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Public Health Division

Emergency Medical Services Program

# Oregon Trauma Registry 2025 Biennial Report



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## Executive summary

The Oregon Emergency Medical Services (EMS) Program is responsible for development, implementation and ongoing monitoring of the state's trauma system. This includes:

- Establishing system-wide standards,
- Designating trauma hospitals to care for injured patients, and
- Analyzing and reporting trauma registry data.

The program ensures that Oregon has high-quality community resources to respond to traumatically injured individuals. According to Oregon Administrative Rule OAR 333-200-1010(27), "Trauma patient" means a person who at any time meets field triage criteria for inclusion in the Oregon Trauma System as described in Exhibit 2 or the hospital activation criteria as set forth in Exhibit 3 of these rules. It does this by maintaining an integrated statewide system of resources through the establishment of trauma regions and designation of trauma care hospitals. The program collects and manages Oregon Trauma Registry (OTR) data to provide summary and record level information to hospital trauma programs and EMS agencies, supporting improvements in trauma system performance and patient outcomes.

Additionally, Oregon contributes trauma data to the National Trauma Data Bank for national trauma system use. The Oregon Trauma Registry 2025 Biennial Report includes trauma records from 2023–2024.

### Trauma system

Forty-three of Oregon's 59 licensed acute care hospitals participate in the trauma system. Oregon is divided into seven regions, each with an Area Trauma Advisory Board (ATAB). All ATABs except ATAB 9 have at least one level I or level II trauma hospital; ATAB 9 is serviced by level II trauma hospitals in Washington and Idaho. Most hospitals in the trauma system are level IV trauma hospitals, which are mostly critical access hospitals that provide vital links for receiving rural trauma patients and transferring them to higher-level trauma hospitals in urban centers. Approximately two-thirds of trauma patients in Oregon are seen in the level I and level II trauma hospitals. Additionally, Oregon's overall volume of trauma patients follows the national trend of peaking during the summer months. In 2024, trauma care in Oregon incurred more than \$1.4 billion in charges, demonstrating the scale of the financial impact and the critical role of reliable data in optimizing trauma system operations, improving patient outcomes, and ensuring sustainable healthcare delivery.

### Demographics

Pediatric (0–14 years) and geriatric (65 years and older) demographics are the fastest growing groups. Pediatric admit rates increased by 5.7% and geriatric

admit rates increased by 5.8% from years 2023 to 2024. This is consistent with national trends over the past decade, in which elderly falls have displaced adult motor vehicle trauma as the dominant cause of trauma in the system. Although most of these patients are seen in urban ATABs, the greatest percentage increase is in rural ATABs. In keeping with previous years, most trauma patients are male, and the majority are White/non-Hispanic (18,506) followed by Other/Hispanic (2,208).

## Injuries

Falls are the most common cause of injury at 10,955 per year and increasing annually. The next most common cause is motor vehicle collision (MVC) related injuries at 7,029 per year and increasing annually. "Other specified," at 441 per year, is the mechanism with the largest increase, rising 26.7% over the two years. The majority of these "other transport" injuries are represented by off road vehicles and watercraft. The falls, MVC, and ATV crashes resulted in mostly blunt trauma. The remainder were accidents or unknown. Most of the increase in trauma volume between 2023 and 2024 was due to minor and moderate injuries with injury severity scores (ISS) below 6.

# Introduction

The Oregon Trauma System reports are part of the Emergency Medical Services Program's continued commitment to assess and reshape Oregon's trauma system and to improve patient care. These reports are intended to:

- assist health professionals who provide public education,
- assist local and state leaders in understanding and evaluating the delivery of trauma care, and
- provide a resource for those interested in learning more about Oregon's trauma system.

In general, data are presented in aggregate at the state level, but some data are reported by trauma center level or ATAB region. Trauma regions are defined in OAR 333-200-0040. The functions, rules and policy, and guidelines for the Area Trauma Plan for each ATAB are outlined in OAR 333-200-0050 through 333-200-0080. This annual report complies with Oregon Revised Statute 431A.090(6) by providing a summary of data collected in the Oregon Trauma Registry.

## Data details and data quality caveats

This OTR annual report contains two years of data from 43,010 trauma records with system admissions between January 01, 2023 and December 31, 2024. About 1% of records contain one of the following types of errors in the trauma band number entered:

- Record had no trauma band number entered
- Record contained an ill-formatted entry, or
- Record shares a non-unique trauma band number.

