



Seattle Office of City Auditor

DATE: December 21, 2023

TO: The Honorable Lisa Herbold, Chair, Public Safety and Human Services Committee, Councilmember, Seattle City Council

FROM: David G. Jones, City Auditor, and IB Osuntoki, Assistant City Auditor

RE: Gun Safe Storage Ordinance: Statistical Report on 2021 and 2022 Data

[Ordinance 125620](#) directs the Seattle City Auditor to work with Public Health – Seattle & King County (PHSKC) and the Chief of the Seattle Police Department (SPD) to produce a series of reports over a five-year period containing descriptive statistics on:

1. Firearm-related hospitalizations and deaths in Seattle for the overall population and among youth, and
2. Guns reported to or recorded by SPD as stolen in Seattle.

This is the fourth report we are producing in collaboration with PHSKC and SPD. PHSKC obtained and analyzed data on firearm-related hospitalizations and deaths from the Washington State Department of Health (DOH), and SPD used its records to generate the data on guns reported or recorded as stolen.

For this report, PHSKC adopted a new methodology to analyze the 2021 and 2022 firearm-related hospitalizations and deaths data, which makes this report incomparable with previous reports. We are unable to include the 2022 firearm-related hospitalizations data in this report due to the implementation of privacy regulations by DOH. We discuss the effects of these changes below.

The previous reports we produced are:

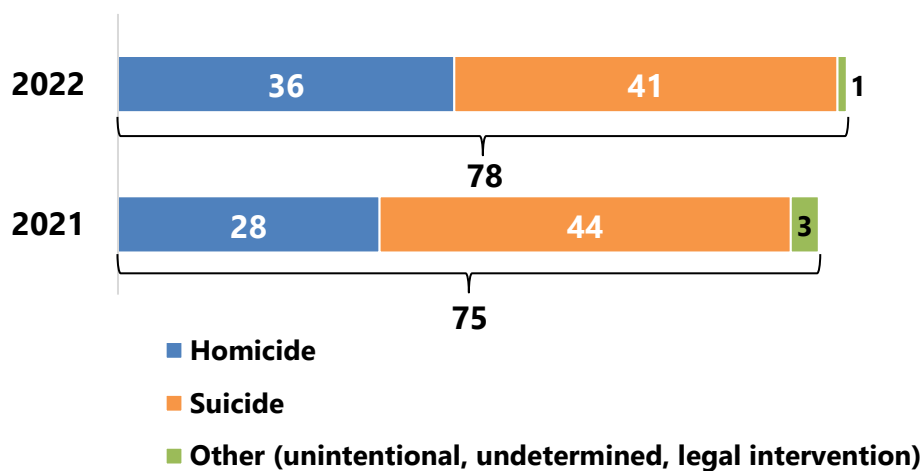
- [Gun Safe Storage Ordinance: Baseline Statistical Report](#) that used 2017 data, the year before the ordinance took effect.
- [Gun Safe Storage Ordinance: Statistical Report on 2019 Data and Updated 2017 Data](#)
- [Gun Safe Storage Ordinance: Statistical Report](#) reported on 2020 data.

Please contact us if you have any questions about the information provided in this memo.

Key Takeaways

The number of firearm deaths among Seattle residents was 75 in 2021 and 78 in 2022 (see Exhibit 1). Firearm suicides accounted for 59 percent (44 out of 75) and 53 percent (41 out of 78) of all firearm deaths among Seattle residents in 2021 and 2022, respectively.

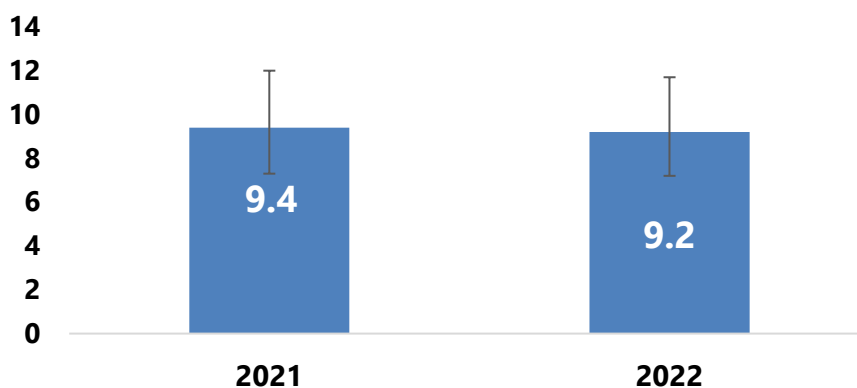
Exhibit 1: Firearm-related Deaths by Intent (Manner) of Injury among Seattle Residents All Ages



Source: Office of City Auditor analysis of PHSKC data.

