Ironically, the discipline's focus on the perpetration of violence among inpatients may contribute to the negative stereotypes of persons with severe mental illness, which are often based on the *label* of "mental patient," not on observed behavior (83,84). We must balance the dual public health concerns of protecting the safety of the public and protecting persons with severe mental illness from crime victimization.

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Table 1
Prevalence of Violent Perpetration Among Persons with Severe Mental Illness: Summary of the Literature Since 1990

Type of Sample	Study	Sample	Time frame	Type of data collection	Definition of violence	Prevalence of perpetration
OUTPATIENTS						
	Bartels et al., 1991	133 outpatients with schizophrenic disorders	Past 6 months	Interview, record review	Assaultive behavior; destruction of property	13.0%
	Boles & Johnson, 2001	42 outpatients enrolled in clinical case management	Past year	Interview	Physical injury; weapon use or threat; sexual assault; pushing, grabbing, or throwing something	42.9%
	Brekke et al., 2001	172 outpatients with schizophrenic disorders	Past 3 years (every 6 months)	Interview	Police contact for aggression against others	6.4%
	Brunette & Drake, 1997	172 case-management outpatients and substance use disorders	Past year	Interview	Criminal charges for a violent crime	2.3%
					Physical aggression	11.5% (Women); 8.4% (Men); 6.4% (Overall), [†]
PSYCHIATRIC EMERGENCY ROOM PATIENTS						
	Gondolf et al., 1990	389 persons who visited a psychiatric emergency room	3 months before visit to the emergency room	Interviews and hospital records	Pushed, physically fought, hit, beat up; threatened or attacked with a weapon; sexual assault	36.0%
	McNiel & Binder, 2005	2,294 psychiatric emergency room patients	2 weeks before visit to emergency room	Archival databases	Physical aggression against others; threats with a lethal weapon; sexual assault	10.0%
INPATIENTS						
Before hospitalization	Binder & McNiel, 1990	253 committed inpatients on a locked unit	2 weeks	Medical chart review by trained professionals	Physical attacks	20.9%
	Kalunian et al., 1990	195 geriatric inpatients	2 weeks	Medical records, police records, civil commitment forms, collateral contacts	Physical assault	20.0%
	Straznickas et al., 1993	581 short-term inpatients on a locked unit	2 weeks	Medical chart review by trained clinical staff	Hitting, choking, pushing	19.4%
	Tardiff et al., 1997	760 voluntary inpatients	1 month	Close-ended structured interview	Physical violence toward persons	14.2%
	Swanson et al., 1998 *	331 committed inpatients awaiting outpatient commitment treatment	4 months	Structured interview with patients, hospital records, or interview with collateral informant	Physical fighting, threatened one with a weapon, picked up or arrested for assault	50.4%

Type of Sample	Study	Sample	Time frame	Type of data collection	Definition of violence	Prevalence of perpetration
					Caused injury, used/ threatened with a weapon ("serious violence")	17.8%
	McNiel et al., 2000	103 committed inpatients (for at least 4 days)	2 months	Self-reported questionnaires	Physical aggression against or threats to persons with a lethal weapon	44.7%
During hospitalization	Binder & McNiel, 1990 ^a	253 committed inpatients on a locked unit	First 3 days	Medical chart review by trained professionals	Physical attacks	17.4%
	Lowenstein et al., 1990	127 short-term inpatients on locked unit	Any time during hospitalization	Nurse's observations (medical chart review)	Physical aggression against persons	21.3%
	McNiel & Binder, 1994	330 committed short-term inpatients on locked unit	Any time during hospitalization	Nurse's observations (medical chart review)	Physical aggression against persons	23.0%
	McNiel & Binder, 1995	226 inpatients on short-term locked unit	First week	Nurse's observations (medical chart review)	Physical aggression against persons	16.0%
After discharge	Estroff et al., 1994	169 discharged inpatients	18 months (every 6 months)	Interview, records	Arrested/ charged and adjudicated for assault, battery, manslaughter, or murder; committed to psychiatric treatment because hit, sexually assaulted, or threatened another with object/weapon	14.6%
	Tardiff et al., 1997	430 discharged voluntary inpatients	2 weeks	Close-ended structured interview	Physical violence	3.7%
	Steadman et al., 1998 [#]	1,136 discharged inpatients and 519 neighborhood controls	1 year (every 10 weeks for 5 follow-up periods [1 st –5 th])	Interview with patient, interview with collateral informant, rehospitalization and arrest records	Batteries resulting in physical injury or involved use of a weapon; sexual assaults; threats made with a weapon	27.5% (1 st); 13.5% (1 st); 10.3% (2 nd); 6.9% (3 rd); 7.6% (4 th); 6.3% (5 th)
	Silver et al., 1999 [#]	293 discharged inpatients	20 weeks	Same as Steadman et al., 1998	Same as Steadman et al., 1998	14.0%
INPATIENTS & OUTPATIENTS	Monahan et al., 2000 [#]	939 discharged inpatients	20 weeks	Same as Steadman et al., 1998	Same as Steadman et al., 1998	18.7%
	Monahan et al., 2005 [#]	177 discharged inpatients	20 weeks	Same as Steadman et al., 1998	Same as Steadman et al., 1998	22.9%
INPATIENTS & OUTPATIENTS						
	Link et al., 1992	232 former and current inpatients and outpatients	Past year	Interview	Hitting	12.3%

