Gun Violence and Mental Illness: Facts and Misperceptions

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Disclosures

- We have no competing disclosures
Objectives

- Provide information for mental health providers such that they are more comfortable discussing the relationship between mental illness and firearms with their patients and patient’s families
- Review existing data regarding the relationship mental illness and violence towards others
- Describe when the risk of violence is increased in persons with mental illness
- Describe the relationship between firearms and suicide
- Discuss Mental Illness-Focused Firearm Restrictions
- Discuss Oregon Senate Bill 719
A Culture of Guns…

More guns than people
Number of civilian firearms in the U.S. versus total U.S. population

Gun violence is a public health problem in the US

- Latest available data from the CDC (2016)
  - Homicides: 14,925
  - Suicides 22,938
  - So on average, every day 96 Americans are killed by guns
  - 7 of which are children/teenagers
- In 2012 there were 81,000 people treated in EDs for nonfatal gunshot wounds
- Presence of a firearm in a domestic violence situation increases the chance of woman being killed by 5X
GUN HOMICIDES PER 100,000 RESIDENTS

Source: https://everytownresearch.org/gun-violence-by-the-numbers/#America
Public Perception - Mental Illness and mass shootings

*How Much Various Factors Are to Blame for Mass Shootings in the United States*

Thinking about mass shootings that have occurred in the United States in recent years, from what you know or have read, how much do you think each of the following factors is to blame for the shootings -- a great deal, a fair amount, not much, or not at all?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Great deal</th>
<th>Fair amount</th>
<th>Not much</th>
<th>Not at all</th>
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</thead>
<tbody>
<tr>
<td>Failure of the mental health system to identify individuals who are a danger to others</td>
<td>48</td>
<td>32</td>
<td>11</td>
<td>8</td>
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<td>Easy access to guns</td>
<td>40</td>
<td>21</td>
<td>16</td>
<td>20</td>
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<td>Drug use</td>
<td>37</td>
<td>29</td>
<td>17</td>
<td>15</td>
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<td>Violence in movies, video games, and music lyrics</td>
<td>32</td>
<td>24</td>
<td>23</td>
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<td>The spread of extremist viewpoints on the Internet</td>
<td>29</td>
<td>28</td>
<td>22</td>
<td>15</td>
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<tr>
<td>Insufficient security at public buildings including businesses and schools</td>
<td>29</td>
<td>29</td>
<td>26</td>
<td>14</td>
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<tr>
<td>Inflammatory language from prominent political commentators</td>
<td>18</td>
<td>19</td>
<td>30</td>
<td>28</td>
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Sept. 17-18, 2013

GALLUP
What influences public perception?

- Media coverage of mass shootings
- Images of the perpetrator
- There is extensive investigation into who the perpetrator is, what was the motive
- Speculation about whether the perpetrator had mental illness
- Discussion within the media and amongst politicians can be stigmatizing
In 2016, 38,658 people, or about 96 per day, died from gun violence in the United States.

Mass shootings account for less than 1% of deaths and injuries each year due to gun violence.

Suicide accounts for about 65% of firearms deaths.

Only 3-5% of all violent acts are committed by people with serious mental illness and about 1% of all violence appears to be committed by people with serious mental illness using firearms to kill strangers.

If all violence accounted for by mental disorders could somehow be eliminated, 90-97% of violent behavior would continue to occur.
What do we know about the link between mental illness and violence?

- Earliest epidemiological studies in the 1990s
- In the National Institute of Mental Health Epidemiologic Catchment Area (ECA) study, researchers randomly selected households in five U.S. cities
- Structured diagnostic interviews were administered; n = 10,024
- They found a small but statistically significant positive association between mental illness and violence.
The authors estimated that only 3%-5% of all violence in the US is directly related to mental illness.

12% of persons with a SMI + substance abuse had committed any minor or serious violence in the past 12 months, versus 7% of people with SMI and no comorbid substance abuse; and 2% of people with neither.

