

stood that CMS would correct them, opponents seized an opportunity to exaggerate the magnitude of disruptions from the changes. Some also objected to the adoption of the APR-DRG system on the grounds that it is a proprietary product and not in the public domain.

The increased attention being paid to payment accuracy is likely to extend beyond the realm of inpatient services. Hospitals are facing increased competition in profitable service areas as more types of care move to outpatient settings, including physicians' offices. This competition presents

a broader challenge to the industry than that from specialty hospitals. The trend toward physicians' provision of more services that are particularly profitable also means that more medical spending is being influenced by incentives for self-referral.

Health care providers appear to be more responsive than ever to financial incentives, making the case for aligning payment rates with the quantity and quality of care more compelling. Without policies that ensure more accurate payment methods, providers will increasingly gravitate toward the medical problems and pro-

cedures that boost their bottom line, and the care we receive may not be the care we need.

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## Violence and Mental Illness — How Strong Is the Link?

Richard A. Friedman, M.D.

On Sunday afternoon, September 3, 2006, Wayne Fenton, a prominent schizophrenia expert and an associate director at the National Institute of Mental Health (NIMH), was found dead in his office. He had just seen a 19-year-old patient with schizophrenia who later admitted to the police that he had beaten Fenton with his fists.

This tragic incident was widely publicized and raises, once again, the controversial question about the potential danger posed by people with mental illness. The killing also left many in the mental health and medical communities concerned about their own safety in dealing with psychotic patients. After all, if an expert like Fenton, who understood the risks better than most, could not protect himself, who could?

It is not an idle question. Ac-

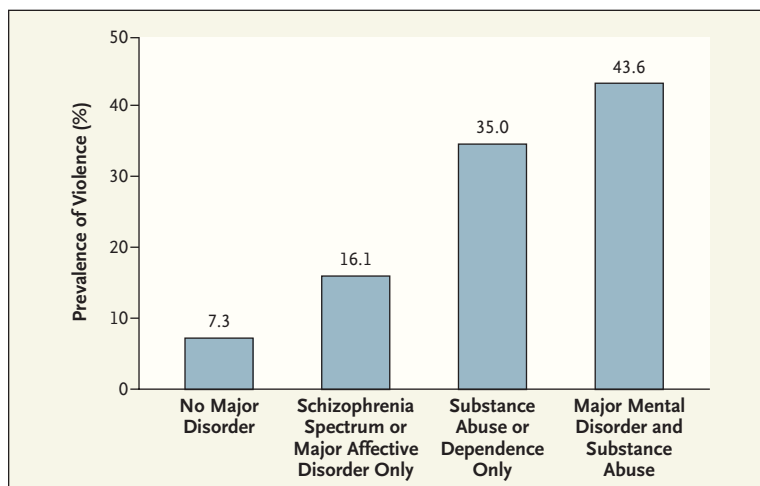
cording to the National Crime Victimization Survey for 1993 to 1999, conducted by the Department of Justice, the annual rate of nonfatal, job-related, violent crime was 12.6 per 1000 workers in all occupations. Among physicians, the rate was 16.2 per 1000, and among nurses, 21.9 per 1000. But for psychiatrists and mental health professionals, the rate was 68.2 per 1000, and for mental health custodial workers, 69.0 per 1000.

For Tim Exworthy, a forensic psychiatrist at Redford Lodge Hospital in London who was recently assaulted by a patient, the risk of job-related violence is no longer a dry statistic. He was beaten unconscious by a 19-year-old psychotic man whom he had been treating in the hospital for 5 months. "I was talking with him in a room and telling him why he couldn't leave, when I was suddenly aware

of a few blows to my head," recounted Exworthy. "The next thing I knew, I was at the nursing station wiping the blood off my face. I never saw this coming and hadn't anticipated that he would react like that."

Such attacks by psychotic patients highlight a larger question: Are people with mental illness really more likely than others to engage in violent behavior? If so, which psychiatric illnesses are associated with violence, and what is the magnitude of the increase in risk?

Posing these questions is itself not without risk: being perceived as dangerous can have a devastating effect on a person's prospects for relationships, employment, housing, and social functioning. People with mental illness already bear the burden of much social stigma, and I am loath to add to



**Lifetime Prevalence of Violent Behavior among Persons with or without Major Psychiatric Disorders and Substance Abuse.**

The criteria for violent behavior were use of a weapon in a fight and engaging, with someone other than one's partner or spouse, in a fight that came to blows. Persons were considered to have a relevant psychiatric disorder if they met the lifetime criteria delineated in the *Diagnostic and Statistical Manual of Mental Disorders* (third edition) for schizophrenia, bipolar disorder, or major depression and had had active symptoms of that disorder within the previous 12 months. Data are from Swanson.<sup>3</sup>

it. But without a realistic understanding of this risk, medical practitioners can neither provide the best care for their patients nor ensure their own safety when the clinical situation warrants it.