The rate of firearm deaths was similar in 2021 and 2022, at 9.4 per 100,000 and 9.2 per 100,000 Seattle residents respectively (see Exhibit 2). PHSKC notes that changes over time based on small numbers are unstable and should be interpreted with caution since chance cannot be ruled out as an explanation for these differences.

Exhibit 2: Rate of Firearm-related Deaths Among Seattle Residents, All Ages (Rate per 100,000 Seattle Residents)

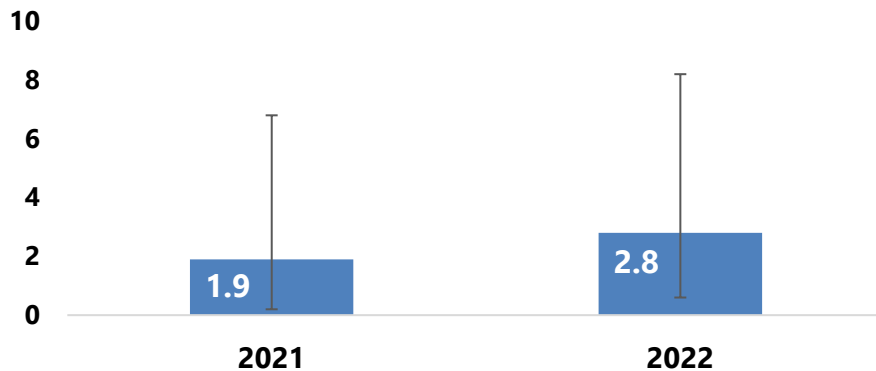


Error bars indicate 95% Confidence Intervals.

Source: Office of City Auditor analysis of PHSKC data.

Among Seattle youth under 18 years, firearm deaths accounted for 20 percent of all injury deaths in 2021, and 27 percent in 2022. There were two firearm deaths among Seattle youth under age 18 in 2021 and three in 2022. All the firearm deaths among Seattle youth under 18 years in 2021 and 2022 were homicides. The rate of firearm deaths among Seattle youth under 18 years was 1.9 per 100,000 residents in 2021 and 2.8 per 100,000 residents in 2022 (see Exhibit 3). However, this increase in rate should be interpreted with caution due to overlapping confidence intervals. Noted changes over time based on small numbers are unstable and the data does not suggest an increase or decrease in Seattle youth firearm deaths over this time.

Exhibit 3: Rate of Firearm-related Deaths Among Seattle Youth Under 18 years (Rate per 100,000)

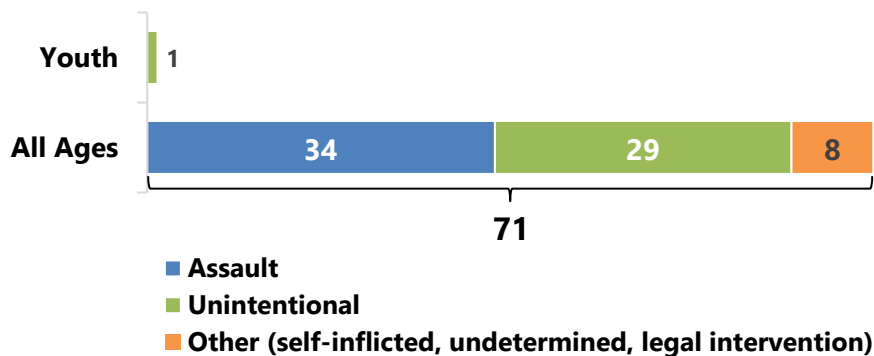


Error bars indicate 95% Confidence Intervals.

Source: Office of City Auditor analysis of PHSKC data.