Lifetime prevalence of violence:
- 15% for persons without mental illness or substance abuse
- 33% for those with SMI alone
- 55% for those with comorbid SMI and substance abuse

Swanson, et al. Hospital and Community Psychiatry July 1990 Vol. 41 No. 7
ECA Study key points

- People with SMI are somewhat more likely to commit violent acts
- Most persons with mental illness are never violent
- Most violence (95%-97%), including but not limited to gun violence, is not attributable to mental illness
- The risk of violence towards others is heightened among a subset of persons with serious mental illness
- Risks factors such as substance abuse are strong predictors of violence in populations with and without mental illness
MacArthur Violence Risk Assessment Study

- Researchers followed 1,136 persons with mental illness for 1 year following discharge from a psychiatric hospital from 1992-1995
- Participants interviewed every 10 weeks to assess violent behaviors
- Researchers used interview with family and friends, hospital records, and police records to augment self-reports of violent behavior
- Violence among the study cohort with mental illness was compared with violence among a comparison group composed of 519 individuals living in the same neighborhoods.

Violence by People Discharged From Acute Psychiatric Inpatient Facilities and by Others in the Same Neighborhoods

Henry J. Steadman, PhD; Edward P. Mulvey, PhD; John Monahan, PhD; et al

Arch Gen Psychiatry. 1998 May;55(5):393-401.
Results of the MacArthur Study

- People with mental illness alone and no comorbid substance abuse were no more likely than other members of the community to commit violence.
- Substance abuse, either alone or with mental illness, substantially increased the risk of violence.
- One interpretation is that socioeconomic and environmental influences on violence are stronger than the effects of mental illness on violence.
In 2015, the study data was examined to assess the prevalence of gun violence and violent acts against stranger victims among the study cohort.

- 2% committed a violent act involving a firearm in the year following a psychiatric hospitalization,
- 6% committed a violent act involving a stranger victim,
- 1% committed a violence that involved both a gun and a stranger victim.

Respondents with SMI were asked questions measuring violence.

Researchers found that persons with SMI, with or without comorbid substance use, were at a statistically significant heightened risk of committing violence towards others.

- SMI alone 2.9% (committed violent acts in a year)
- No mental disorders or substance abuse 0.8%
- Substance use + SMI: 10%
Take home points...

- Vast majority of persons with mental illness rarely commit acts of violence towards others
- Small subgroups of persons with mental illness are at heightened risk of violence as a result of their condition
  - 1st break psychosis
  - History of civil commitment
- Substance abuse, either alone of with mental illness, substantially increased the risk of violence
Suicide and Firearms

4/24/18
Objectives

- Epidemiology
- Address firearm high lethality
- Discuss accessibility/availability of firearms
- Explore role of impulsivity
- Review evidence for means restriction
- Role of MDs
Suicide in the U.S.

- >100/day
- 10th leading cause of death overall in US
- Almost 45,000 suicides in 2016
- **Over half use firearm**
- 2X as many suicides as homicides

**Deaths by firearms**

National, per 100,000 people

Sources: "The Epidemiology of Firearm Violence in the Twenty-First Century in the United States" by Garen J. Wintemute; Centres for Disease Control

In Oregon

- Rate higher than national average for three decades.
- In 2015, rate 33% higher than the national average
- 2nd leading cause of death among Oregonians aged 10 to 24. (Oregon Health Authority, 2017)
- >5X as many deaths in OR d/t suicide than homicide

Compared Globally

Suicide rate per 100,000 population

- France
- Belgium
- Sweden
- Germany
- Netherlands
- Britain
- US

1980 85 90 95 2000 05 10 14

0 5 10 15 20 25

Compared Globally

- Compared to 23 other high-income OECD countries, US was 9\textsuperscript{th} highest in total suicide rate.
- ... but US #1 in firearm suicide
- 8X firearm suicide rate overall, 2x more than the next highest (Finland)
- 50\% of suicides by firearm in US, vs 5\% average in others (Grinshteyn and Hemenway, 2016)
- Why so deadly?
Considerations of firearm suicide
Attempts and Lethality

- Lethality
  - Firearms most lethal method
  - Cause death approx 85% of attempts
  - Firearms account for more suicide deaths than all other methods combined

