Discussing Mental Illness as a Risk Factor in Arrest-Related Deaths

By

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Abstract

Arrest-related deaths are a growing concern in the United States. The topic has become a highly charged political issue with groups like Black Lives Matter protesting the overrepresentation of African Americans in arrest-related deaths. Less attention has been paid to an overrepresentation in arrest-related deaths of persons suffering from mental illness. Arrest-related death is a complicated issue and finding solutions will ultimately require having difficult conversations about racism and health care as well.

This project attempts to examine the role mental health plays as a risk factor in arrest-related death in the United States and Washington State, and to estimate risk of death associated with police encounters among those exhibiting symptoms of mental illness. A secondary data analysis was conducted using records gathered by the Fatal Encounters project.

This study found that persons exhibiting symptoms of mental illness were approximately 4 times more likely to die during an encounter with law enforcement in the United States, and approximately 9 times more likely in Washington State, when compared to those not showing symptoms of mental illness. Researchers found that the data on arrest-related deaths that is currently available had many limitations.

It is the author's hope that this paper serves to begin a conversation about the many factors involved with arrest-related deaths in Washington State. The findings in this paper highlight the need for a more comprehensive and accurate surveillance system. This will allow future research projects to more precisely answer questions regarding arrest-related deaths.
Introduction

In the United States a number of agencies keep detailed vital statistics records. For example, we know that over a 10-year period, 12 people died while using inflatable bounce houses (Szeszel-Fedorowicz, 2015). Yet we cannot say with certainty how many people are killed in the US each year by police officers. There is no official record of arrest-related deaths (Torrey, et al, 2013; O'Leary 2015). The FBI collects voluntarily submitted data from police departments regarding arrest-related deaths, but the accuracy of that data has been shown to be poor and to grossly underestimate the prevalence of arrest-related deaths (O'Leary, 2015; The Guardian, 2015).

The ability for anyone to record video and even stream live video online has brought the high number of arrest-related deaths to the forefront of our national consciousness. It is a highly charged current political issue. Activist groups, such as Black Lives Matter, are drawing attention to the issue and to arrest-related deaths as a health disparity. We find ourselves at the beginning of a difficult conversation in the United States about why some groups of people may be at higher risk than others when interacting with law enforcement. This study adds to that conversation by utilizing publicly available data to assess the representation of persons suffering from mental illness in arrest-related deaths.

Literature Review

According to the World Health Organization (1996) mental health disorders are the leading worldwide cause of disability. Mental health disorders account for 8.1% of the global financial burden of disease (WHO, 2013) and people with mental health issues have a 40-60% greater chance of dying prematurely (WHO, 2013). Even in high-income
countries between 35% and 50% of people with a mental illness do not receive treatment (WHO, 2013). Mental illness is influenced by a number of determinants including personal attributes, emotional affect, and interpersonal relationships. It is also associated with risk factors such as low socio-economic status, stress, and drug or alcohol abuse (WHO, 2013).

Washington State has rates of mental illness and mental health treatment that are similar to the national rates in the United States. In Washington State, between 2009 and 2012, rates of serious mental illness among adults varied from 4.4% to 5.2%. Nationally during the same time rates of serious mental illness among adults ranged from 3.9% to 4.1% (SAMHSA, 2015). In Washington State only 29% of adults with serious mental illness (NAMI, 2010) and 43% of adults with any mental illness receive mental health treatment (SAMHSA, 2015).

An estimated 7% of adults receiving mental health treatment in the United States have at least one felony conviction. In Washington State 16% have at least one felony conviction (Washington State Department of Health, 2008). Approximately half of state and federal prison inmates have a mental health diagnosis or exhibit symptoms of mental illness (Krieg, 2001; Raphael & Stoll, 2013).