Until recently, most studies have focused on the rates of violence among inpatients with mental illness or, conversely, the rates of mental illness among people who have been arrested, convicted, or incarcerated for violent crimes.<sup>1</sup> For example, one national survey showed that the lifetime risk of schizophrenia was 5% among people convicted of homicide — a prevalence that is much higher than any published rate of schizophrenia in the general population — suggesting an association between schizophrenia and homicide conviction.<sup>2</sup> These studies, however, tend to be limited by selection bias: subjects who are arrested, incarcerated, or hospitalized are by definition more likely to be

violent or very ill and thus are not representative of psychiatric patients in the general population.

A more accurate and less biased assessment of the risk of violence perpetrated by the mentally ill comes from epidemiologic studies of community samples. The best known is the NIMH's Epidemiologic Catchment Area (ECA) study, which examined the rates of various psychiatric disorders in a representative sample of 17,803 subjects in five U.S. communities. Although this study was not initially designed to assess the prevalence of violent behavior, data on violence were collected for about 7000 of the subjects.<sup>3</sup> "Violence" was defined as having used a weapon such as a knife or gun in a fight and having become involved, with a person other than a partner or spouse, in more than one fight that came to blows — behavior that is likely to frighten most people.

The study showed that patients with serious mental illness — those with schizophrenia, major depression, or bipolar disorder — were two to three times as likely as people without such an illness to be assaultive. In absolute terms, the lifetime prevalence of violence among people with serious mental illness was 16%, as compared with 7% among people without mental illness. Although not all types of psychiatric illness are associated with violence — anxiety disorders, for example, do not seem to increase the risk — and although most people with schizophrenia, major depression, or bipolar disorder do not commit assaultive acts, the presence of such a disorder is significantly associated with an increased risk of violence.

Of course, because serious mental illness is quite rare, it actually contributes very little to the overall rate of violence in the general population; the attributable risk has been estimated to be 3 to 5% — much lower than that associated with substance abuse, for example. (People with no mental disorder who abuse alcohol or drugs are nearly seven times as likely as those without substance abuse to report violent behavior.) But substance abuse among the mentally ill compounds the increased risk of violence: one study involving 802 adults with a psychotic or major mood disorder showed that violence was independently correlated with several risk factors, including substance abuse, a history of having been a victim of violence, homelessness, and poor medical health.<sup>4</sup> The 1-year rate of violent behavior for subjects with none or only one of

these risk factors was 2% — a prevalence close to the ECA study's estimate for the general population. Thus, violence in people with serious mental illness probably results from multiple risk factors in several domains.

Much can be done to diminish the risk of violence among the mentally ill. A study that compared the prevalence of violence in a group of psychiatric patients during the year after hospital discharge with the rate in the community in which the patients lived showed no difference in the risk of violence between treated patients and people without a psychiatric disorder.<sup>5</sup> Thus, symptoms of psychiatric illness, rather than the diagnosis itself, appear to confer the risk of violent behavior. So patients with schizophrenia who are free of the acute psychotic symptoms that increase this risk, such as having paranoid thoughts or hearing voices that command them to hurt others (called command auditory hallucinations), may be no more likely to be violent than people without a mental disorder. The study did not specifically monitor the treatments, but it seems possible that treating psychiatric illness does not just make patients feel better; it may also drastically reduce the risk of violent behavior.

In the wake of Fenton's killing, there may be renewed efforts to expand the criteria or lower the clinical threshold for mandatory treatment of patients with psychosis — a movement that is sure to be controversial. We know that most such patients are not

violent, but we also know that a patient with acute psychosis who is paranoid and has command auditory hallucinations or a history of being violent, being a victim of violence, or abusing alcohol or drugs is at high risk for violent behavior. Currently, in order to protect civil liberties, most states mandate treatment (whether hospitalization or medication) only if there is unambiguous evidence of an immediate danger to others, which is generally interpreted as overt threats or violent actions. Perhaps it makes sense to reset the threshold at the presence of known clinical risk factors — psychotic thoughts that are influencing behavior, a history of violence, and significant concurrent substance abuse. But expanding the criteria would require further substantiation that these factors can be accurately identified by clinicians and that their use in mandating treatment is warranted. The possibility that expanding the criteria might also discourage people with psychotic illnesses and substance abuse problems from voluntarily seeking treatment would also need to be considered.

It is natural for psychiatrists and other medical professionals who treat psychiatric patients to deny, to some extent, the possible danger. After all, it is hard to have a therapeutic relationship with a patient we fear. Still, we need to remind ourselves that the risk of violence, though small, is real, and we must take necessary precautions. As Exworthy put it, "I guess I let down my guard and paid for

it." Keeping up our guard means paying attention to our fear and anxiety about a patient; no physician should ever treat a patient whom he or she fears. It also means seeing patients with acute psychosis in locations where there is adequate assistance and security, such as hospitals and clinics, rather than in a private office setting.

The challenge for medical practitioners is to remain aware that some of their psychiatric patients do in fact pose a small risk of violence, while not losing sight of the larger perspective — that most people who are violent are not mentally ill, and most people who are mentally ill are not violent.

An interview with Dr. Friedman can be heard at [www.nejm.org](http://www.nejm.org).

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