Spicer and Miller, 2009
Case Fatality Rates (%) by Method

- Firearms
- Drowning
- Suffocation/Hangi...
- Gas Posioning
- Jump from Height
- Drug/Poison...
- Laceration

Spicer and Miller, 2009
Availability

- Number of guns in US: approx **357 million firearms** (legal) (Firearms Commerce in the US, data through 2013)
- Compared to population 316.2 million at that time
- Firearm ownership highest any country. 35-39% households, 22% individuals. (Hepburn et al., 2007)
Availability

Number of civilian firearms in the U.S. versus total U.S. population

- 357 million Guns
- 317 million People

Number of firearms manufactured in the U.S.
- Handguns
- Rifles
- Shotguns
- Other

Impulsivity

- Studies on time between initial SI and self-harm attempt:
  - 30% <1 hour (Drum et al., 2009)
  - Study of acetaminophen OD, 50% <1 hour (Hawton et al., 1995)
  - 50% 10 minutes or less (Deisenhammer et al., 2009)
  - Cohort ages 13–34. 24% <5 minutes. 75% <1hr. (Simon et al., 2001)
After failed attempt

- Although previous suicide attempt is strongest risk factor for future fatal suicide attempt...

- Review of 90 studies of suicide survivors, only 10% went on to die by suicide (Owens et al, 2002)
Mitigating Risk

- 75% adult gun suicides, and nearly all child gun suicides occur in the home (Karch et al., 2012)

- % of suicides with firearms correlated most strongly with household firearm ownership (Azreal et al., 2004).
Mitigating Risk

- Unlocked or loaded more likely to be used in suicide, particularly adolescents (Brent et al., 1993)

- If already have plan, adolescents 7x more likely that plan involves firearm if one was in the home.

- RR of suicide 2-10X more depending on age and storage methods (Grossman et al., 2005)
Mitigating Risk

- Firearm suicide rates higher where gun ownership is more prevalent (Miller et al. 2015)
- Strong association between state restrictions on firearm ownership and decreased death by suicide (Fleeger et al., 2013)
- 16 US states with highest firearm ownership vs. 6 with the lowest had:
  - Similar total population, suicide attempt rates, and non-firearm suicides
  - Almost 2X as many completed suicides, attributable to differences in firearm suicides (Miller et al., 2013)
Evidence suggests the high availability of firearms increases likelihood suicide attempts will involve guns, which increases the rate of fatal attempts.
Role for MDs?

- “Docs vs Glocks”
- No U.S. state currently bans firearm counseling
- Studies
  - safe firearm storage counseling by MD \(\rightarrow 2.2X\) as likely to improve their gun storage practices (Albright and Burge, 2003)
  - Only 50% ED pts with SI or SA within 1 wk were asked about lethal means (Betz et al., 2016)
  - Pediatrician gun safety counseling and free firearm cable locks \(\rightarrow 22\%\) more likely to continue safe gun storage six months later. (Barkin, 2008)
  - Only 25% MDs counsel on firearm safety often or very often (Damari et al., 2018)
Mental Illness Focused Firearm Restrictions
Gun Control Act of 1968

- Led to the placement of federal restrictions on the rights of individuals with mental illness to possess firearms
- Law prohibits anyone "who has been adjudicated as a mental defective" or "who has been committed to a mental institution" from possessing a firearm

National Instant Criminal Background Check System (NICS)

- Established in 1993 as a result of the Brady Handgun Violence Prevention Act (“The Brady Act”)
- The Brady Act requires Federal Firearms Licensees (FFLs) to contact NICS prior to a firearm sale to determine whether a potential purchaser is prohibited from receiving or possessing a firearm under state or federal law
- The NICS was implemented in 1998

Pub. L. No. 1101-180, 103-159, 10 Stat. §§ 1536
NICS Improvement Amendments Act (NICSA)

- Enacted on January 8th, 2008, after the Virginia Tech tragedy revealed that a majority of states were not sending the names of people barred from purchasing a firearm to the NICS
- The Act offered financial incentives to states for providing the NICS with information on persons barred from purchasing a gun under federal law
- Prior to the passage of the NICSA, approximately 500,000 names were specific to the mental health category. Researchers report a 700% increase in the number of mental health records in the NICS systems from April 2007 and January 31st, 2014

Gun Restoration Procedures

- With the creation of the NICSA, general acknowledgement existed that a need existed for a gun-ownership restoration process that carefully examined applications based on up-to-date risk assessment models.