Law enforcement has become the front line of mental health care in the United States (Torrey, et al, 2013; Wolff, 1998). A 1999 survey of 174 police departments found that 7% of all contacts between law enforcement and civilians involved people who suffer from a mental illness (Deane, et al, 1999). People with mental illness have frequent encounters with law enforcement because their behavior is often socially deviant and may cause the public to be fearful of those displaying symptoms of mental illness (Wolff, 1998).
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It is believed by many that continued deinstitutionalization of mental health treatment contributes to both a lack of care and increased involvement of mentally ill persons with law enforcement. The movement away from inpatient treatment was driven in part by a belief that mental health care should be driven by a least restrictive alternative model of care (Krieg, 2001). This model advocates for community based care choices that do not require institutionalization of patients. Raphael & Stoll (2013) describe a pattern of decreasing hospitalization through the 70’s, and then increasing incarceration rates through the 80’s, before which 14 to 26 percent of the mentally ill incarcerated in the US would have been hospitalized rather than incarcerated. Other researchers argue that the two populations are not homogenous; the population of mentally ill incarcerated persons doesn’t share the same characteristics as those who were released from institutions (Prins, 2011). Community-based treatment options have also proven effective in the treatment of mental illness (Prins, 2011).


Another recent study comparing several current reporting mechanisms suggests that the National Vital Statistics System (NVSS) may be the most accurate system to collect
data on arrest-related deaths (Barber, et al, 2016). However, this system currently collects data from only 16 states. Of the 10 states with the highest numbers of arrest related deaths, California, Texas, Florida, Arizona, Alabama, Louisiana, New York, Georgia, North Carolina, and Washington, only Georgia is tracked by the NVSS. Without a significant expansion the NVSS is not able to provide an accurate record of arrest-related deaths nationwide (Barber, et al, 2016).

Currently the only data sources available are “grass-roots” projects. These efforts to collect data regarding arrest-related deaths primarily compile information gathered from news reports and other public information sources. (O’Leary, 2015). The Fatal Encounters Project (Burghart, 2015) and data gathered by The Guardian (2015) are examples of these unofficial or crowdsourced efforts to determine how many people are killed by law enforcement in the United States. This data is limited by the lack of access to confidential records, such as official police and medical records. Research in this area is also resisted by the law enforcement community, which often handles the investigation of police-involved shootings behind closed doors (Katz, 2015).

This project attempts to use data gathered by the Fatal Encounters Project to examine the role mental health plays as a risk factor in arrest-related death in the United States and Washington State, and to estimate risk of arrest-related death among those exhibiting symptoms of mental illness.

Methods

This study involved a secondary analysis of data gathered by the Fatal Encounters Project in order to examine the role mental illness has in arrest-related deaths. Records
were chosen for events occurring over a five-year time period from January 2010 through December 2015.

The Fatal Encounters Project has gathered one of the most comprehensive records of arrest-related deaths that is currently available, covering nearly 11,000 cases over a span of 15 years. The project uses several methods to collect data on police shootings. Paid researchers gather approximately 85% of the data; the remainder is collected through public record requests and crowdsourcing. Anyone can submit reports of police involved shootings at fatalencounters.org. These submitted reports are checked for accuracy before being added to the database (Burghart, 2015).

In the Fatal Encounters data, the presence of symptoms of mental illness is determined by witnesses to the incident; such witnesses include family members, law enforcement officers, and other by-standers. None of these reporters are trained to diagnose mental illness, or to distinguish between behaviors induced by drugs or alcohol and those induced by mental illness. Due to this limitation in diagnosis, there may be significant overlap between the categories of showing symptoms of mental illness and drug/alcohol use within the Fatal Encounters Data. In addition, drug and alcohol addiction is viewed as a mental illness by the American Psychiatric Association (2016. What is addiction?) and included in the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). For these reasons, the current study included cases where drug or alcohol use is suspected in the “showing symptoms of mental illness” category.

Not every person in the United States has encounters with law enforcement officers every year. The Department of Justice produces a report that estimates the number of
people who have contacts with police using data drawn from the Police-Public Contact Survey, a supplement to the National Crime Victimization Survey. This agency estimates that 62.9 million people have one or more interactions with law enforcement in the United States each year (U.S. Department of Justice Office of Justice Programs Bureau of Justice Statistics, 2013). This figure was used as the population at risk of being exposed to law enforcement use of force. Additionally, a 1999 survey of 174 police departments found that 7% of all contacts between law enforcement and civilians involved people who suffer from a mental illness (Deane, et al, 1999).

For this study, the US population at mid-year 2013, the midpoint in our data subsets, was chosen as a population baseline. The total US population on July 4, 2013 was 316,148,990 (United States Census Bureau, 2016).