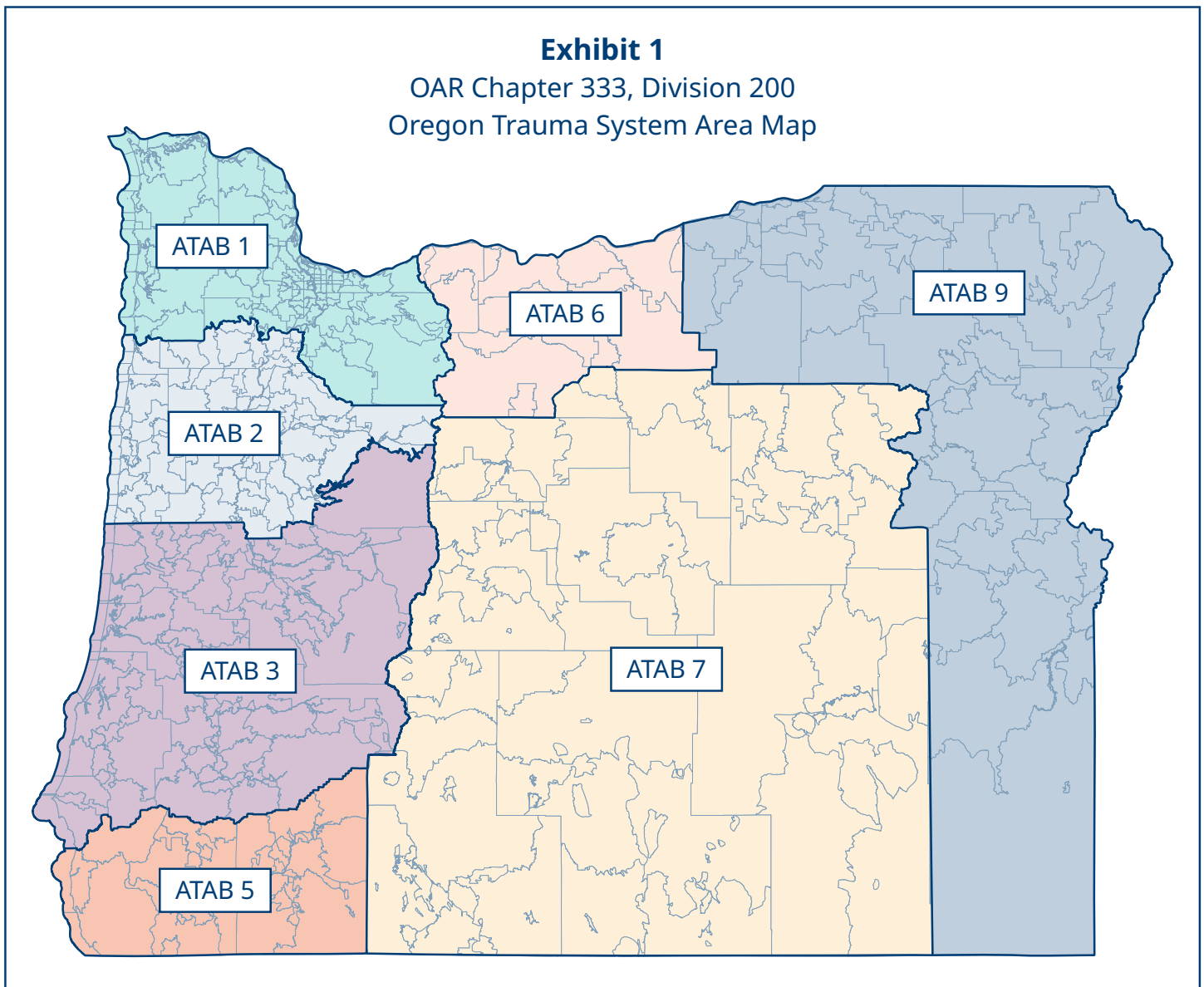
To address these inconsistencies, this report specifies where counts are based on availability of trauma record information. Where information was not documented in the data, the report specifies the count and the approximate percentage of records excluded. Furthermore, to avoid confusion over the units and respective percentages being summarized in this report, the first section on data demographics shows counts of records before delving into patient counts for patient demographics (percentages reported for patient counts have a smaller denominator than percentages reported for record counts due to the nature of transfers within the system).

# Data demographics

## Oregon Trauma System

Forty-three hospitals contributed data to the OTR in 2023 and 2024. These trauma centers are divided into Area Trauma Advisory Board (ATAB) regions and designations by trauma level (Level). ATAB regions are shown in the following map.

**Figure 1: Area trauma advisory board region map**



## Oregon trauma centers

Table 1 shows the number of each level of trauma center for each ATAB. The two level one pediatric trauma centers are not reported as separate trauma centers because they appear in the data under the hospital name of their respective Level 1 trauma center.

**Table 1: Oregon trauma center count by level and ATAB, 2025.**

Level	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9	Total by level
Level 1	2	0	0	0	0	0	0	2
Level 2	0	2	1	1	0	1	0	5
Level 3	0	0	4	2	2	2	1	11
Level 4	2	8	2	2	0	5	6	25
Total by ATAB	4	10	7	5	2	8	7	43

## Oregon Trauma Registry (OTR) records

In this report, counts of records indicate the frequency of care provided at trauma centers. This is distinct from patient counts where steps are taken to avoid double counting patients who receive care from multiple trauma centers for their traumatic injuries. Table 2 shows the OTR trauma record count in 2023 and 2024 with the percent change from 2023 to 2024.

**Table 2: Oregon trauma record count by level and ATAB, 2023–2024.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	1	8,032	8,032	0	0	0	0	0	0
	2	7,088	0	2,643	1,615	1,263	0	1,567	0
	3	3,786	0	0	1,376	735	240	969	466
	4	3,809	470	1,509	200	427	0	453	750
2024	1	8,411	8,411	0	0	0	0	0	0
	2	7,407	0	2,797	1,564	1,368	0	1,678	0
	3	3,764	0	0	1,316	817	265	976	390
	4	3,694	406	1,483	151	323	0	558	773
Percent change	1	4.7%	4.7%	0	0	0	0	0	0
	2	4.5%	0	5.8%	-3.2%	8.3%	0	7.1%	0
	3	-0.6%	0	0	-4.4%	11.2%	10.4%	0.7%	-16.3%
	4	-3.0%	-13.6%	-1.7%	-24.5%	-24.4%	0	23.2%	3.1%

## Trauma records and date/time aspects

Figure 2 show monthly record counts by ATAB region and by Level designation.

