

# Firearm Injury Emergency Department Visits in Oregon, 2018-2021

## *An Oregon FASTER Project Data Report*

This report broadens our understanding of the burden of firearm injuries in Oregon by reporting on statewide emergency department visits for firearm injuries from 2018 through 2021. With support from the CDC's Firearm Surveillance Through Emergency Rooms (FASTER) grant, firearm injury data from the Oregon Health Authority's OR-ESSENCE syndromic surveillance system are available, for the first time, and presented in this report.

This report is dedicated to those individuals and communities in Oregon who have suffered the trauma of firearm injuries. It is intended to assist the efforts of those who work tirelessly to prevent firearm injuries and provide support to individuals and communities recovering from the devastating impacts of these preventable events.

**Information presented in this report describes the impact of firearm injury in Oregon, including the frequency of injury by age, sex, race, ethnicity, and geographic location. For some readers, reviewing this content may provoke a strong emotional response or contribute to personal or generational trauma.**

**The following confidential resources may be useful if you or someone you know is in any distress or perceived distress:**

- Oregon Crisis Text Line (English, Spanish): text OREGON to 741741
- Suicide and Crisis Lifeline (supports 150+ languages): 1-800-273-TALK (8255) or 988
- Veterans Crisis Line (English, Spanish): 1-800-273-8255 or 988 Press 1; text 838255
- The Trevor Project (for LGBTQ young people): 1-866-488-7386; text Start to 678-678; [chat via computer](#)
- LGBT National Hotline: 1-888-843-4564 for all ages; provides youth and senior hotlines; email: [help@LGBThotline.org](mailto:help@LGBThotline.org)



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## Introduction:

**This is the first data report disseminated by the Oregon FASTER Project.** Oregon FASTER (Firearm Injury Surveillance Through Emergency Rooms), a collaboration of the Oregon Health Authority (OHA), Public Health Division, Injury and Violence Prevention Program and the Oregon Health and Science University – Portland State University School of Public Health (OHSU-PSU SPH), is a project focused on using public health data to prevent firearm injuries. It is funded by the U.S. Centers for Disease Control and Prevention (CDC)'s National Center for Injury Prevention and Control.

**Oregon FASTER uses Oregon ESSENCE** (Electronic Surveillance System for the Early Notification of Community-Based Epidemics), the state's **syndromic surveillance system**, to monitor firearm injuries across the state. OR-ESSENCE collects **near real-time firearm injury data from emergency departments and urgent care centers in Oregon.**

### **Oregon FASTER works to:**

1. Enhance the quality, monitoring, and timely reporting of firearm injury data from OR-ESSENCE, and
2. Share data with state and local partners for use in their work responding to and preventing firearm injury, with a focus on communities disproportionately impacted by firearm injury.

## Acknowledgement:

The Oregon FASTER team extends its sincere gratitude to those community partners who took the time to review a draft of this report and meet with us to discuss it. The information obtained from those conversations was invaluable in improving this report and will be used to enhance future FASTER work, including the Oregon FASTER data dashboard and future data reports. Data alone do not adequately capture the impact of firearm injuries. Community perspectives provide context for the data and guidance for improving its impact and use.

Please contact Susan DeFrancesco, Oregon FASTER Program Manager (email: [defrancs at ohsu.edu](mailto:defrancs@ohsu.edu)) with any questions, comments, or ideas about ways to improve or clarify the presentation of the data in this report. Please also contact us to share how you might use these data in your firearm injury prevention work. We can make the visuals available to you as separate files. Contact us, too, if you would like to be added to our mailing list to receive future reports and updates about Oregon FASTER.

## Technical Notes for Readers:

- All the firearm injury data provided in this report's graphs and charts were retrieved from OR-ESSENCE in accordance with an established data use agreement between the Oregon Health Authority and OHSU-PSU School of Public Health. Population data from the 2020 U.S. Census Bureau's American Community Survey were used in the graph that includes race and ethnicity data and for the county map that includes rates of firearm injury emergency department visits. A recent analysis by the U.S. Census Bureau revealed that, consistent with recent censuses, the 2020 Census undercounted many of the same population groups that have been historically undercounted in the Census (i.e., Black/African American population, American Indian/Alaska Native population living on a reservation, Hispanic/Latino population and people who reported being of "Some Other Race") and overcounted others (i.e., Non-Hispanic White population and Asian population)<sup>1</sup>.
- OR-ESSENCE collects data from emergency departments *and* urgent care centers throughout Oregon. However, we use the term *emergency department* visits throughout the report because fewer than 0.1% of reported firearm injury visits were from urgent care centers.
- The data in this report provide a description of the burden of *nonfatal* firearm injuries treated in Oregon emergency departments (ED). However, the firearm injury ED visits, as presented in this report, do include some fatal injuries. Using statewide Emergency and Hospital Discharge data from 2018 to 2021, we found that 8.5% of patients treated in Oregon EDs for firearm injuries died from their injuries.
- The firearm injury ED data in this report do not necessarily represent the *number of firearm injuries* or the *number of individuals with firearm injuries*. *Number of firearm injury ED visits* is the more precise term because OR-ESSENCE data include transfers from one emergency department to another for trauma care (higher levels of care for more severe injury) as well as follow-up visits after patients' initial injury visits. Occasionally, there are also duplicate records.
- To increase the accuracy of determining firearm injury *intent* from the OR-ESSENCE system – for example, whether the firearm injury was the result of an assault, unintentional injury, or self-harm – our FASTER team conducted a manual review of 2,165 firearm injury-related events reported in OR-ESSENCE. We examined triage notes, clinical impression, and chief complaint fields, provided by hospital emergency departments, that are available in the OR-ESSENCE system. The firearm injury intent data presented in this report are the results of our manual review. We present data based on 1,753 of the 2,165 records reviewed – for those 1,753 records we were able to determine, through manual review, that the ED visits were firearm-injury related. The manual review included records *from January 1, 2018 through June 30, 2021*. Note that the other graphs and charts in the report, that do not describe injury intent, are based on electronic data alone retrieved from OR-ESSENCE and include records *from January 1, 2018 through December 31, 2021*, an additional six months of data. Future FASTER work will focus on improved coding of firearm injury intent in OR-ESSENCE without the need for manual review.

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<sup>1</sup> U.S. Census Bureau. *Post-Enumeration Survey and Demographic Analysis Help Evaluate 2020 Census Results*. March 10, 2022. Accessed July 26, 2022. [Census Bureau Releases Estimates of Undercount and Overcount in the 2020 Census](#).

