

## EDITORIALS



## After the Mass Shooting in Las Vegas — Finding Common Ground on Gun Control

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We've seen so many mass shootings — in theaters, in churches, in nightclubs, in schools — that each new episode of the mass slaughter of Americans induces a weary sense of *déjà vu*.<sup>1,2</sup> But some realities of the recent mass shooting in Las Vegas, the largest in modern history, might help produce action, rather than the paralysis we've seen for so many years. What's different this time is the unprecedented magnitude of the killing. It appears that a single, heavily armed man was able to kill at least 58 people and wound nearly 500 more. He was untrained and unskilled but could direct his high-powered automatic and semiautomatic guns down on a crowd of some 22,000 people at the Route 91 Harvest country music festival. He fired thousands of rounds of ammunition from the 32nd floor of his hotel, a quarter mile from the concert venue. This 64-year-old man had no known political, racial, or religious agenda, and there was no history of known mental illness or criminal behavior. But he used his large arsenal of weapons to kill and maim more innocent Americans than anyone else has ever done.

A couple of lessons are clear from the Las Vegas shooting. First, few security measures within any venue can protect against assault from outside the venue. Second, readily available high-powered modern weaponry makes mass killing easy for a determined killer, even an inexperienced one. Third, the magnitude of the killing could have been far greater. Given his position and his firepower, the shooter could have killed thousands, if not for the courageous, coordinated assault by the highly trained Las Vegas law-enforcement team.

The horrific, indiscriminate shooting by a single person on a Sunday night created a massive, instant public health crisis, putting first responders at great risk, overwhelming hospitals, and disrupting much of the medical care delivery in the city. Thousands of health professionals helped to cope with the horror, from emergency personnel, to surgical trauma teams, to ICU staff, to the pathology professionals who must deal with identifying the dead. Scores more will be needed to help survivors with gunshot injuries through grueling physical rehabilitation. And we know that trauma like this mass shooting will produce emotional suffering for years to come.

The prevention of future mass killings should begin with making it far more difficult to obtain semiautomatic firearms, especially ones that can be easily converted into automatic weapons.<sup>3,4</sup> The federal government strictly controls fully automatic weapons, but many semiautomatic weapons can be turned into fully automatic machine guns by their owners. And it was, in part, fully automatic weapons capabilities that seem to have made it possible for the shooter in Las Vegas to mow down hundreds of innocent people, and he still had thousands more rounds of ammunition. If semiautomatic weapons are to continue to be sold, they should be manufactured in a way that prevents their conversion to automatic firing mode. There should be stricter limits on the size of magazines for assault rifles and limits on purchases of huge ammunition stores for these weapons of war. A background check did not stop this killer, but tighter background checks can keep war weapons out of the hands of those who are known to be mentally unstable.

For years under both Republican and Democratic administrations, Congress has been afraid to do anything about regulating guns, even those that are designed for mass shootings. What will it take to get some legislative action? A shooting of 1000? 5000? Such mega-horror scenes are now clearly feasible. Continued acceptance of the status quo is unacceptable. Congressional legislation to promote greater health and safety for the American public is possible.<sup>5,6</sup> Our current political leadership is apparently not willing to promote gun-violence prevention of any kind. And yet no one in America wants more mass shootings.

A public consensus can have an effect, even against the will of the leadership. This year we have seen how an emerging public consensus about access to health insurance has helped to stop a congressional attempt to repeal the Affordable Care Act, despite the determination of party leaders to do so. Perhaps the will of the people can help to push Congress to take steps to prevent deaths from gun violence. Our leaders do have an obligation to protect the health and safety of American citizens. But progress will be possible only if it comes from consensus and cooperation. One area for potential consensus is on the need for research on how to reduce deaths from gun-related violence and how to prevent mass shootings. According to one recent poll, over half of Americans who are Republicans fa-

vor a ban on assault-style weapons.<sup>7</sup> Responsible gun owners, including members of the National Rifle Association, which has in the past supported bans on some types of weapons, need to use their powerful voices to become part of the movement for change.

We must ensure the safety of our citizens when they want to do something as simple as attending a music festival. Even in our dangerously polarized political system, there has to be a way for good people to come together on common ground and act.

Disclosure forms provided by the authors are available with the full text of this editorial at NEJM.org.

This editorial was published on October 4, 2017, at NEJM.org.

1. Sacks CA, Malina D, Morrissey S, Campion EW, Hamel MB, Drazen JM. In the wake of Orlando — taking steps against gun violence. *N Engl J Med* 2016;375(9):e19.
2. Sacks CA. In memory of Daniel — reviving research to prevent gun violence. *N Engl J Med* 2015;372:800-1.
3. Drazen JM, Morrissey S, Curfman GD. Guns and health. *N Engl J Med* 2008;359:517-8.
4. Malina D, Morrissey S, Campion EW, Hamel MB, Drazen JM. Rooting out gun violence. *N Engl J Med* 2016;374:175-6.
5. Hemenway D, Miller M. Public health approach to the prevention of gun violence. *N Engl J Med* 2013;368:2033-5.
6. Kassirer JP. Guns, society, and medicine. *N Engl J Med* 2015;372:874-5.
7. Parker K, Horowitz J, Igielnik R, Oliphant B, Brown A. America's complex relationship with guns: an in-depth look at the attitudes and experiences of U.S. adults. Pew Research Center, June 2017 (<http://assets.pewresearch.org/wp-content/uploads/sites/3/2017/06/06151541/Guns-Report-FOR-WEBSITE-PDF-6-21.pdf>). DOI: 10.1056/NEJMe1713203  
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## Eosinophil Biology in COPD

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Chronic obstructive pulmonary disease (COPD) is a lethal disease that is predicted to become the third leading cause of death globally within 3 years.<sup>1</sup> Recent research has highlighted the heterogeneity of the pathologic characteristics of COPD, indicating that disease mechanisms are complex. Inflammatory pathways implicating neutrophils have been emphasized,<sup>2</sup> but attention has recently focused on the persistent blood and airway eosinophilia that is found in up to 40% of patients with COPD, even in the absence of a history of asthma; such patients have a higher risk of exacerbations than patients without eosinophilia.<sup>3,4</sup>

Guidelines have generally recommended a “one size fits all” approach to the treatment of patients with differing clinical features of COPD. However, current interest centers on searching for various phenotypes that may have different responses to treatment among patients with chronic obstructive diseases — either asthma or COPD — including the presence or absence of sputum or blood eosinophilia. The linking of these obstructive pulmonary diseases brings to mind the proposition offered by Orié and Sluiter in the 1960s, dubbed the “Dutch hypothesis,”<sup>5</sup> in which they attempted to explain why airway obstruction develops in only a proportion of smokers.