For Figures 2 and 3 showing monthly record volume by ATAB, the areas are sorted into two categories:

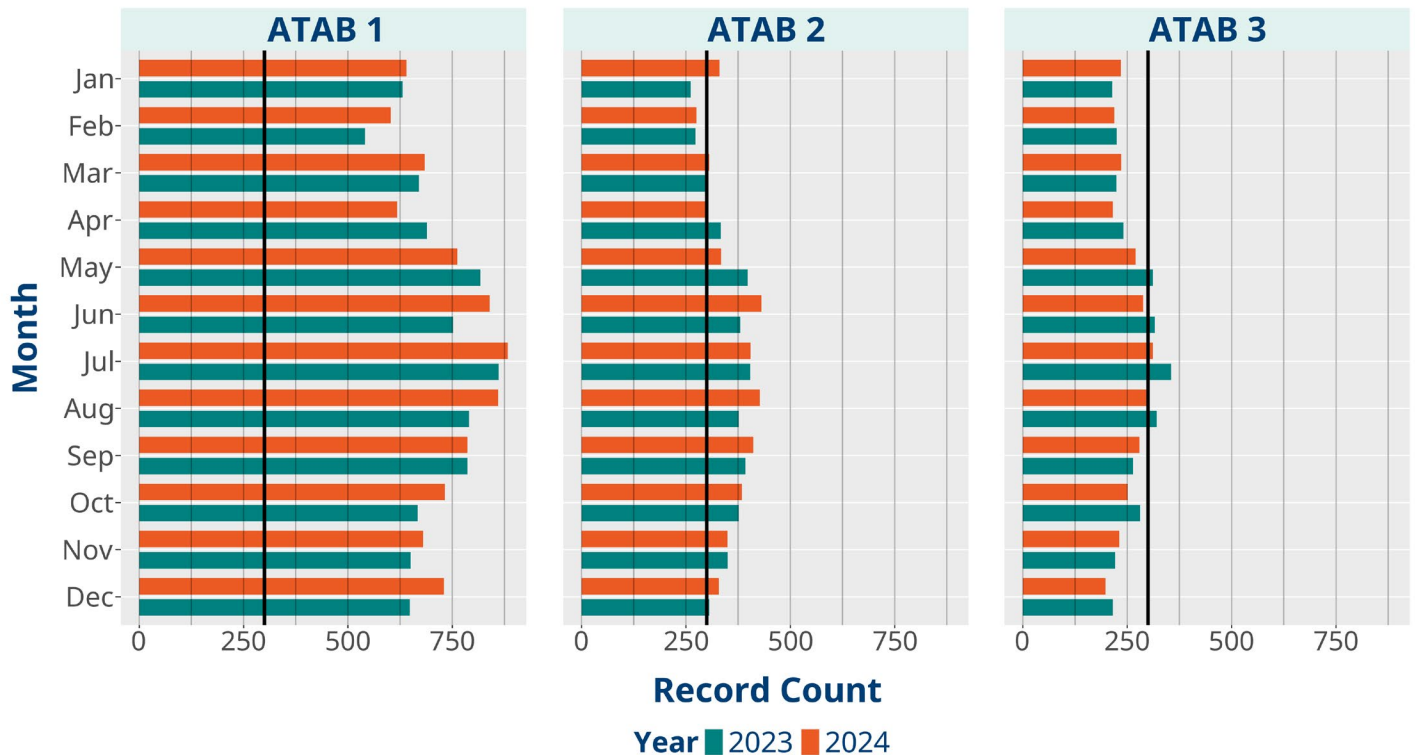
- Those with monthly volume greater than 300 records, which includes ATAB 1, ATAB 2 and ATAB 3.
- Those with monthly volume less than 300 records, which includes ATAB 5, ATAB 6, ATAB 7 and ATAB 9.

To show these counts in better detail, the ATABs with lower volume are displayed on a scale that is smaller than the scale for larger volume ATABs. The vertical line on the graph represents 300 records for the larger volume ATABs.