Cases were selected based on the year in which the incident occurred to create two subsets of data. The first included national level data spanning from January 1, 2010 through December 31, 2015. The second subset contained data only for the State of Washington during the same time period.

IBM SPSS Statistics Version 21 was used to generate frequencies from the Fatal Encounters data set. From 2010 – 2015, there were 6,045 arrest-related deaths in the United States. 1,151 showed symptoms of mental illness during the encounter. 3,674 did not exhibit symptoms of mental illness at the time of encounter with law enforcement. The mental health status of 1,220 is unknown due to missing information.

In Washington State there were 158 arrest-related deaths during the 5-year period. 50 subjects showed symptoms of mental illness at the time of their encounter with law
enforcement. 72 subjects did not exhibit symptoms of mental illness at the time of their encounter with law enforcement. The mental health status of 36 subjects was unknown.

For the current study's analysis, cases where the mental health status is unknown were ignored. These unknown values are believed to be due to difficulty in gathering information rather than representative of some trait or difference in subjects. Therefore, those with unknown status would likely be distributed randomly between the group showing symptoms of mental illness and the group without (O’Rourke, 2003; Seaman & White, 2013).

Relative risk was calculated as follows: (proportion of the people with mental illness symptoms who die during an encounter with law enforcement) / (proportion of those who do not have symptoms of mental illness who die during an encounter with law enforcement). Attributable risk percent was then calculated as (relative risk -1) / (relative risk).

Using the Department of Justice estimate of 62.9 million (20.1% of the total US population) civilians having one or more interactions with police each year (U.S. Department of Justice, 2013) the national population at risk over a 5-year period was determined to be 314.5 million. The proportion of the population at risk with mental illness was determined using the estimate that 7% (Deane, et al, 1999) of those contacts involved people with mental illness.

There is no record of police contacts for the State of Washington available. Therefore, an estimate of the police-civilian contacts within Washington State was made based on the data available regarding national contacts. Assuming that the percentage of the population with one or more police interactions each year is consistent state to state, it
is possible calculate that 20.1% of the population in Washington State interacts with police one or more times each year. This gives a population at risk of 1,371,222 each year, and 6,856,110 over a 5-year period.

Results

In the United States 24% of arrest-related deaths involve persons exhibiting symptoms of mental illness. In Washington State 41% of arrest-related deaths involve persons exhibiting symptoms of mental illness.

A two by two layout of the national population at risk of exposure to law enforcement use of force can be found in Table 1.

**Table 1: Two by Two Table of National Death Data from 2010 – 2015 with exposure to arrest-related death. Data Source: Fatal Encounters Project**

<table>
<thead>
<tr>
<th></th>
<th>Killed during police contact</th>
<th>Not Killed during Police Contact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Showed symptom of mental illness</td>
<td>1151</td>
<td>22,013,849</td>
<td>22,015,000</td>
</tr>
<tr>
<td>No symptom of mental illness</td>
<td>3674</td>
<td>292,481,326</td>
<td>292,485,000</td>
</tr>
<tr>
<td>Total</td>
<td>4825</td>
<td>314,495,175</td>
<td>314,500,000</td>
</tr>
</tbody>
</table>

A two by two layout of the Washington State population at risk of law enforcement use of force can be seen in Table 2.

**Table 2: Two by Two Table of Washington State Death Data from 2010 – 2015 with exposure to arrest-related death. Data Source: Fatal Encounters Project**
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<table>
<thead>
<tr>
<th>Showed symptoms of mental illness</th>
<th>Killed during police contact</th>
<th>Not killed during police contact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>479877</td>
<td>479927</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>6376111</td>
<td>6376183</td>
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<tr>
<td>Total</td>
<td>122</td>
<td>6855988</td>
<td>6856110</td>
</tr>
</tbody>
</table>

Using the national data, the relative risk for those exhibiting symptoms of mental illness is 4.16, with a 95% confidence interval of 3.90 to 4.45. The attributable risk percent is 76%.

In Washington State the relative risk of dying at the time of an encounter with law enforcement for people exhibiting symptoms of mental illness was 9.22, with a 95% confidence interval of 6.43 to 13.23. The attributable risk percent in this group was 89%.

### Limitations

This study has several limitations due to the data available regarding arrest-related deaths. There may also be a number of confounding factors, such as race or gender; these factors were not addressed in this study. Future research may be able to address some of these limitations.