- The data provided in this report on race, ethnicity, and sex reflect what is available in OR-ESSENCE, as provided to the system by hospital emergency departments. Like other surveillance systems and health care data systems, the data collected on race, ethnicity, sexual orientation, gender identity, and disability are often limited and do not adequately reflect the true diversity of people living in Oregon. For the last several years, as directed by a state legislative mandate, Oregon Health Authority's Division of Equity and Inclusion has worked in collaboration with community partners to increase and standardize the collection of race, ethnicity, language, disability, sexual orientation, and gender identity data using REALD (Race, Ethnicity, Language, and Disability) and SOGI (Sexual Orientation and Gender Identity). A fuller accounting and understanding of the diversity among the population of Oregon, through the collection of more accurate and delineated data, would allow for a more precise description of the impact of firearm injuries on specific populations and ensure that the needs of those groups to prevent and respond to firearm injuries are recognized and addressed.<sup>2</sup> REALD and SOGI support data justice which "recognizes that the types of data the government collects and relies on are insufficient for understanding community needs, experiences, and equally important, desires."<sup>3</sup>
- The way most emergency departments report race and ethnicity data to the OR-ESSENCE system differs from the way race and ethnicity data are reported by the US Census. Unlike the Census, most hospital facilities reporting data to the OR-ESSENCE system do not consistently provide the option to select two or more races or ethnicities and therefore do not report combined race and ethnicity data. To address this inconsistency, we applied the "rarest group" method of analysis<sup>4</sup> when presenting race and ethnicity data and used Oregon population proportions of race and ethnicity groups (alone—not in combination) from the U.S. Census 2020 as comparison groups for the OR-ESSENCE data. As a result, about 11% of the Oregon population from the U.S. Census 2020 (those with two or more races or ethnicities) is not represented in the comparison data provided. Despite the differences in the collection of race and ethnicity between OR-ESSENCE and the U.S. Census 2020, and the resulting limitations in interpreting the data, the graph was included to help depict known racial and ethnic disparities in firearm injury in Oregon.
- Injury rates for the county maps were calculated using the total number of firearm injury ED visits among county residents from 2018 through 2021 divided by the county population for 2020 which was obtained from U.S. Census data. Rates are reported per 100,000 county residents. The 4-year rates of counties with less than 20 firearm injury ED visits were "suppressed" (not reported) to help maintain the privacy of patients who lived in those counties at the time of their ED visit and because rates that are calculated using numerators less than 20 are considered unreliable or unstable. The rates do not account for any changes in the county population that may have occurred each year, over the 4-year period, and do not reflect the changes in rates of firearm injury ED visits from year to year *within* each county. Also, Oregon residents who were treated for their firearm injuries out-of-state, regardless of where the injury occurred, are not included in the number of injuries or rates provided in the county maps.

<sup>2</sup> Oregon Health Authority. Office of Equity and Inclusion. *Using REALD and SOGI to identify and address health inequities*. Accessed July 26, 2022 at <https://www.oregon.gov/oha/OEI/Pages/Demographics.aspx>.

<sup>3</sup> Oregon Health Authority. Office of Equity and Inclusion. Understanding how data justice pertains to our work as a governmental institution. Accessed July 26, 2022 at <https://www.oregon.gov/oha/OEI/REALD%20Documents/Data-Justice-Fact-Sheet.pdf>.

<sup>4</sup> Mays VM, Ponce NA, Washington DL, & Cochran SD. Classification of race and ethnicity: Implications for public health. *Annul Rev of Public Health*. 2003;24(1):83-110.



## Firearm Injury: A Public Health Crisis

Firearm injury is a public health crisis that continues to grow at an alarming rate. In the U.S., firearms were associated with more than 45,000 deaths in 2020, an average of about 124 firearm injury deaths per day.<sup>5</sup> For every person killed by a firearm, at least two more suffer nonfatal injuries,<sup>6</sup> meaning that an estimated 135,000 or more firearm-related injuries and deaths are occurring each year in the U.S.

Over the last decade, 500 Oregonians on average, died by firearms each year. In 2020, 592 people in Oregon were killed by firearms, the largest number of firearm deaths in a year.<sup>7</sup> Nonfatal firearm injuries have also been escalating. As described in this report, firearm injury emergency department visits increased from 459 in 2019 to 873 in 2021, a 90.2% increase. For people living in Oregon, as in the U.S. more broadly, the devastation of the COVID-19 pandemic was magnified by the worsening impact of the firearm injury crisis.

While people of all races and ethnicities in Oregon are impacted by the firearm injury crisis, communities of color are disproportionately affected. As has been the case with COVID-19, the firearm injury crisis starkly reveals the longstanding health disparities among Oregon population groups. Healthy People 2020, a set of science-based public health objectives for improving the health of all U.S. residents, defines *health disparity* as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”<sup>8</sup>

In Oregon, for example, health disparities exist due in part to policies and practices such as sundown laws, redlining, restrictive zoning practices, neighborhood disinvestment, and gentrification that have created barriers to home ownership and have contributed to economic instability, gaps in educational attainment and income, and unequal access to health care among Oregon’s Black and African-American population.<sup>9</sup> Centuries of structural colonialism also compound the discrimination that has led to health disparities among Native Americans and Alaska Native populations in Oregon.<sup>10</sup> Recognizing these “upstream” causes of the unequal distribution of the firearm injury burden in Oregon is important context for understanding the firearm injury data provided in this report and for considering effective strategies for prevention.

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<sup>5</sup> Centers for Disease Control and Prevention. *WISQARS, Fatal Injury Reports, National, Regional and State, 1981-2020*. Accessed July 26, 2022 at <https://www.cdc.gov/injury/wisqars/fatal.html>.

<sup>6</sup> Centers for Disease Control and Prevention. *WISQARS, Nonfatal Injury Reports, 2000-2020* Accessed July 26, 2022 at <https://www.cdc.gov/injury/wisqars/nonfatal.html>; Schnippel K, Burd-Sharps S, Miller T, Lawrence B, Swedler D. Nonfatal firearm injuries by intent in the United States: 2016-2018 Hospital discharge records from the Healthcare Cost and Utilization project. *WJEM* 2021;22(3).

<sup>7</sup> Centers for Disease Control and Prevention. *WISQARS, Fatal Injury Reports, National, Regional and State, 1981-2020*. Accessed July 26, 2022 at <https://www.cdc.gov/injury/wisqars/fatal.html>.

<sup>8</sup> U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. *Disparities*. Accessed July 26, 2022 at [Disparities | Healthy People 2020](#).