**Figure 2: Monthly record volume count for ATAB 1, 2 and 3.**

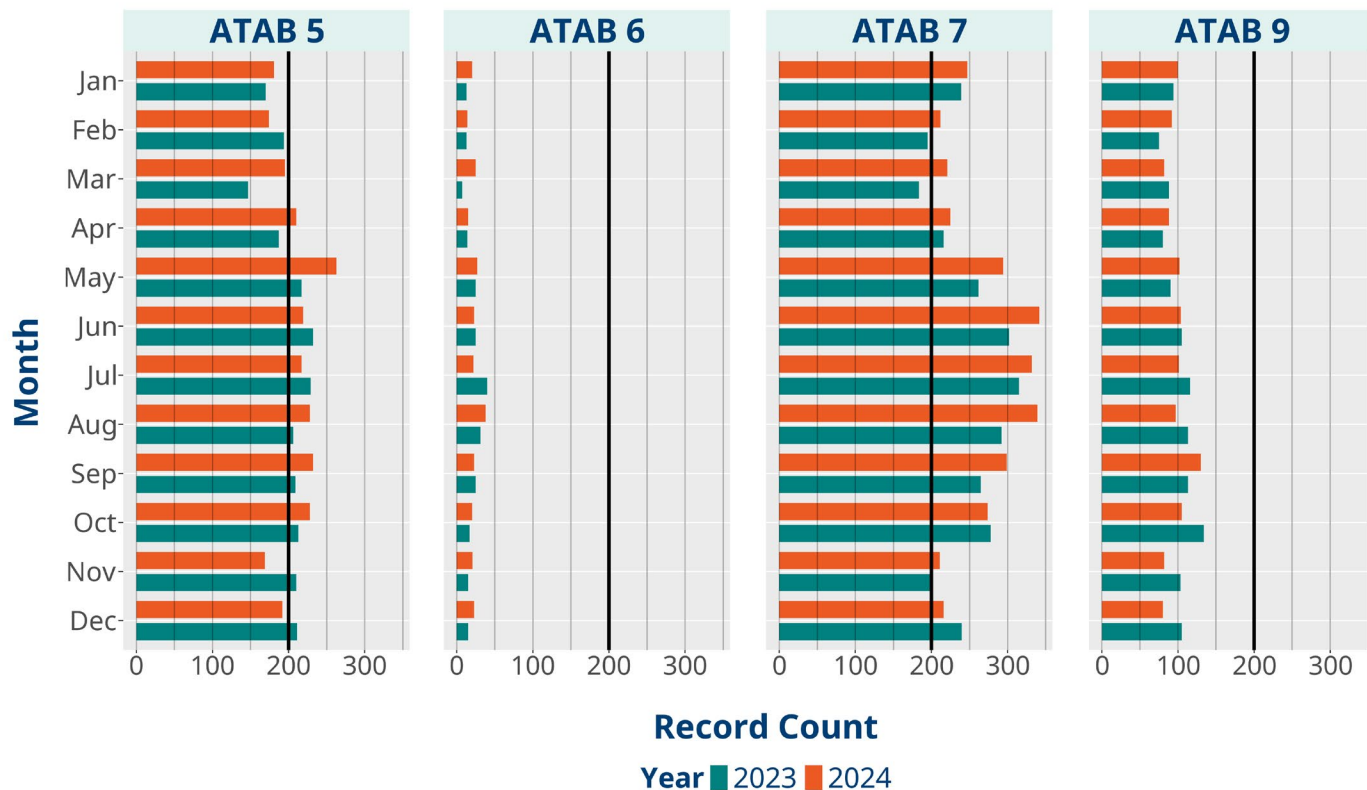
### Monthly count of trauma records by ATAB region

ATABs 5, 6, 7 and 9 shown on a smaller scaled axis



**Figure 3: Monthly record volume count for ATAB 5, 6, 7 and 9.**

### Monthly count of trauma records by ATAB region



The Oregon Trauma Registry captures record volume trends across all designated trauma centers, segmented by Level 1 through Level 4 facilities. Monthly submissions from calendar years 2023 and 2024 were compared to assess year-over-year trends in data volume and reporting consistency across levels.

Level 1 trauma centers consistently reported the highest volume of records, with most months exceeding 700 submissions. The overall monthly pattern remained stable between 2023 and 2024, though notable increases in volume were observed in January and December of 2024 compared to the prior year. This uptick may be attributable to improvements in case capture or seasonal fluctuations in trauma incidence.

Level 2 trauma centers maintained a relatively consistent reporting volume, ranging between 500 and 700 records per month. A modest increase in spring (March–May) of 2024 suggests either improved reporting timeliness or just an increase in trauma cases at these facilities during that time.

Level 3 trauma centers showed more variability across months, ranging between 200 and 400 per month. While 2024 closely mirrored 2023 in terms of seasonal distribution, small increases were observed in the late summer months, particularly in August and September. This could reflect improved data submission practices or localized surges in trauma encounters.

Level 4 trauma centers demonstrated the lowest volume of records, ranging between 250 and 450 per month. The consistency of reporting across both years is notable, though 2024 saw slightly higher submission volumes in early and mid-year months (March, May, and July), which may correspond with enhanced data collection efforts among rural or frontier facilities.

Across all levels, there was no evidence of dramatic data submission declines between years, suggesting ongoing compliance and engagement with the registry.

### **Trauma record total financial charges**

Table 3 shows hospital charges documented in OTR are totaled by level designation for the reporting year with the calculated percent change. The total reported trauma-related charges across Oregon's designated trauma facilities increased moderately from 2023 to 2024, with notable variation by trauma center level.

Level 1 trauma centers reported an increase from approximately \$716.1 million in 2023 to \$732.7 million in 2024, a modest 2.3% increase. This growth is consistent with expected trends based on increases in patient acuity or volume.

Level 2 trauma centers saw a more substantial rise, with charges increasing by 8.5%, from \$470.3 million in 2023 to \$510.4 million in 2024. This may reflect operational expansions, higher patient throughput, or increased capture of trauma-related services.

Level 3 trauma centers, in contrast, experienced a 1.4% decline, dropping from \$96.6 million in 2023 to \$95.2 million in 2024. This could indicate reduced patient volume, shifts in case distribution, or changes in facility operations that may warrant further investigation.

Level 4 trauma centers exhibited the most dramatic year-over-year change, with reported charges increasing from \$51.2 million to \$72.5 million, an increase of 41.7%. While some fluctuation is expected at smaller-volume facilities, this sharp rise may be influenced by improved documentation practices, increased trauma activations, or local surges. Overall, the data reflects a net increase in system-wide trauma-related charges, underscoring the growing financial demands of trauma care delivery. These figures reinforce the importance of continued investment in trauma system infrastructure, particularly in rural and lower-level facilities that may be seeing growing demand and expanding roles in regional care networks.