In the Fatal Encounters data there is a large number of subjects where the mental health status is listed as unknown. For the purpose of this study those records were eliminated from statistical calculations. However, even counting all records where mental
health status is unknown as persons not showing symptoms of mental illness, a similar analysis still produces a relative risk of 3.16 (95% CI 2.96 - 3.37) for the United States and 6.15 (95% CI 4.39 – 8.6) in Washington State.

The Fatal Encounters Data does not allow for reliable separation of those who exhibit symptoms of mental illness and those who are perceived to be under the influence of drugs or alcohol. This limitation may result in an overestimation of the involvement of persons with mental illness symptoms in arrest-related deaths. The reporting of symptoms relies on perceptions of mental illness and drug or alcohol use, rather than on official diagnosis. This introduces personal biases into whether a person is seen as having a mental illness or being under the influence of drugs or alcohol.

Within the Fatal Encounters data, the number of arrest-related deaths involving people who were believed to be under the influence of drugs or alcohol is more than twice as high in Washington State as the rest of the nation. However, rates of drug and alcohol are not higher in Washington State when compared to the rest of the United States (SAMHSA, 2015). This discrepancy could represent a tendency of witnesses in Washington State to attribute any erratic behavior to drug or alcohol use, or some other confounding factor.

The completeness of the data gathered by the Fatal Encounters Project is also unclear. In their recent study, Barber, et al (2016), identify 1,552 arrest-related deaths in 16 states between 2005 and 2012 using the NVSS. As a comparison, the Fatal Encounters data set includes records for 940 arrest-related deaths in those states during the same time period. This suggests that the Fatal Encounters project and others may still be greatly underestimating the total number of arrest-related deaths that occur in the United States.
Discussion

Our study found the number of mentally ill persons involved in arrest-related deaths to be lower than previously estimated (Torrey, et al, 2013; Portland Press Herald, 2016). However, those with mental illness are still disproportionately represented in the data. At the national level, 7% of all police-civilian encounters (Deane, et al, 1999), and 24% of arrest-related deaths, involve people perceived to have a mental illness. A person with symptoms of mental illness is 4.16 times more likely to die during an encounter with law enforcement than someone not showing symptoms of mental illness.

In Washington State the likelihood that symptoms of mental illness coincide with arrest-related death is even higher. Approximately 41% of those dying arrest-related deaths in Washington exhibited symptoms of mental illness. A person showing symptoms of mental illness was 9.22 times more likely to die during an encounter with law enforcement in Washington State than a person who does not exhibit symptoms of mental illness.

Some law enforcement agencies recognize the need for officers to be trained in handling mental health crises. The first Crisis Intervention Team (CIT) program was developed in Memphis in partnership with the National Alliance on Mental Illness (Hanafi, et al, 2008; Horace, 2011). Now many departments have created such teams. CIT programs attempt to create partnerships between the mentally ill, mental health providers, and law enforcement. CIT officers receive 40 hours of specialized training in how to recognize and interact with people having mental health emergencies (Horace, 2011). The officers who receive this training report positive results: increased empathy towards those exhibiting
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mental health issues, increased ability to recognize a mental health crisis, and more frequent referrals to treatment as opposed to arrest (Hanafi, et al, 2008).

Greater use of CIT training for officers, may help to reduce the rate of arrest-related deaths among those showing symptoms of mental illness. Based on the attributable risk calculations there is reason to believe that an effective intervention targeted around mental illness could reduce the number of persons involved in arrest-related deaths. The percentage of arrest-related deaths attributed to the presence of mental health in Washington State was 89%, a higher percentage than the rest of the United States, 76%.

Implications for Public Health

Health disparities are only exposed when researchers have the courage to explore new topics and ask new questions. The topic of arrest-related deaths has become highly politically charged, but remains a critical public health issue impacting thousands of people each year. It is the author’s hope that this paper may serve to begin a conversation about what can be done to reduce both the overall number of these deaths and the overrepresentation of certain groups among those dying as a result of arrest.

Surveillance is one of the primary foundations of public health. This study illustrates the need to develop an official means of surveillance to gather data on arrest-related deaths and law enforcement use of force. More comprehensive surveillance data regarding arrest-related deaths will benefit future studies on the risk factors involved with arrest-related deaths.

References

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