<sup>9</sup> Oregon State University. The Anarres Project. *The Oregon Black Laws*. Accessed July 26, 2022 at [The Oregon Black Laws | Oregon Social Justice | Home \(oregonstate.edu\)](#); Gibson, KJ. Bleeding Albina: A history of community disinvestment, 1940-2000. *Transforming Anthropology*, 15(1), 3-25; Oregon Health Authority, Public Health Division. *Healthier Together Oregon Annual Report. Year 1: September 2020-December 2021*. June 2022 Accessed July 25, 2022 at <https://sharedsystems.dhsosha.state.or.us/DHSForms/Served/le4220.pdf>

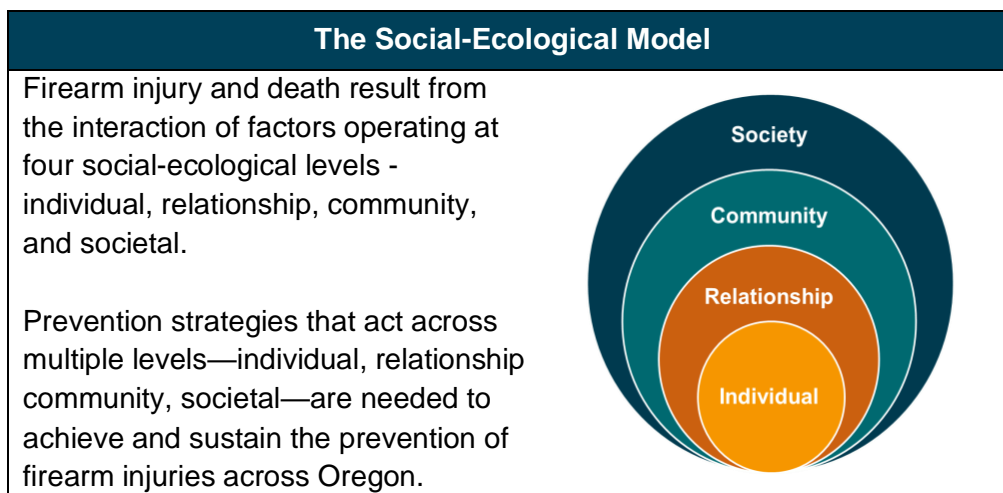
<sup>10</sup> Oregon Department of Education. *Essential Understandings of Native Americans in Oregon*. Accessed July 26, 2022 at [Essential Understandings of Native Americans in Oregon](#).

Using OR-ESSENCE to provide firearm injury data from hospital emergency departments throughout the state is an important contribution to the effort to more fully understand the firearm injury crisis in Oregon. Limitations of the OR-ESSENCE data, as described in the Technical Notes, pp. 4-5, are important to note to understand the restrictions of OR-ESSENCE data in adequately describing the populations most affected by the firearm injury crisis. These restrictions also underscore the work still to be done to continue to improve the data provided in OR-ESSENCE and to supplement it with other relevant data. Work on an Oregon FASTER data dashboard is underway and will provide updated OR-ESSENCE data and incorporate other related data sources as they become available.

The firearm injury crisis in Oregon includes deaths and injuries due to homicide/assault, suicide/self-harm, and unintentional injuries. In Oregon, in 2020, 77% of all firearm injury deaths were the result of suicide.<sup>11</sup> Firearm suicide rates in Oregon are disproportionately higher in rural communities, compared to urban areas,<sup>12</sup> and among Veterans, compared to non-Veterans.<sup>13</sup> As is discussed in the next section of this report, to effectively respond to the firearm injury public health crises affecting individuals, families, and communities throughout Oregon, a comprehensive approach is needed that recognizes the full breadth of the problem and considers the factors that affect the causes and consequences of firearm injury.

## The Social-Ecological Model: A Public Health Framework for Prevention

The context in which firearm injuries occur are captured in the social-ecological model, a public health framework used to help understand the **multiple overlapping individual, relationship, community, and societal factors** that affect health. Within this public health context, examples of research-informed prevention and risk-reduction strategies for firearm injury are provided. This includes strategies that address interpersonal violence as well as unintentional and firearm suicide/self-harm. This comprehensive approach is critical to identifying prevention and reduction strategies that are effective, have a sustainable impact, and address health disparities.



<sup>11</sup> Centers for Disease Control and Prevention. *WISQARS, Fatal Injury Reports, National, Regional and State, 1981-2020*. Accessed July 26, 2022 at <https://www.cdc.gov/injury/wisqars/fatal.html>.

<sup>12</sup> Oregon Health Authority, Public Health Division, Injury and Violence Prevention. *Firearm Safety: Firearms and Suicide*. Accessed July 26, 2022 at [Oregon Health Authority : Firearm Safety : Injury and Violence Prevention : State of Oregon](https://www.oregon.gov/oha/PH/InjuryPrevention/FirearmSafety/FirearmSafetyStateofOregon.pdf).

<sup>13</sup> U.S. Department of Veterans Affairs. *Oregon: Veteran Suicide Data Sheet, 2018*. <https://www.mentalhealth.va.gov/docs/data-sheets/2018/2018-State-Data-Sheet-Oregon-508.pdf>.