- Due to these concerns, Congress included a provision in the NICS requiring each state establish an approved “Certification of Qualifying State Relief from Disabilities Program,” whereby individuals previously barred from purchasing or possessing a firearm due to a mental health determination could have that rights restored and their name removed from the NICS database.

Britton & Bloom 2015
Gun Sales in Oregon

- Gun sales through FFLs go through the Oregon State Police records check, which also includes a NICS check.
- If a buyer has a prohibitor from another state yet the name is not in the NICS, the buyer could potentially pass the background check system.
- Federal law does not require that a firearm purchase undergo a background check prior to a sale between two individuals.

Federal Bureau of Investigation, 2014
Oregon’s Reporting to the NICS

- In 2008, Oregon was one of multiple states sending fewer than 10 mental health records to the data since NICS creation in November 1998

Bernstein, 2011
In 2009, through the passage of HB 2853, the Oregon Legislature directed the Oregon Health Authority, the Oregon Judicial Department, and the Psychiatric Security Review Board (PSRB) to submit to the Oregon State Police the names of individuals who were barred under state and federal law from possessing, shipping, or receiving a firearm.

The State Police, in turn, were directed to reconcile the multiple data bases from these three state agencies and develop electronic systems to upload these names into the NICS database. The program was named the “Records Reconciliation Program.”

Britton & Bloom, 2015
Between December 2011 and April 2014, the Oregon State Police uploaded approximately 30,000 names of those associated with an adjudicated mental health determination by an Oregon court in the previous 30 years.

The vast majority of disqualified persons appear to be involuntary civil commitments, with approximately 27,000 individuals, versus 2,600 individuals who have been found guilty except for insanity.
Oregon’s Gun Restoration Process

- In 2009, the Oregon Legislature developed an administrative approach to gun restoration and assigned the responsibility for conducting these hearing to the Oregon PSRB.
- The gun restoration program began in 2010. As of 2016, only three completed petitions requesting restoration of firearm rights had been received.

Britton & Bloom, 2015
Does the NICS reduce morbidity and mortality from gun violence committed by individuals with mental illness?

- Swanson and colleagues conducted a study in which they assembled two cohorts of people with serious mental illness using administrative records from Connecticut’s public mental health and criminal justice agencies for the period 2002-2009.

- The first cohort included persons with serious mental illnesses, including schizophrenia, bipolar disorder, and major depression, who were prohibited from buying a gun under federal law due to involuntary commitment or adjudication of mental incompetence.

- The second cohort included individuals with the same diagnoses who had voluntary psychiatric hospitalization during the study period but were not prohibited by federal law from buying a gun for any reason.

Swanson et. al. 2013
Findings of Swanson and Colleagues

- They found that expanded NICS reporting after 2007 legislation was associated with a decrease in the risk of violent crime among persons in the first group.
- The NICS reporting effect could be credited with the prevention of an estimated 14 violent crimes per year among the 1118 people with a mental health disqualification.
- They found a minimal effect (<0.5%) on violent crime overall.

Swanson et. al. 2013
Efforts to Improve Background Checks

- Federal Initiatives
- States Initiatives
  - Increase reporting to the NICS
  - Expansion by States of Prohibited Classes
  - Outpatient Commitment
  - Voluntary Admission
Consequences of Firearm Restrictions Focusing on Mental Illness

- Increased stigma of persons with mental illness
- Discouragement of individuals seeking care
- Concerns regarding the privacy of individuals whose names and other identifying information are entered into the NICS
- Development of policy focusing on public perceptions and beliefs, not facts and data
  - Diverts attention away from evidence based legislative interventions

McGinty et al. 2013; Barry et al. 2013; Appelbaum 2013; Swason et al. 2015
Senate Bill 719: Creating A Process For Obtaining An Extreme Risk Protection Order
Temporary Removal of Firearms