The number of firearm-related non-fatal hospitalizations among Seattle residents in 2021 was 71 (see Exhibit 4). This equates to a rate of 8.8 firearm non-fatal hospitalizations per 100,000 Seattle residents. In 2021, assaults accounted for 48 percent (34 out of 71) of firearm non-fatal hospitalizations among Seattle residents, and unintentional firearm injuries accounted for 41 percent (29 out of 71). There was one firearm-related non-fatal hospitalization among Seattle youth under 18 years in 2021, which was due to unintentional firearm injuries. Noted changes over time based on small numbers are unstable and should be interpreted with caution.

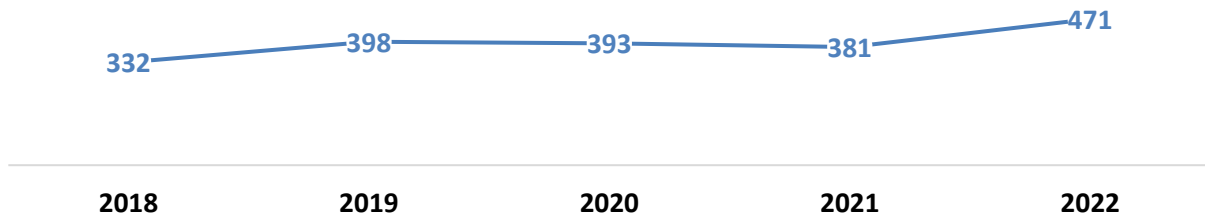
Exhibit 4: Firearm-related Non-fatal Hospitalizations by Intent and Age Group Among Seattle Residents in 2021



Source: Office of City Auditor analysis of PHSKC data.

The number of guns reported to or recorded by SPD as stolen increased from 381 in 2021 to 471 in 2022. Exhibit 5 shows the five-year trend for guns reported to or recorded by SPD as stolen.

Exhibit 5: Guns Reported or Recorded as Stolen



Source: Office of City Auditor analysis of SPD Data on Stolen Guns.

2021 and 2022 Firearm-related Hospitalizations and Deaths Data are Incomparable with Previous Reports

It is important to note that due to changes in methodology, the firearm-related hospitalizations and deaths data for 2021 and 2022 should not be compared to those reported in the previous reports. The specific reasons are:

1. The 2021 and 2022 data use population interim estimates based on 2020 census data and injury hospitalizations are defined to be consistent with U.S. Center for Disease Control recommendations for injury surveillance using coded hospitalization discharge data, which identifies hospitalizations due to an injury (narrow definition) rather than with an injury (broad definition).
2. As of October 1, 2015, medical data coded using the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) requires coders to assign unintentional intent when the intent is not stated in the medical record. This may lead to an overcount of unintentional injuries and an undercount of intentional injuries, such as assaults and self-harm, in reported hospitalization data.

Therefore, it is not appropriate to compare the data in this report – 2021 firearm-related hospitalizations and deaths and 2022 firearm-related deaths – with data published in previous reports.

Seattle 2021 Firearm-related Hospitalizations and Deaths

Exhibit 6 below provides the data requested in the ordinance covering 2021 on firearm hospitalizations and deaths for the overall and youth populations in Seattle.

Exhibit 6: 2021 Data on Firearm Hospitalizations and Deaths for the Overall and Youth Populations in Seattle

	All Ages — Seattle, WA, 2021					Youth (< 18 years) — Seattle, WA, 2021				
	Number	Population	Rate	Lower CI	Upper CI	Number	Population	Rate	Lower CI	Upper CI
Firearm deaths										
Total	75	738,977	9.4	7.3	12	2^	105,596	1.9	0.2	6.8
Homicide	28	738,977	3.4	2.2	5.2	2^	105,596	1.9	0.2	6.8
Suicide	44	738,977	5.6	4	7.7	0	105,596	0	0	3.5
Other (unintentional, undetermined, legal intervention)	3^	738,977	0.4	0.1	1.4	0	105,596	0	0	3.5
All injury deaths	635	738977	79.8	73.5	86.5	10	105596	9.5	4.5	17.4
Firearm non-fatal hospitalizations*										
Total	71	738,977	8.8	6.8	11.4	1^	105,596	1.0	0	5.3
Assault	34	738,977	4.1	2.8	6.0	0	105,596	0	0	3.5
Unintentional	29	738,977	3.8	2.5	5.7	1^	105,596	1.0	0	5.3
Other (self-inflicted, undetermined, legal intervention)	8^	738,977	0.9	0.4	2.1	0	105,596	0	0	3.5
All injury non-fatal hospitalizations	2294	738977	295.5	283.2	308.4	86	105596	81.4	65.1	100.6

*As of October 1, 2015, medical data coded using the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) requires coders to assign unintentional intent when the intent is not stated in the medical record. This may lead to an overcount of unintentional injuries and an undercount of intentional injuries, such as assaults and self-harm.