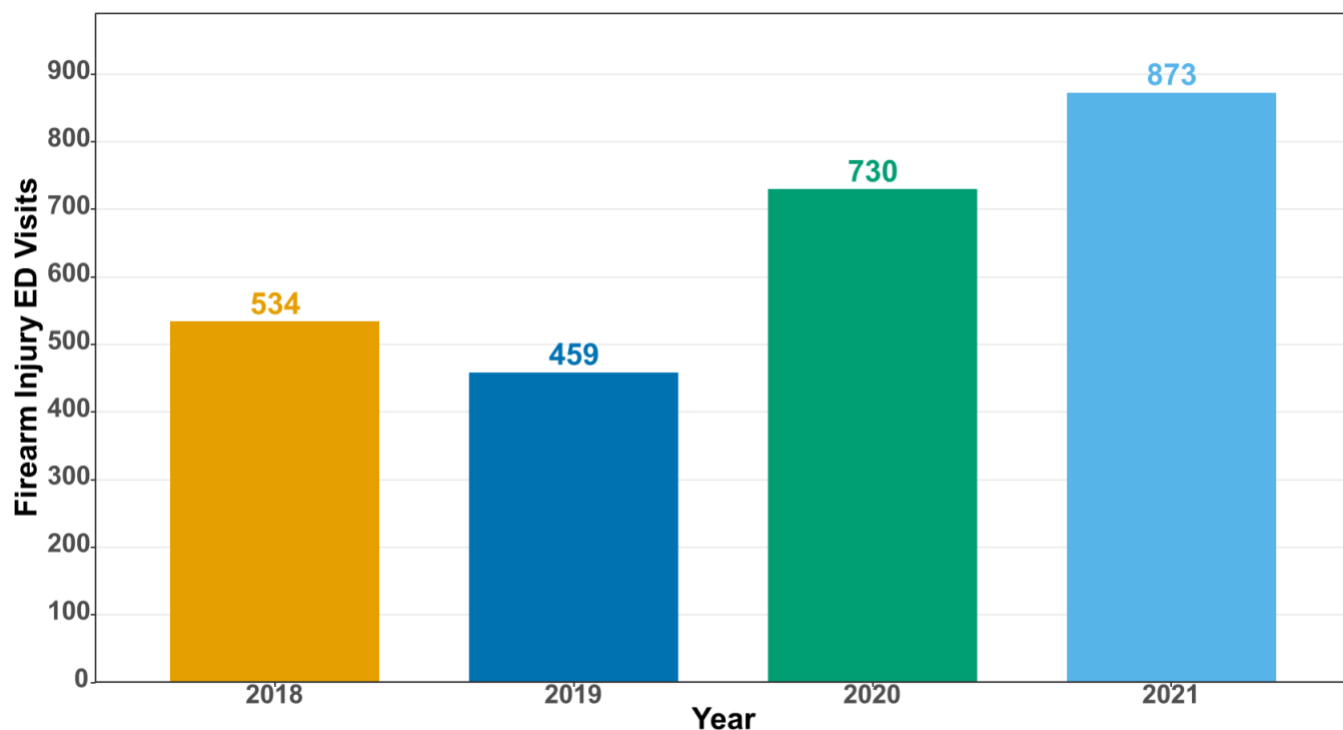
Level	Prevention and Risk Reduction Strategies
	<b>Policies, laws, and cultural norms</b> <ul style="list-style-type: none"> <li>• Address structural racism and assure equitable access to quality healthcare, education, affordable childcare, affordable housing, healthy food, employment, safe and accessible transportation, and healthy connected neighborhoods</li> <li>• Provide economic supports to ensure household financial security</li> <li>• Apply criminal justice reforms that increase the transparency and impartiality of the justice system</li> <li>• Support policies that temporarily restrict access to firearms for people at imminent risk of harming themselves or others (e.g., enhance awareness of Oregon's extreme risk protection order (ERPO) law)</li> </ul>
Societal	
	<b>Places where people live, work, learn, and enjoy free time</b> <ul style="list-style-type: none"> <li>• Invest in the creation of physical environments that reduce violence with cost-effective, place-based interventions that are structural, scalable, and sustainable</li> <li>• Eliminate racial segregation and the impact of gentrification on established neighborhoods</li> <li>• Address safety in areas with a high density of alcohol outlets</li> <li>• Provide safe firearm storage opportunities in the community</li> </ul>
Community	
	<b>Connection to family members, friends, peers, and other social networks</b> <ul style="list-style-type: none"> <li>• Train and deploy community outreach workers and violence interrupters to mitigate interpersonal conflicts</li> <li>• Engage youth through employment, job training, educational supports, and mentoring programs</li> <li>• Provide lethal means counseling to high-risk patients in healthcare settings</li> <li>• Provide gatekeeper training to identify people who may be at risk of suicide and to respond effectively</li> <li>• Support efforts to improve social capital (i.e., mutual trust and civic engagement)</li> </ul>
Relationship	
	<b>Personal characteristics and history</b> <ul style="list-style-type: none"> <li>• Enhance problem-solving skills and life skills including conflict resolution</li> <li>• Offer individually tailored social service and substance abuse treatment</li> <li>• Provide timely, trauma-informed, affordable, accessible, and high-quality mental health treatment and crisis intervention</li> <li>• Promote safe firearm storage and provide storage devices at reduced cost</li> </ul>
Individual	

1. Butchart A, Phinney A, Check P, Villaveces A. [Preventing Violence: A Guide to Implementing the Recommendations of the World Report on Violence and Health](#). Geneva: Department of Injuries and Violence Prevention, World Health Organization; 2004.
2. Stone D, Holland K, Bartholow B, Crosby A, Davis S, Wilkins N. [Preventing Suicide: A Technical Package of Policies, Programs, and Practice](#). Atlanta, GA: Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2017.
3. American Public Health Association. [Violence is a public health issue: Public health is essential to understanding and treating violence in the US](#). Policy Statement No. 20185; 2018.
4. John Jay College Research Advisory Group on Preventing and Reducing Community Violence. [Reducing Violence Without Police: A Review of Research Evidence](#). New York, NY: Research and Evaluation Center, John Jay College of Criminal Justice, City University of New York; 2020 (revised 2021).
5. The Joyce Foundation. [The Next 100 Questions: A Research Agenda for Ending Gun Violence](#). 2020.
6. Degutis, LC, Spivak, HR, eds.. [Gun Violence Prevention: A Public Health Approach](#). Washington, DC: American Public Health Association; 2021.



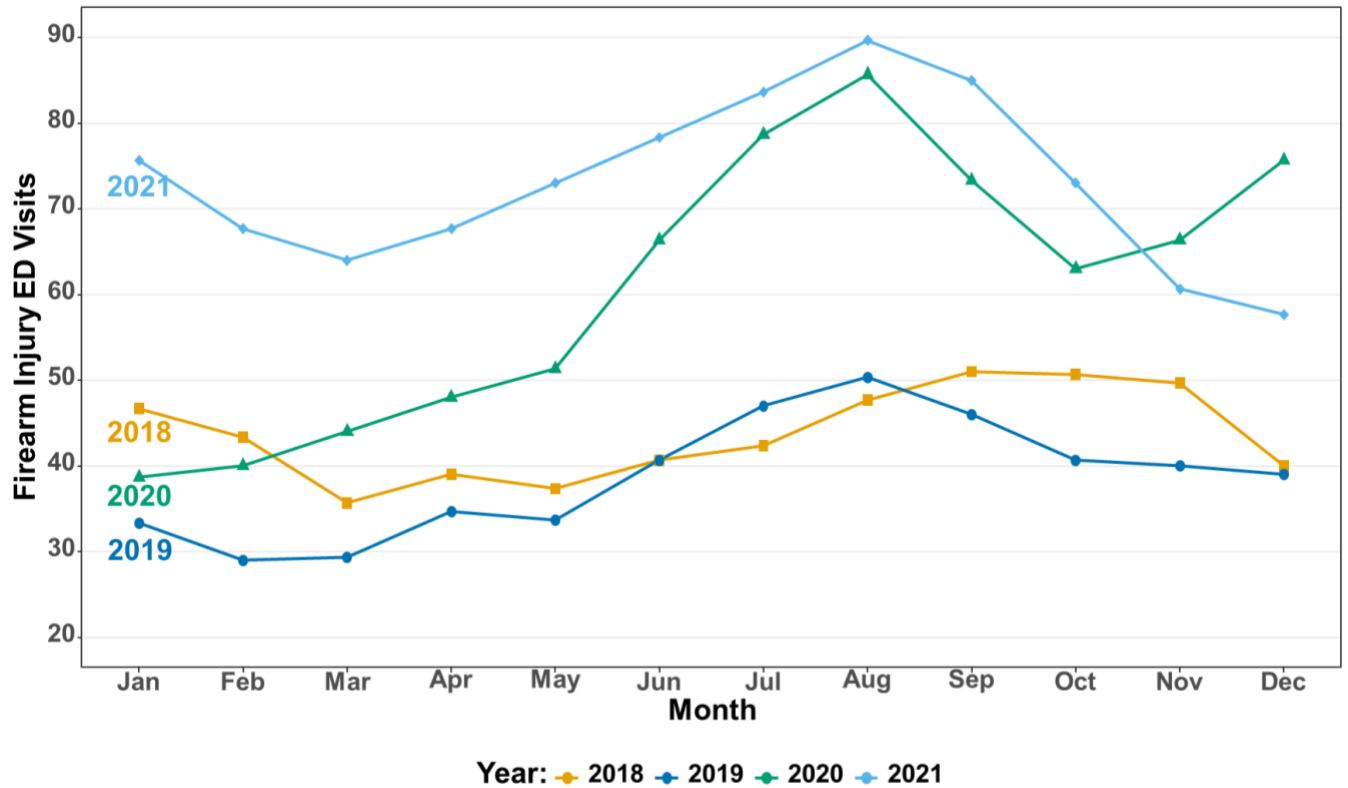
**Firearm Injury Emergency Department  
Visits in Oregon  
(OR-ESSENCE Data)**