**Table 3: Annual total financial charges for trauma records by level.**

Year	Level 1	Level 2	Level 3	Level 4
2023	\$716,114,744	\$470,269,400	\$96,607,100	\$51,184,588
2024	\$732,686,886	\$510,438,776	\$95,237,018	\$72,549,550
Percent change	2.3%	8.5%	<b>-1.4%</b>	41.7%

## Trauma patient demographics

Table 4 provides total patient counts beginning from the point each patient first entered the trauma system. Each patient is counted only once per incident, regardless of how many trauma centers they visited for that same incident. Counts are reported by ATAB and trauma center level, with annual totals by level. The percent change from 2023 to 2024 is shown at the bottom of the table.

**Table 4: Oregon trauma patient count by level and ATAB, 2023–2024.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	1	7,257	7,257	0	0	0	0	0	0
	2	6,391	0	2,453	1,442	1,199	1,297	0	0
	3	3,783	0	0	1,374	735	968	240	466
	4	3,805	470	1,507	200	427	452	0	749
2024	1	7,744	7,744	0	0	0	0	0	0
	2	6,583	0	2,604	1,376	1,264	1,339	0	0
	3	3,758	0	0	1,314	816	974	265	389
	4	3,689	406	1,480	151	323	556	0	773
Percent change	1	6.7%	6.7%	0	0	0	0	0	0
	2	3.0%	0	6.2%	<b>-4.6%</b>	5.4%	3.2%	0	0
	3	<b>-0.7%</b>	<b>0</b>	<b>0</b>	<b>-4.4%</b>	11.0%	0.6%	10.4%	<b>-16.5%</b>
	4	<b>-3.0%</b>	<b>-13.6%</b>	<b>-1.8%</b>	<b>-24.5%</b>	<b>-24.4%</b>	23.0%	0	3.2%

Level 1 trauma centers experienced a 6.7% overall increase in patient counts, rising from 7,257 records in 2023 to 7,744 in 2024. All Level 1 volume was attributed to ATAB 1, reflecting centralized trauma care in that region.

Level 2 trauma centers saw a 3.0% increase overall, with notable regional variation:

- ATAB 2 (+6.2%) and ATAB 5 (+5.4%) experienced moderate growth.
- ATAB 3 reported a 4.6% decrease, which may reflect changes in patient distribution or data capture.

Level 3 trauma centers had a slight decrease of 0.7% overall, declining from 3,783 to 3,758 records. Volumes dropped in ATAB 3 (-4.4%) and ATAB 9 (-16.5%), while ATAB 5 (+11.0%) and ATAB 6 (+10.4%) saw increases. The decrease in ATAB 9 (-16.5%) was the largest regional decline at this level.

Level 4 trauma centers reported a 3.0% decrease in volume overall. ATABs 3 and 5 had the steepest declines (-24.5% and -24.4%, respectively), while ATAB 6 saw a moderate increase of 23.0%, suggesting either improved reporting, increased case volume, or both. ATAB 9 also increased slightly by 3.2%, maintaining its position as the highest-volume ATAB among Level 4 centers.

While statewide trauma volumes remained relatively stable, with moderate increases in Levels 1 and 2 and minor decreases in Levels 3 and 4, regional variation highlights important patterns in trauma care access, referral pathways, and data submission. ATABs with large shifts—such as ATAB 6 (Level 4: +23%) or ATAB 9 (Level 3: -16.5%)—may warrant further exploration to understand underlying drivers, such as facility operational changes, EMS routing protocols, or regional health trends.

This regional breakdown provides a valuable lens into the geographic equity and efficiency of Oregon's trauma system and supports ongoing evaluation of resource allocation and system performance.

## Age, gender, ethnicity, and race

Tables 5, 6, 7, 8, 9, and 10 present patient counts, based on one patient per incident at the point the patient entered the trauma system, organized by the demographic categories listed in each table's header. Counts are displayed by Level and ATAB for the age groups defined in [Exhibit 4 - Oregon Trauma Hospital Resource Standards](#).

## Age

**Table 5: OTR patient count by age group. Exhibit 4 age definitions: Pediatric is 0–14 years, adult is 15–64 years, and geriatric is 65 and older.**

Age group	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Pediatric	1,369	0.064	1,447	0.066	5.7%
Adult	11,552	0.544	11,529	0.530	<b>-0.2%</b>
Geriatric	8,314	0.392	8,795	0.404	5.8%
Unknown	1	0.000	2	0.000	100.0%
Total patient count	21,236	1.000	21,773	1.000	2.5%

## Pediatric patients

**Table 6: OTR pediatric count by ATAB.**

Year	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	682	248	134	89	21	146	49
2024	744	237	113	113	14	174	52
Percent change	9.1%	<b>-4.4%</b>	<b>-15.7%</b>	27.0%	<b>-33.3%</b>	19.2%	6.1%

## Geriatric patients

**Table 7: OTR geriatric patient count by ATAB.**

Year	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	2,692	1,509	1,108	1,122	82	1,205	596
2024	3,003	1,549	1,103	1,207	93	1,278	562
Percent change	11.6%	2.7%	<b>-0.5%</b>	7.6%	13.4%	6.1%	<b>-5.7%</b>

## Gender

**Table 8: OTR patient count and proportion by sex.**

Sex	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Male	12,964	0.611	13,327	0.612	3%
Female	8,249	0.389	8,415	0.387	2%
Not known/not documented	8	0.000	17	0.001	112%
Non-binary	15	0.001	14	0.001	<b>-7%</b>
Total patient count	21,236	1.000	21,773	1.000	2%