^Unstable rate; interpret with caution, sample size is small, so estimate is imprecise.

CI = 95% Confidence Interval. The CI is the range of values that include the true rate 95% of the time.

Notes:

In Seattle in 2021, approximately 58.7% (44/75) of firearm deaths were due to suicide.

Non-fatal hospitalizations exclude instances of deaths that occur while hospitalized and reflect instances of hospitalizations and not distinct injured individuals or injuries. Numbers may differ from those reported in prior reports and elsewhere as we used a new methodology implemented with 2021 data reporting as our new standard approach.

Rate is per 100,000 Seattle residents and age-adjusted to 2000 U.S. population. Rates for youth (< 18) are not age-adjusted.

Small numbers (< 10) reported with approval from Washington State Department of Health.

Data Sources:

Deaths: Washington State Department of Health, Center for Health Statistics, Death Certificate Data, 1990-2022

Nonfatal hospitalizations: Washington State Department of Health, Center for Health Statistics, WA Hospital Discharge Data, Comprehensive Hospitalization Abstraction Reporting System (CHARS), 2012-2021

Population estimates: Washington State Population Interim Estimates (PIE), March 2022. For more details see <https://phskc-apde.shinyapps.io/PopPIE/>

Prepared by: Public Health — Seattle & King County, Assessment, Policy Development & Evaluation, 11/30/2023.

Seattle 2022 Firearm-related Hospitalizations and Deaths

Exhibit 7 below provides the data requested in the ordinance covering 2022 on firearm deaths for the overall and youth populations in Seattle. PHSKC was unable to include the firearm-related hospitalizations data for 2022 due to the implementation of a new approach by Washington State Department of Health (DOH) to protect the privacy of hospitalized patients with Substance Use Disorder in accordance with [42 CFR Part 2](#). PHSKC is working with DOH to find a solution for analyzing the 2022 hospitalization data. We will include the hospitalization data in subsequent reports if a solution has been reached.

Exhibit 7: 2022 Data on Firearm Deaths for the Overall and Youth Populations in Seattle

	All Ages — Seattle, WA, 2022					Youth (< 18 years) — Seattle, WA, 2022				
	Number	Population	Rate	Lower CI	Upper CI	Number	Population	Rate	Lower CI	Upper CI
Firearm deaths										
Total	78	758,964	9.2	7.2	11.7	3 [^]	106,676	2.8	0.6	8.2
Homicide	36	758,964	4.1	2.8	5.9	3 [^]	106,676	2.8	0.6	8.2
Suicide	41	758,964	5.0	3.6	7	0	106,676	0	0	3.5
Other (unintentional, undetermined, legal intervention)	1 [^]	758,964	0.1	0	1	0	106,676	0	0	3.5
All injury deaths	783	758964	94.6	87.9	101.8	11	106676	10.3	5.2	18.5
Firearm non-fatal hospitalizations*										
Total	Beginning in 2022, WA DOH (which processes and releases hospitalization data to local health departments in WA State) implemented a new approach to protecting the privacy of hospitalized patients with a substance use disorder (SUD). In accordance with 42 CFR Part 2 (federal law governing the disclosure of identifiable SUD treatment data), DOH has begun removing ZIP code and county of residence information for all hospitalization records with a SUD diagnosis. With this in mind, Public Health is putting a pause on using 2022 hospitalization data until we can find a solution with DOH.									
Assault										
Unintentional										
Other (self-inflicted, undetermined, legal intervention)										
All injury non-fatal hospitalizations										
<p>*As of October 1, 2015, medical data coded using the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) requires coders to assign unintentional intent when the intent is not stated in the medical record. This may lead to an overcount of unintentional injuries and an undercount of intentional injuries, such as assaults and self-harm.</p> <p>[^]Unstable rate; interpret with caution, sample size is small, so estimate is imprecise.</p> <p>CI = 95% Confidence Interval. The CI is the range of values that include the true rate 95% of the time.</p> <p>Notes:</p> <p>In Seattle in 2022, approximately 52.6% (41/78) of firearm deaths were due to suicide.</p> <p>Non-fatal hospitalizations exclude instances of deaths that occur while hospitalized and reflect instances of hospitalizations and not distinct injured individuals or injuries. Numbers may differ from those reported in prior reports and elsewhere as we used a new methodology implemented with 2021 data reporting as our new standard approach.</p> <p>Rate is per 100,000 Seattle residents and age-adjusted to 2000 U.S. population. Rates for youth (< 18) are not age-adjusted.</p> <p>Small numbers (< 10) reported with approval from Washington State Department of Health.</p> <p>Data Sources:</p>										