## Number of Oregon Firearm Injury Emergency Department Visits by Year (OR-ESSENCE Data; January 2018 to December 2021)



Compared with 2018, firearm injury visits decreased in 2019 and then increased substantially in the two years following. In 2021, the number of firearm injury ED visits reached 873, a 63.5% increase from 2018. There was a 59.0% increase in firearm injury ED visits from 2019 to 2020 and a 19.5% increase from 2020 to 2021. On average, there was at least 1 firearm injury ED visit per day in 2018 and 2019, and at least 2 firearm injury ED visits per day in 2020 and 2021.

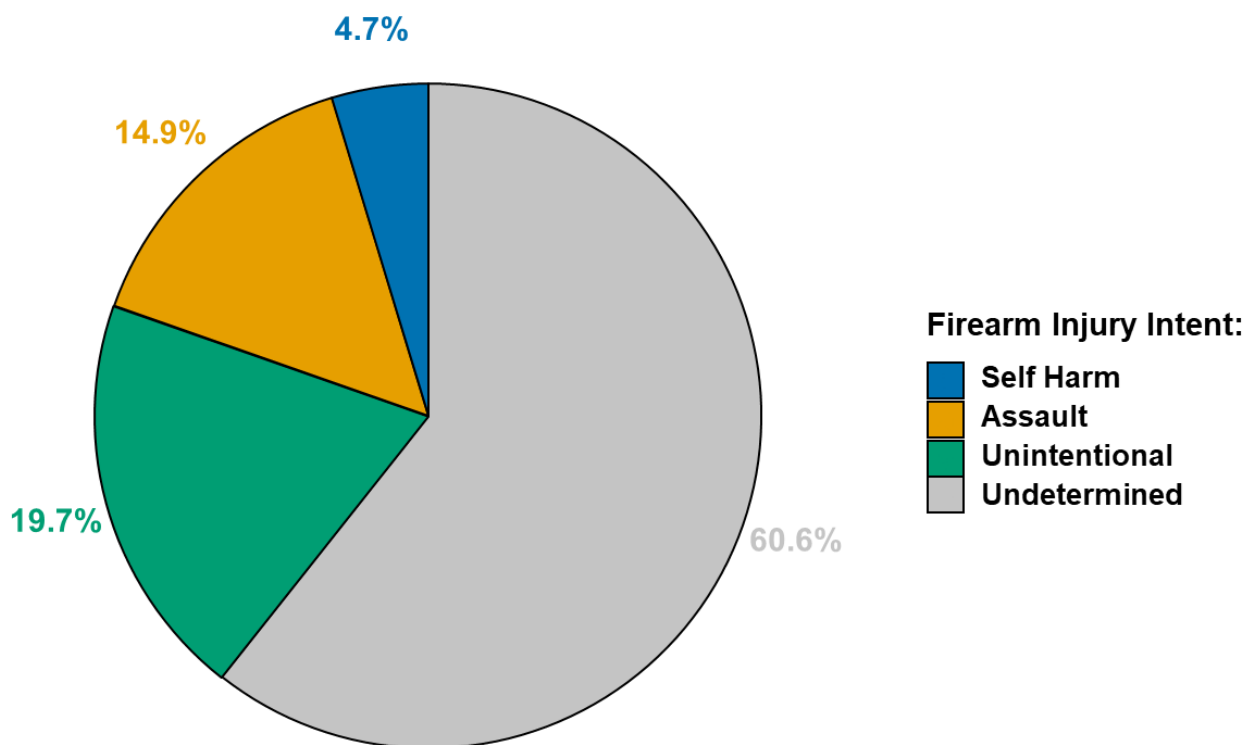
## Number of Oregon Firearm Injury Emergency Department Visits by Month (OR-ESSENCE Data; January 2018 to December 2021)



Note: Lines based on 3-month centered simple moving averages.

From May to August 2020, there was a sharp increase in the number of firearm injury ED visits in Oregon. Firearm injury ED visits peaked in July, August, and September for all years except 2018, during which the number of firearm injury ED visits peaked between September and November. The highest number of firearm injury ED visits occurred in August of 2021.

## Proportion of Oregon Firearm Injury Emergency Department Visits by Intent\* (Manually Reviewed OR-ESSENCE Data; January 2018 to June 2021)



Note: Injury intent determined through manual review of OR-ESSENCE data.