The following tables. In Tables 5, 8, 9, and 10, patient distribution changes in reported proportions reflect context for percent changes in patient counts by age, race and ethnicity as follows:

- 363 additional records (3% increase) added 0.001 to the proportion of male trauma patients, while 166 additional records (2% increase) resulted in a 0.002 drop for the proportion of males
- 51 additional records (16% increase) added 0.002 to the proportion of Asian trauma patients
- 13 additional records (12% increase) added 0.006 to the proportion of Native Hawaiian trauma patients
- 171 additional records (8% increase) added 0.005 to the proportion of Hispanic patients
- 462 additional records (3% increase) added 0.001 to the proportion of White patients

## Ethnicity

**Table 9: OTR patient count and proportion by ethnicity.**

Ethnicity	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Hispanic or Latino	2,037	0.096	2,208	0.101	8%
Not Hispanic or Latino	18,012	0.848	18,506	0.850	3%
(Missing)	1,187	0.056	1,059	0.049	<b>-11%</b>
Total patient count	21,236	1.000	21,773	1.000	2%

## Race

**Table 10: OTR patient count and proportion by race.**

Race	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
White	17,284	0.814	17,746	0.815	3%
Black	587	0.028	628	0.029	7%
Other	1,618	0.077	1,738	0.080	7%
American Indian	352	0.017	350	0.016	<b>-1%</b>
Asian	323	0.015	374	0.017	16%
Native Hawaiian	110	0.005	123	0.006	12%
(Missing)	962	0.045	814	0.037	<b>-15%</b>
Total patient count	21,236	1.000	21,773	0.999	2%

## Completed records and days to submit completed records

OAR 333-200-0265(7)(a) specifies hospitals must report OTR data within 60 days of death or patient discharge. Additionally, this rule requires that at least 80% of trauma records be completed within the 60-day window required by the rule.

Table 11 shows the overall annual percentage of records completed within the 60-day window by hospital level. The percent change here is the difference of the annual rates of record completion.

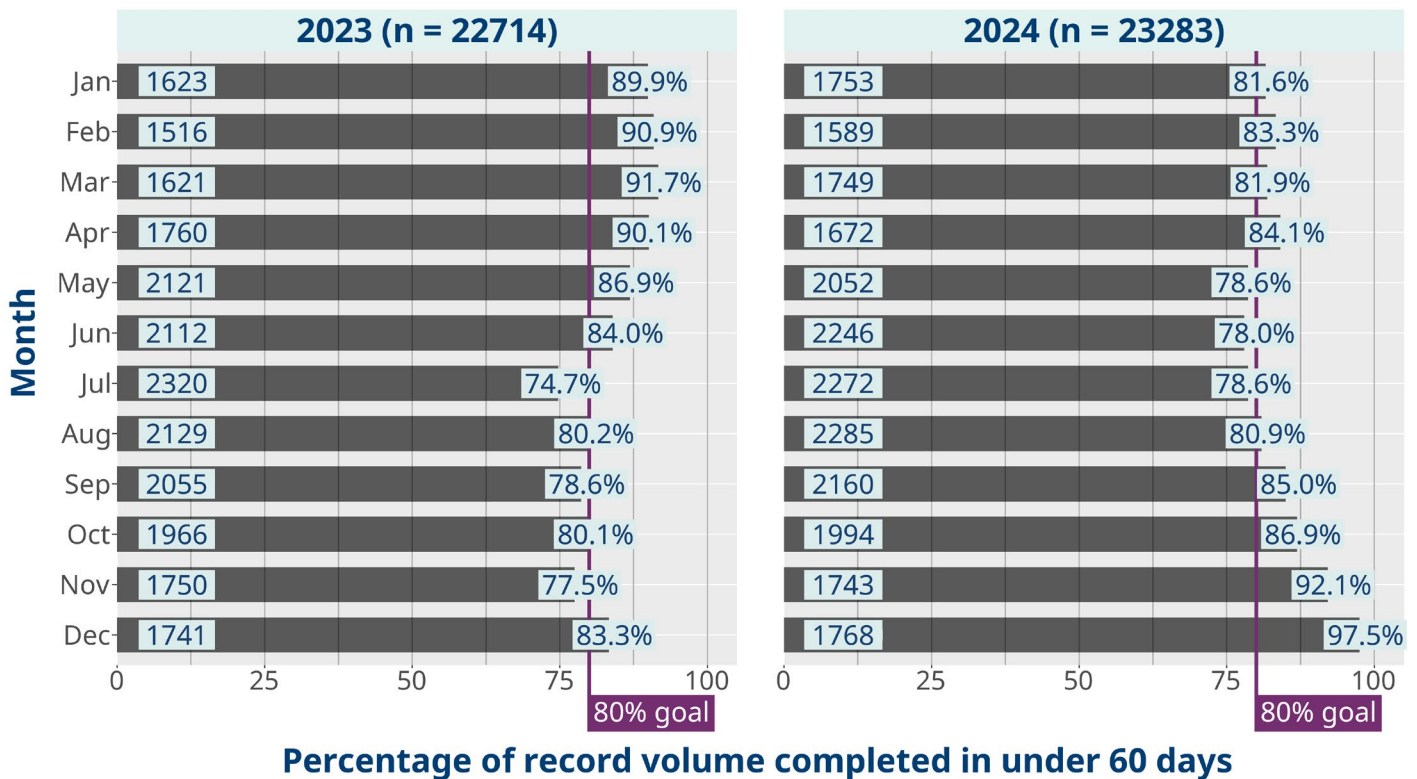
**Table 11: Percentage of OTR records completed within 60 days of discharge by hospital level.**