PHSKC summarized its findings from the 2021 and 2022 data as follows:

1. In general, firearm suicide accounted for more than half of all firearm deaths among Seattle residents, with 59 percent in 2021 and 53 percent in 2022.
2. In 2021, the firearm suicide death rate was 1.6 times higher than the firearm homicide death rate among Seattle residents. A similar pattern was observed in 2022, where the firearm suicide death rate was 1.3 times higher than the firearm homicide death rate.
3. There were two firearm deaths among Seattle youth under 18 years in 2021, accounting for 20 percent of all injury deaths among Seattle youth. In 2022, three Seattle youth died from firearms accounting for 27 percent of all injury deaths among Seattle youth.
4. Assaults accounted for 48 percent of non-fatal firearm injury hospitalizations among Seattle residents in 2021.^{1,2}
5. In 2021 unintentional firearm injuries accounted for 41 percent of non-fatal firearm hospitalizations among Seattle residents.^{1,2}
6. Among Seattle youth under 18 years, there was one non-fatal firearm hospitalization (one percent of all injury nonfatal hospitalizations) in 2021.¹
7. While the overall firearm death rate remains steady (at nine deaths per 100,000), there are fluctuations in the rate of firearm homicide and suicide deaths between 2021 and 2022. However, the noted changes over time are unstable due to imprecise estimates based on small numbers and there is insufficient evidence of change between 2021 and 2022.

¹ Due to DOH changes in data processing for 2022 hospitalization data, PHSKC is pausing the use of 2022 data until a solution with DOH can be reached (see note on data incompatibility on page 5).

² As a result of changes in coding guidelines for medical coded data implemented on October 1, 2015, coders are required to assign unintentional intent when the intent is not stated in the medical record. This may lead to an overcount of unintentional injuries and an undercount of intentional injuries, such as assaults and self-harm, in reported hospitalization data.

Seattle Police Department Data on Stolen Guns

According to data provided by the SPD, the number of guns reported or recorded as stolen increased from 381 in 2021 to 471 in 2022.

Exhibit 8: Guns Reported or Recorded as Stolen by SPD

Year	2018	2019	2020	2021	2022
Guns Reported or Recorded as Stolen	332	398	393	381	471

Source: Office of City Auditor analysis of SPD Data on Stolen Guns.

SPD noted that stolen firearms reports changed as of May 6, 2019, when their Records Management System was updated. However, an SPD official stated that SPD does not believe these changes affected the overall count of stolen guns. Major changes included:

- Property status for 2022 data is as of October 11, 2023. Property status updates are based on reporting and or investigative updates. For example, a gun reported stolen can be updated to “recovered” later and will no longer be listed as stolen or reflected in the data.
- The “Report Created Date” on the Property Report with which the qualifying stolen gun item record is associated, was used as the qualifying date instead of “Submitted Date” as seen in previous reports.
- The National Crime Information Center (NCIC) firearm codes are no longer used. The NCIC Gun Type field was used to distinguish qualifying Stolen Firearm records (guns), from Stolen Firearm records that document stolen ammunition, stolen BB guns, etc.

Future Report

The approximate delivery date for the final report with 2023 data will be fourth quarter 2024, which is contingent on when the data becomes available. The report will include firearms-related death data and SPD data on stolen guns. Firearms-related hospitalization data for 2022 and 2023 will be included in the report if PHSKC and DOH have found a solution to analyze those data.