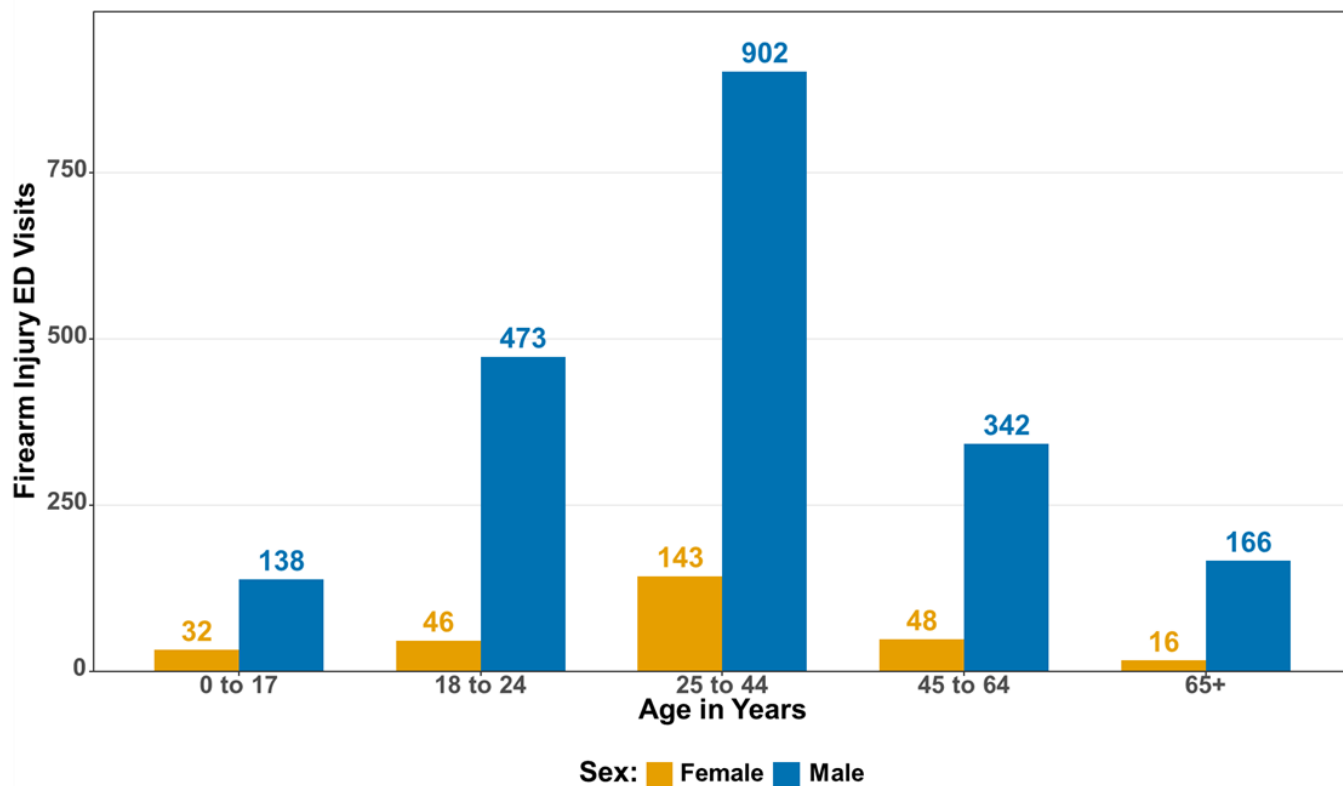
Firearm Injury Intent	2018	2019	2020	2021 (Jan-June)	Total
Self-Harm	23	23	23	13	82
Assault	73	47	90	52	262
Unintentional	109	82	112	43	346
Undetermined	227	206	370	260	1,063
<b>Total</b>	<b>432</b>	<b>358</b>	<b>595</b>	<b>368</b>	<b>1,753</b>

Note: Injury intent determined through manual review of OR-ESSENCE data, January 2018 to June 2021.

The pie chart and table above display firearm injury intent determined by manual review of 1,753 firearm injury-related records in OR-ESSENCE from January 1, 2018 through June 30, 2021 (full electronic medical records from hospitals were not reviewed; only data provided by hospital emergency departments to OR-ESSENCE were reviewed; see the Technical Notes, p. 4). Due to a lack of adequate narrative information provided in the OR-ESSENCE system, 1,063 (60.6%) records were categorized as undetermined intent in the manual review. Among the records with adequate narrative information, manual review of these records revealed 82 (4.7%) self-harm, 262 (14.9%) assault, and 346 (19.7%) unintentional firearm injury ED visits. Of the records reviewed, 7 firearm injury ED visits involved legal intervention and they are included in the number of assaults.

Note: We manually reviewed a total of 2,165 records but excluded 172 records that lacked sufficient information to determine whether a firearm injury occurred and 240 records that were determined, through manual review, to be unrelated to a firearm injury.

## Number of Oregon Firearm Injury Emergency Department Visits by Age and Sex (OR-ESSENCE Data; January 2018 to December 2021)