Type of Sample	Study	Sample	Time frame	Type of data collection	Definition of violence	Prevalence of perpetration
	Swanson et al., 1997	298 outpatients and inpatients from the Epidemiologic Catchment Area survey (ECA) and the Triangle Mental Health Survey (TMHS)	ECA: past year TMHS: past 18 months	Interview, hospital and court records	Fought more than once with swapping blows, excluding fights with partners; used weapon in a fight; hit or threw things; spanked or hit a child resulting in bruises, bed rest, or doctor's visit	17.0% (ECA); 16.2% (TMHS)
	Swanson et al., 2002	802 inpatients and outpatients	Past year	Interview	Physical fighting or assault resulting in bodily injury; use of a lethal weapon to harm or threaten someone; sexual assault	13.0%
	Swanson et al., 2004	229 inpatients and outpatients with schizophrenia spectrum disorders	Past 6 months and past 1 year	Interview, medical chart review, civil commitment documents, arrest records	Physical fighting with and without injury; weapon use	15.3% (past 6 months); 21.8% (past year)
	Swanson et al., 2006	1,410 inpatients and outpatients, with schizophrenia	Past 6 months	Interview, family collateral information	Minor violence: Simple assault without injury or weapon use; Serious violence: Assault using a lethal weapon or resulting in injury; threat with lethal weapon; sexual assault	19.1% (any violence); 15.5% (minor violence); 3.6% (serious violence)
	Elbogen et al., 2007	907 inpatients and outpatients receiving public mental health services in 4 U.S. states	Past year	Interview	Physical fighting/actions causing bodily injury; harm or threaten another with a lethal weapon; sexual assault; an arrest of any type	26.0%
COMMUNITY SAMPLES						
	Swanson et al., 1990	10,059 persons from 3 sites (Baltimore, Raleigh-Durham, and Los Angeles) of the ECA survey	Past year	Structured interview	Fought more than once with swapping blows, excluding fights with partners; used weapon in a fight; physical fighting while drinking; hit or threw things; spanked or hit a child resulting in bruises, bed rest, or doctor's visit	3.7% (overall); 2.1% (no mental illness [MI]); 11.7% (major depressive disorder [MDD]); 11.0% (mania); 12.7% (schizophrenic disorders)
	Swanson, 1993	7,053 persons from 2 sites (Durham and Los Angeles) of the ECA survey	Past year	Structured interview	Two indices of violence: (1) Same as Swanson et al., 1990 (5-items); (2) Same as Swanson et al., 1990 <i>minus</i> "fighting while drinking" (4 items)	5 items: 7.0% (SMI); 2.3% (No MI) 4 items: 6.8% (SMI); 2.0% (No MI)
	Silver & Teasdale, 2005	3,438 persons from 1 site (Durham) of the ECA survey	Past year	Structured interview	Same as Swanson et al., 1990	3.2% (overall); 8.3% (SMI)

Type of Sample	Study	Sample	Time frame	Type of data collection	Definition of violence	Prevalence of perpetration
	Corrigan & Watson, 2005	5,865 persons from the National Comorbidity Survey	Past year	Structured interview	Same as Swanson et al, 1990	2.6% (overall); 2.0% (no MI); 4.6% (MDD, lifetime); 7.1% (MDD, 12 months); 12.2% (bipolar, life); 16.0% (bipolar, 12 months); 11.5% (psychosis, lifetime); 3.2% (psychosis, 12 months)

[†] Because the authors did not report findings for the entire sample, we derived this percentage by dividing the total number of “physical aggressions” (n=11) by the total number of persons in the sample (N=172).

^{*} From the Outpatient Commitment Study.

[^] This study is the same as Binder & McNiel (1990) listed in the INPATIENTS: Before Hospitalization subsection; the authors measured violent perpetration before *and* during hospitalization.

[#] From the MacArthur Violence Risk Assessment Study, a prospective study assessing violence risk in discharged inpatients (N=1,136) from acute psychiatric inpatient facilities in three U.S. cities; the authors also compared their sample with community controls from a similar neighborhood (N=519). Because the study drew from 3 different sites, researchers have also examined subsamples. All reported prevalence rates are for discharged inpatients only, excluding the community controls.