- Public health experts have advocated for gun violence prevention through risk-based, preemptive, and temporary gun-removal
- It is now a legal tool in five states – Connecticut, Indiana, California, Washington, and Oregon
- The legal means to remove firearms differs from state to state
Arguments supporting Temporary, Risk-based, Preemptive Gun Removal

- Research indicates that access to firearms increases the risk of suicide
- Those closest to an individual often see warning signs or changes in behavior that indicate increased risk for violent or self-harm behaviors
- Resources for individuals with mental illness in crisis who seek voluntary treatment are limited and difficult to access
- For those concerned about an individual, they can attempt to involve police or emergency medical services to protect their loved ones from harming themselves or others. However, may feel ambivalent about initiating civil commitment proceedings
- Narrow criteria for civil commitment, and these processes can be experienced as intrusive or adversarial
- If a person with acute psychiatric symptoms has not committed a criminal offense, refuses treatment, or does not currently meet the involuntary commitment criteria, in many states there are no additional options for intervention

Elbogen and Johnson 2009; McGinty et al. 2014b; Swason et al. 2013; Van Dorn et al. 2012
Senate Bill 719

- On January 1st, 2018, this bill became effective in Oregon
- Creates a process for obtaining extreme risk protection orders prohibiting persons from possessing a deadly weapon when the court finds that a person presents risk in the near future, including imminent risk, of suicide or causing injury to another person
- Respondents who are subject to this order must give all of their deadly weapons and their concealed handgun license to a law enforcement agency, gun dealer, or someone else who can lawfully hold them within 24 hours. Respondents are not allowed to possess weapons until the order expires or is cancelled by a judge.
Senate Bill 719

- Any family member, household member, or intimate partner can apply for an ERPO - Law enforcement officers can also apply
- Petitions for an ERPO are filed where the respondent lives
- There is no cost
- The Judge will decide if a Respondent is at risk in the near future of committing suicide or harming another person.
- The hearing will occur soon after the petition is filed. If the court issues an ERPO, the petition must be served to the Respondent via an officer, private process server, or competent adult
- The petitioner cannot serve the papers

The Respondent has 30 days from the date of service to request a hearing contesting the ERPO. If he or she does not request a hearing, the order will stay in effect for 1 year after the date it was issued.

If the Respondent requests hearing, it will usually be held within 21 days after the request is receive by the court.

The Petitioner must go to all scheduled hearings or the ERPO could be dismissed.

The Order lasts for 1 year from the date it was issued, unless it is dismissed by the court.

The Order can be renewed for 1 year at a time if the judge believes the Respondent is still at risk.
Evidence regarding existing gun-removal policies

- Parker and colleagues found that after two years of implementation of Indiana’s law allowing police to seize firearms from dangerous persons without a warrant, suicide was the leading reason for gun confiscation and that serious mental illness was a factor in only 10% of cases.

- Swanson and colleagues found that risk based gun removal in law as implemented in Connecticut can be at least modestly effective in preventing suicide

- Swanson and colleagues estimated that approximately ten to twenty gun seizures were carried out for every averted suicide

- Despite these studies, greater research is desired regarding the implementation and effect of these laws

Parker 2010; Swanson et. al. 2017
Role of the Health Provider?

- Health care providers are not able to be petitioners for an ERPO.
- The bill states that “the court may not include in the findings any mental health diagnosis or any connection between the risk presented by the respondent and mental illness.”
- The APA has praised Connecticut’s law for addressing dangerousness rather than mental illness.
- Despite this, health care providers routinely interface with individuals who make statements regarding inflicting injury to self or others with a firearm.
- The existence of ERPOs in Oregon means health care providers will have to decide whether a situation could arise in which they would advise a patient’s family member, household member, or intimate partner to apply for an ERPO.
Conclusions

- State and federal gun restriction policies that pertain to serious mental illness remain a major topic of discussion.
- However, research regarding such policy is greatly limited.
- Limited evidence suggests that current federal gun restriction policy may prevent violent crime among persons with serious mental illness.
- Little is known about the potential for such policies to prevent suicide, how policy initiatives are implemented by states, and how persons with mental illness will perceive gun restriction policies.