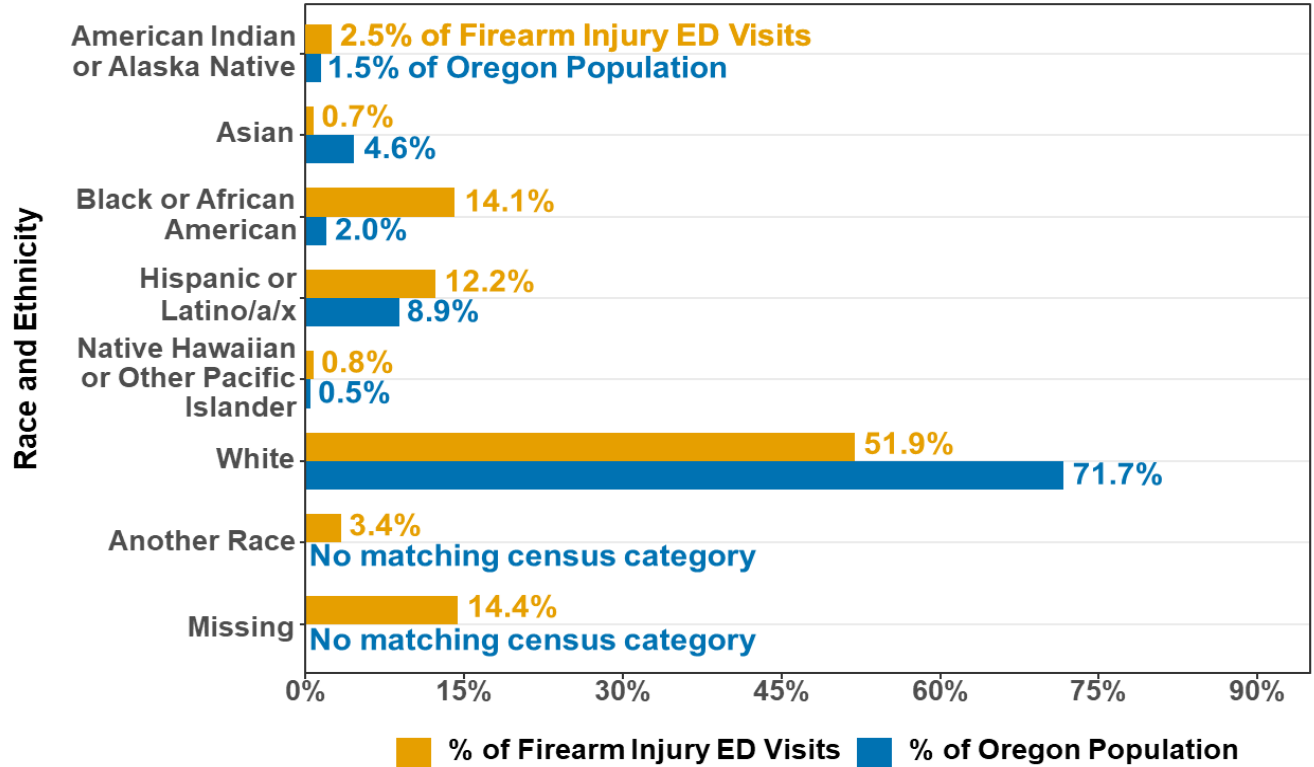


For the years 2018-2021, males in Oregon experienced 7 times the number of firearm injury ED visits compared to females. For both males and females, the highest number of firearm injury ED visits occurred in the 25 to 44-year age group. Firearm injury ED visits among males and females aged 25 to 44 accounted for 40.3% of the total number of firearm injury ED visits (2,596). The numbers provided in the graph exclude 290 firearm injury ED visits that were missing information for age or sex.

Note: Complete information on sexual orientation and gender identity, which would provide a more accurate description of the impact of firearm injury among the LGBTQ+ community, was not available in the OR-ESSENCE system at the time of this analysis. See the Technical Notes, p. 5 for an explanation of efforts in Oregon to improve data collection on sexual orientation and gender identity.



## Proportion of Oregon Firearm Injury Emergency Department Visits by Race and Ethnicity, Compared to Oregon Population Proportions (OR-ESSENCE Data; January 2018 to December 2021)

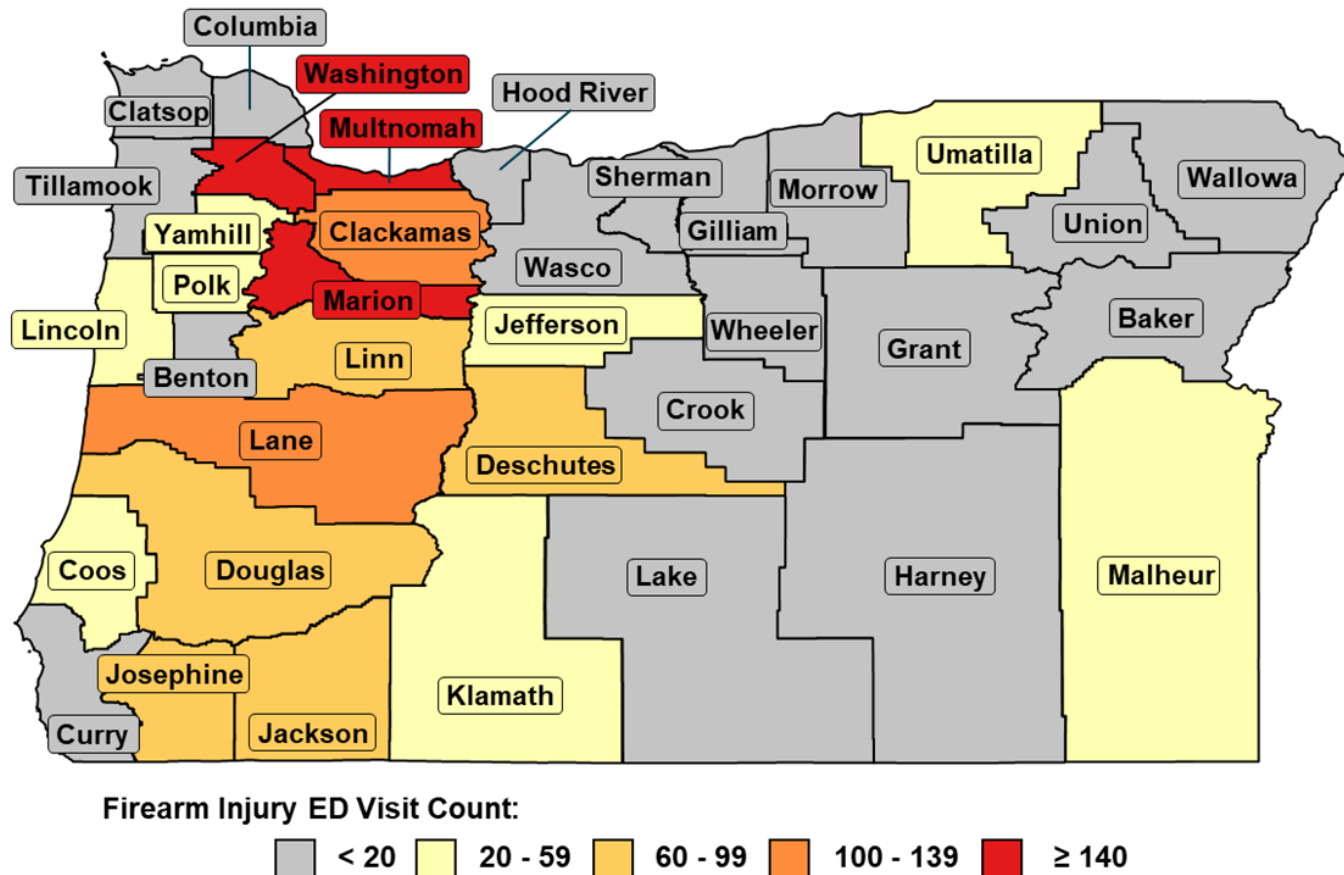


Note: Population data are from the 2020 U.S. Census.

The proportions of firearm injury ED visits among patients of specified races and ethnicities in OR-ESSENCE data were compared to the proportions of each race and ethnicity in the Oregon population using data from the 2020 U.S. Census. These comparisons show that the following populations of color in Oregon were disproportionately impacted by firearm injury: American Indian or Alaska Native, Black or African American, Hispanic or Latino/a/x, and Native Hawaiian or Other Pacific Islander. Oregonians identified as American Indian or Alaska Native represented 1.5% of the population of Oregon from 2018-2021 yet experienced 2.5% of the firearm injury ED visits during that period. Similarly, Oregonians identified as Black or African American comprised 2.0% of the population of Oregon but experienced 14.1% of the firearm injury ED visits; those identified as Hispanic or Latino/a/x comprised 8.9% of the population of Oregon but experienced 12.2% of the firearm injury ED visits; and those identified as Native Hawaiian or Other Pacific Islander comprised 0.5% of the population of Oregon but experienced 0.8% of the firearm injury ED visits. Patient race and ethnicity was documented as “Another Race” for 3.4% of the ED visits and was “Missing” for 14.4% of the ED visits; there is no comparable census category for the “Another Race” and “Missing” categories.

