Mental health has come to occupy a key place in the continuing national conversation on gun violence. President Obama’s plan, unveiled last week, emphasized mental-health screening for children and expanded coverage of mental-health treatment by Medicaid and private health plans. And even the criticisms of his multipronged gun-control plan tended to fault its inadequate focus on preventing violent acts by mentally ill individuals.

Indeed, the perpetrators of horrific mass killings, such as December’s Newtown shooting that took the lives of 20 children and six adults trying to protect them, frequently show signs of serious mental illness. Analyses of these crimes by The New York Times and Mother Jones found that the majority of recent mass shooters were mentally ill. But numerous studies of the link between mental illness and violence suggest that improved screening and treatment will be of limited utility in reducing these kinds of killings. The reasons are myriad: Psychiatric professionals are not good at identifying people who will go on to commit acts of violence; many perpetrators of mass shootings had no contact with the mental-health system; and, even when the potentially violent are identified, treatment for mental illness is not always effective in preventing violent acts.

Perhaps most important, although people with serious mental illness have committed a large percentage of high-profile crimes, the mentally ill represent a very small percentage of the perpetrators of violent crime overall. Researchers estimate that if mental illness could be eliminated as a factor in violent crime, the overall rate would be reduced by only 4 percent. That means 96 percent of violent crimes—defined by the FBI as murders, robberies, rapes, and aggravated assaults—are committed by people without any mental-health problems at all. Solutions that focus on reducing crimes by the mentally ill will make only a small dent in the nation’s rate of gun-related murders, ranging from mass killings to shootings that claim a single victim.

It’s not just that the mentally ill represent a minority of the country’s population; it’s also that the overlap between mental illness and violent behavior is poor. Although people with certain types of psychotic illness are more likely than the general public to commit violent acts, the rates of violence in that group are still small. A large international study found that among people with schizophrenia, a disease with the highest rates of violent behavior, only one person in 140,000 will kill a stranger. Demographic factors such as age, gender, and race are almost as reliable as predictors of violence.

Although mental-health professionals have become more skilled at predicting which patients may commit a violent act, the accuracy of such judgments is still “only slightly better than chance,” said John Monahan, a professor at the University of Virginia whose work has focused on the science of violence prediction. Mental-health professionals who forecast violence are wrong two out of three times. (Imagine if another medical screening test was as poor—say, if mammograms showed false positives twice as often as real cancers.) Moreover, Monahan’s studies have involved violence such as simple battery—throwing a punch—not mass murder. “To predict something as rare as a mass shooting is like trying to find a very small needle in a very large haystack,” he says.

Plus, requiring mental-health practitioners to blow the whistle on any patient who might pose a threat—as New York state now requires—carries a downside. Experts warn that such a policy could discourage those most at risk of violent behavior from seeking treatment.

Although treatment can be helpful in mitigating the symptoms that drive some mentally ill people to harm others, such intervention is not always effective, and many patients with psychotropic illness have poor rates of compliance with a treatment plan. In addition, of course, professionals can only treat patients who come through the door in the first place. Many of the perpetrators of mass shootings appear to have acted before they had any contact with the mental-health system. While the kind of increased screening in schools that the president endorses could help, young adults may act out in violent ways before they are ever identified as needing services.

“It appears risk for violence in psychotic illnesses is highest early in the course of illness, frequently before people are identified as mentally ill and receive treatment,” says Paul Appelbaum, a professor of psychiatry at Columbia University who met with Vice President Joe Biden’s task force on reducing gun violence. Jared Loughner, the schizophrenic shooter in the 2011 Tucson massacre, had no psychiatric diagnosis at the time of his rampage.

Better screening and treatment could, however, make a significant difference in preventing one type of violence. Those who suffer from mental illness are much more likely to harm themselves than other people. Suicide rates among schizophrenics or people with major depression are as high as 15 percent in the United States—much higher than in countries with better-developed mental-health systems and more-restrictive access to guns. Jeffrey Swanson, a Duke Medical School professor who studies links between psychiatric illness and violence, calls suicide “the elephant in the room” in most conversations about mental illness and violence.

Improving the screening, diagnosis, and treatment of people with mental-health problems would, of course, yield many benefits, including reducing violence. But, in the end, it would do little to reduce the risk of gun crimes or eliminate horrific mass murders. “To expect a major impact from any policy that targets [the mentally ill] in particular is simply unrealistic,” Appelbaum says.