Year	Level 1	Level 2	Level 3	Level 4
2023	82%	82%	88%	84%
2024	97%	68%	84%	84%
Percent change	19%	<b>-18%</b>	<b>-4%</b>	0%

**Figure 4: Percentage of monthly volume completed within 60 days of discharge.**

### Statewide Oregon Trauma Registry record timeliness

Monthly record volume with percent completed within 60 days of discharge



### 2023 Performance (n = 22,714)

In 2023, Oregon trauma facilities collectively met the 80% timeliness goal in 9 out of 12 months, with monthly compliance ranging from a low of 74.7% in July to a high of 91.7% in March. Seasonal dips in performance were observed in the summer months (June–September), suggesting potential staffing or operational challenges during peak vacation periods. May (86.9%) and November (77.5%) also fell slightly below the benchmark.

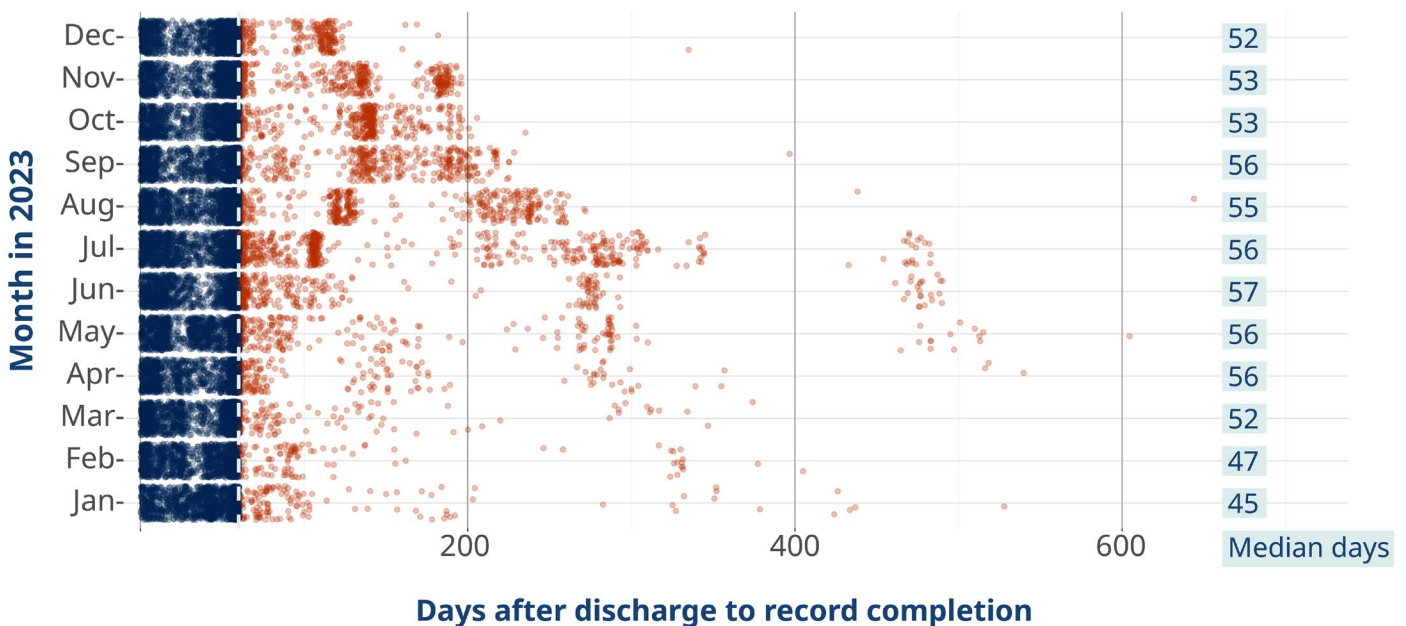
### 2024 Performance (n = 23,283)

In 2024, timeliness rates demonstrated a slight overall decline in early months compared to 2023. July and August (both at 78.6%) remained lower-performing months, like the prior year. However, the system saw notable recovery in the final quarter, with November (92.1%) and December (90.6%) exceeding the benchmark and outperforming the same months in 2023. These gains may reflect increased emphasis on timely data entry, staffing adjustments, or procedural improvements implemented during the latter part of the year.