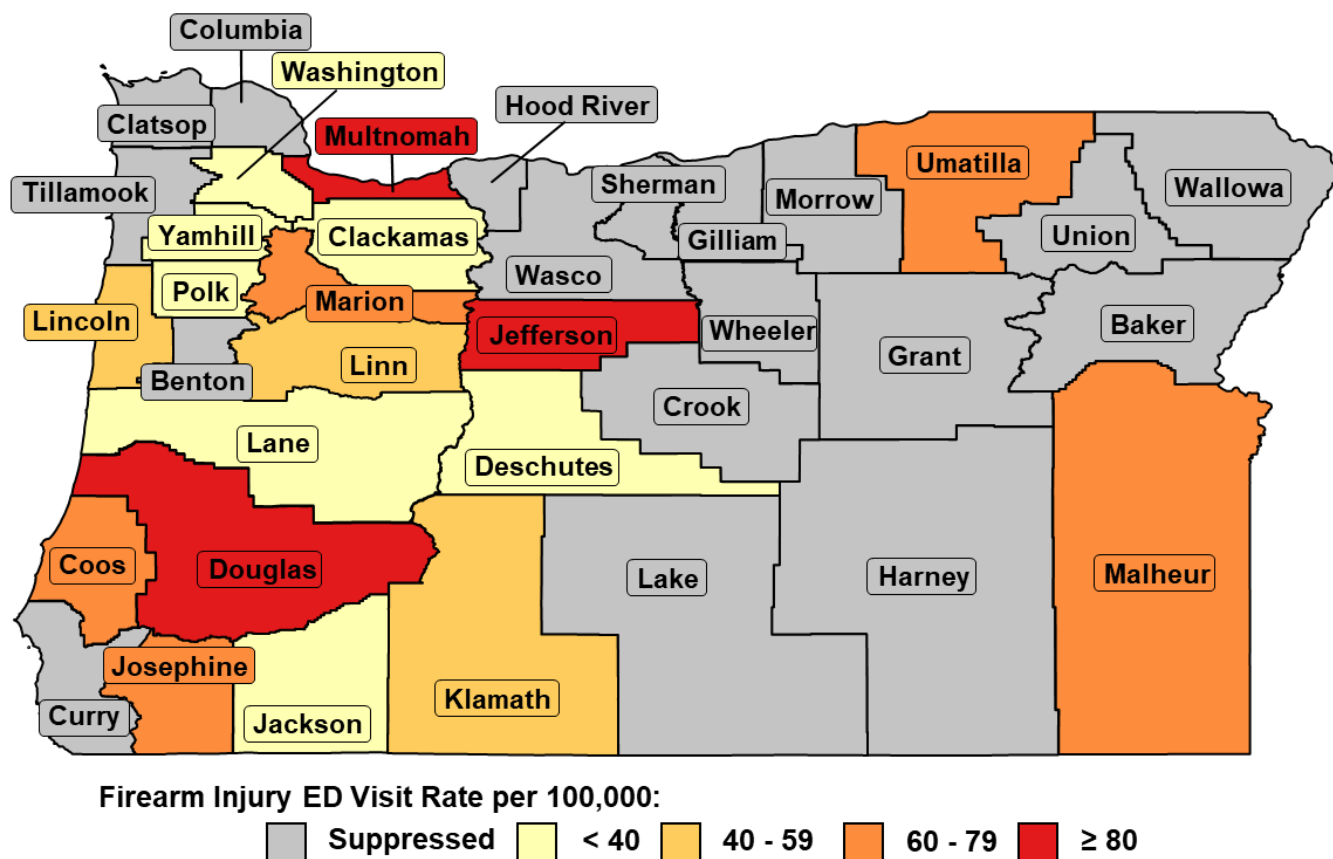
Note: Improved documentation of patients’ race and ethnicity in ED data would provide a more accurate depiction of the impact of firearm injury ED visits among people of different races and ethnicities in Oregon and promote health equity. See the Technical Notes, p. 5 for an explanation of the efforts in Oregon to improve data collection on race and ethnicity.

## Number of Oregon Firearm Injury Emergency Department Visits Based on Where Injured Patients Lived (OR-ESSENCE Data; January 2018 to December 2021)



This map of Oregon shows the burden of firearm injury ED visits across the state from 2018 through 2021, based on the county where injured patients lived at the time of their firearm injury ED visit (the data do not report the county in which the injury occurred). Residents of Multnomah (731), Marion (245), and Washington (166) counties experienced the highest number of firearm injury ED visits over the 4-year period. Over those same 4 years, visits among patients living in Clackamas (117), Marion, Multnomah, and Washington counties comprised 48.5% of all firearm injury ED visits across the state (2,596). This pattern may represent the larger overall populations in these counties and/or a pattern representing the I-5 corridor. The firearm injury ED counts reflected in the map exclude 100 firearm injury ED visits among patients who did not reside in Oregon at the time of their ED visit and 226 firearm injury ED visits that were missing data for where the injured patient lived at the time of their ED visit.

## Rates of Oregon Firearm Injury Emergency Department Visits Based on Where Injured Patients Lived (OR-ESSENCE Data; January 2018 to December 2021)



**Note:** Population data are from the 2020 U.S. Census.

This map of Oregon shows the 4-year rate (encompassing the 4-year period 2018 through 2021) of firearm injury ED visits based on the county where injured patients lived at the time of their firearm injury ED visit (the county rates do not reflect *where* the injuries occurred). The 4-year rates for each county take into account where injured patients lived at the time of their firearm injury ED visits *and* the total number of people living in each county. The rates for each county can be compared to determine which counties had the highest number of residents with firearm injury ED visits relative to their population over the 4-year time period (that is, the number of residents with firearm injury ED visits per capita). Douglas, Jefferson, and Multnomah counties are included in the category with the highest 4-year *rates* of firearm injury ED visits. For every 100,000 people living in each of those counties, there were at least 80 firearm injury ED visits over the four-year period, 2018 through 2021. In Coos, Josephine, Malheur, Marion, and Umatilla counties, there were 60 – 79 firearm injury ED visits per 100,000 county residents, the next highest rate category. For an explanation of rate calculations and suppressed rates see the Technical Notes, p. 5.

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