Table 2
Prevalence of Violent Victimization Among Persons with Severe Mental Illness: Summary of the Literature Since 1990

Type of Sample	Study	Sample	Time frame	Type of data collection	Definition of violence	Prevalence of violent victimization
OUTPATIENTS, DAY, & RESIDENTIAL PATIENTS						
	Brekke et al., 2001	172 outpatients with schizophrenic disorders	Past 3 years	Interview	Physical assault, rape, robbery	34.0%
	Brunette & Drake, 1997	172 case- management outpatients with comorbid substance use disorders	Past year	Interview	Violent crime	32.4% (women); 16.8% (men); 19.8% (overall) [†]
	Goodman et al., 1999	50 outpatients	Past year	Interview	Physical assault; sexual assault	55.0% (women); 40.0% (men)
	Teplin et al., 2005	936 outpatients, day, and residential treatment patients	Past year	Structured interview	Physical assault, rape or sexual assault, robbery	25.3%
	White et al., 2006	308 patients receiving short- term residential treatment	Past 6 months	Structured interview	Rape, mugging, or robbery	25.6%
INPATIENTS						
Before hospitalization	Hiday et al., 1999 [*]	331 committed inpatients awaiting outpatient commitment treatment	4 months	Structured interview with patients	Violent crime including physical assault, rape, or mugging	8.2%
After discharge	Silver, 2002 [#]	270 discharged inpatients and 477 neighborhood controls	10 weeks	Interview (patient and collaterals); medical chart and arrest records review	Physical or sexual assault, use of/ threat with a weapon	15.2%
INPATIENTS & OUTPATIENTS						
	Goodman et al., 2001	782 inpatients and outpatients	Past year	Structured interview	Physical and sexual assault	35.0%
HOMELESS PERSONS WITH SEVERE MENTAL ILLNESS						
	Goodman et al., 1995	99 homeless women	Past month	Interview	Physical or sexual abuse	20.0% (physical); 15.0% (sexual)
	Lam & Rosenheck, 1998	1,839 homeless persons	Past 2 months	Interview	Robbery, theft, threat with weapon, physical or sexual assault	44.1%

[†] Because the authors did not report findings for the entire sample, we derived this percentage by dividing the total number of violent victimizations (n=34) by the total number of persons in the sample (N=172).

^{*} From the Outpatient Commitment Study.

[#] From the MacArthur Violence Risk Assessment Study. Prevalence rates are for discharged inpatients only.

Table 3

Comparing the Prevalence of Violent Perpetration and Victimization Among Persons with Severe Mental Illness: Summary of the Literature Since 1990

Type of Sample	Studies of violent perpetration	Time frame	Range of prevalence of violent perpetration	Studies of violent victimization	Time frame	Range of prevalence of violent victimization
Outpatients, day, and residential patients	Bartels et al., 1991; Brekke et al., 2001; Brunette & Drake, 1997	Past 6 months to past 3 years	2.3% – 13.0%	Brekke et al., 2001; Brunette & Drake, 1997; Teplin et al., 2005; White et al., 2006	Past year to past 3 years	19.8% – 34.0%
Inpatients and outpatients	Elbogen et al., 2007; Link et al., 1992; Swanson et al., 1997; Swanson et al., 2004; Swanson et al., 2006	Past 6 to 18 months	12.3% – 21.8%	Goodman et al., 2001	Past year	35.0%
Inpatients	Outpatient Commitment Study	4 months before hospitalization	17.8%; 50.4%*	Outpatient Commitment Study	4 months before hospitalization	8.2%
	Binder & McNiel, 1990; Kalunian et al., 1990; McNiel et al., 2000; Straznickas et al., 1993; Tardiff et al., 1997	2 weeks to 2 months before hospitalization	14.2% – 44.7%			
	Binder & McNiel, 1990; Lowenstein et al., 1990; McNiel & Binder, 1994; McNiel & Binder, 1995	First 3 days to any time during hospitalization	16.0% – 23.0%			
	MacArthur Violence Risk Assessment Study Steadman et al., 1998 Monahan et al., 2000; Monahan et al., 2005; Silver et al., 1999; Steadman et al., 1998	10 weeks after hospital discharge 20 weeks – 1 year after hospital discharge	13.5% 14.0% – 27.5%	MacArthur Violence Risk Assessment Study Silver, 2002	10 weeks after hospital discharge	15.2%
Inpatients	Estroff et al., 1994; Tardiff et al., 1997	2 weeks to 18 months after hospital discharge	3.7% – 14.6%			
Psychiatric emergency room patients	Gondolf et al., 1990; McNiel & Binder, 2005	2 weeks before ER visit	10.0% – 36.0%			
Homeless persons with severe mental illness				Goodman et al., 1995; Lam & Rosenheck, 1998	Past 1 - 2 months	44.1%
Community samples	Silver & Teasdale, 2005; Swanson, 1993; Swanson et al., 1990	Past year	6.8% – 8.3%			

* 17.8% refers to "serious violence;" 50.4% refers to a broader measure of violent perpetration.