**Figure 5: Oregon Trauma Registry monthly dot plot of days to complete with monthly median for 2023.**

### Statewide Oregon Trauma Registry record completion 2023

Data points for days to complete OTR record with median days by month



**Completion Status** ● Record completed within 60 days ● Record completed after 60 days

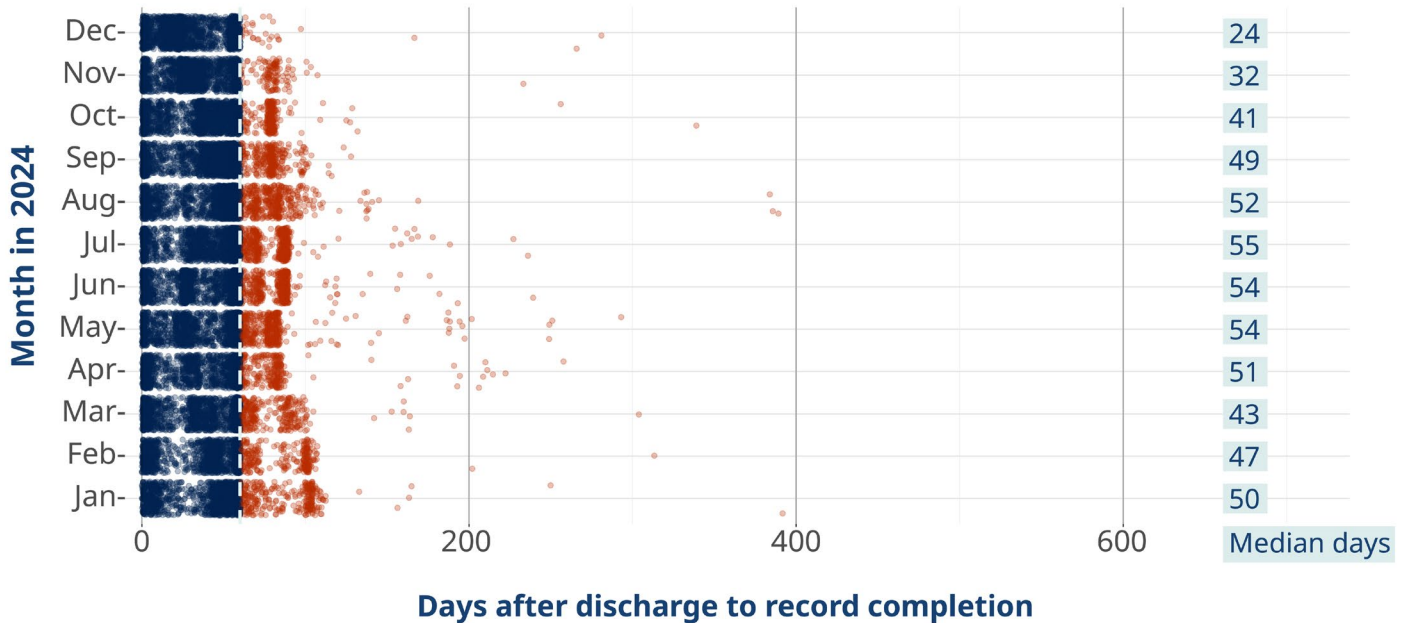
In 2023, monthly median days to record completion ranged from 45 to 57 days, with the highest medians observed during the spring and summer months (April–September). A noticeable portion of records exceeded the 60-day target during these months, particularly in June and July. This is consistent with

seasonal delays also reflected in the 60-day timeliness percentage metric and may relate to staff availability or fluctuating caseloads.

**Figure 6: Oregon Trauma Registry monthly dot plot of days to complete with monthly median for 2024.**

### Statewide Oregon Trauma Registry record completion 2024

Data points for days to complete OTR record with median days by month



**Completion Status** ● Record completed within 60 days ● Record completed after 60 days

In contrast, 2024 showed notable improvement in both consistency and overall timeliness. Monthly median days to record completion steadily declined throughout the year, ranging from 50 days in January to just 24 days in December. By the final quarter (October–December), all medians had dropped below 50 days, reflecting a significant increase in reporting efficiency. This trend is further supported by the visibly lower density of late-record (orange) data points in the later months, indicating improved adherence to the 60-day benchmark and faster record completion across the trauma system.

## Injury classification

This section presents injury data based on individual occurrences within trauma records. Because multiple injuries can be documented within a single patient record, the totals reported here may exceed the overall number of records submitted. Injuries are categorized according to the Centers for Disease Control and Prevention (CDC) classifications for mechanism and intent.

Table 12 provides a summary of motor vehicle-related injuries, aggregating multiple injury mechanisms into broader categories to highlight the overall prevalence of motor vehicle incidents.

Additional tables in this section break down injuries by intent (e.g., unintentional, self-inflicted, assault) and by injury class, differentiating between blunt and penetrating trauma.

## Centers for Disease Control – Mechanism of injury (CDC – MOI)

**Table 12: Annual counts and changes by CDC – Mechanism of injury with grouped motor vehicle and transport related injuries.**

Injury grouping	2023	2024	Percent change
Fall	10,462	10,955	4.7%
Motor vehicle related	5,772	7,029	21.8%
Struck by or against	1,274	1,311	2.9%
Other transport	1,632	1,095	<b>-32.9%</b>
Active transport	703	779	10.8%
Cut/pierce	684	720	5.3%
Firearm	647	544	<b>-15.9%</b>
Other specified, classifiable	348	441	26.7%
Other specified, NEC	300	129	<b>-57.0%</b>
Natural/environmental	210	103	<b>-51.0%</b>
Fire/flame	72	76	5.6%
Machinery	80	69	<b>-13.8%</b>
Unspecified	107	48	<b>-55.1%</b>
Hot object/substance	25	28	12.0%
Drowning	19	19	0.0%

## Centers for Disease Control – Intent of injury

**Table 13: Annual counts and changes by CDC – Intent of Injury.**

Intent of Injury	2023	2024	Percent change
Unintentional	20,333	21,445	5.5%
Assault	1,479	1,354	<b>-8.5%</b>
Self-inflicted	382	373	<b>-2.4%</b>
Undetermined	107	135	26.2%
Other	58	41	<b>-29.3%</b>

## Injury class (mechanism)

**Table 14: Annual counts and changes by injury mechanism.**

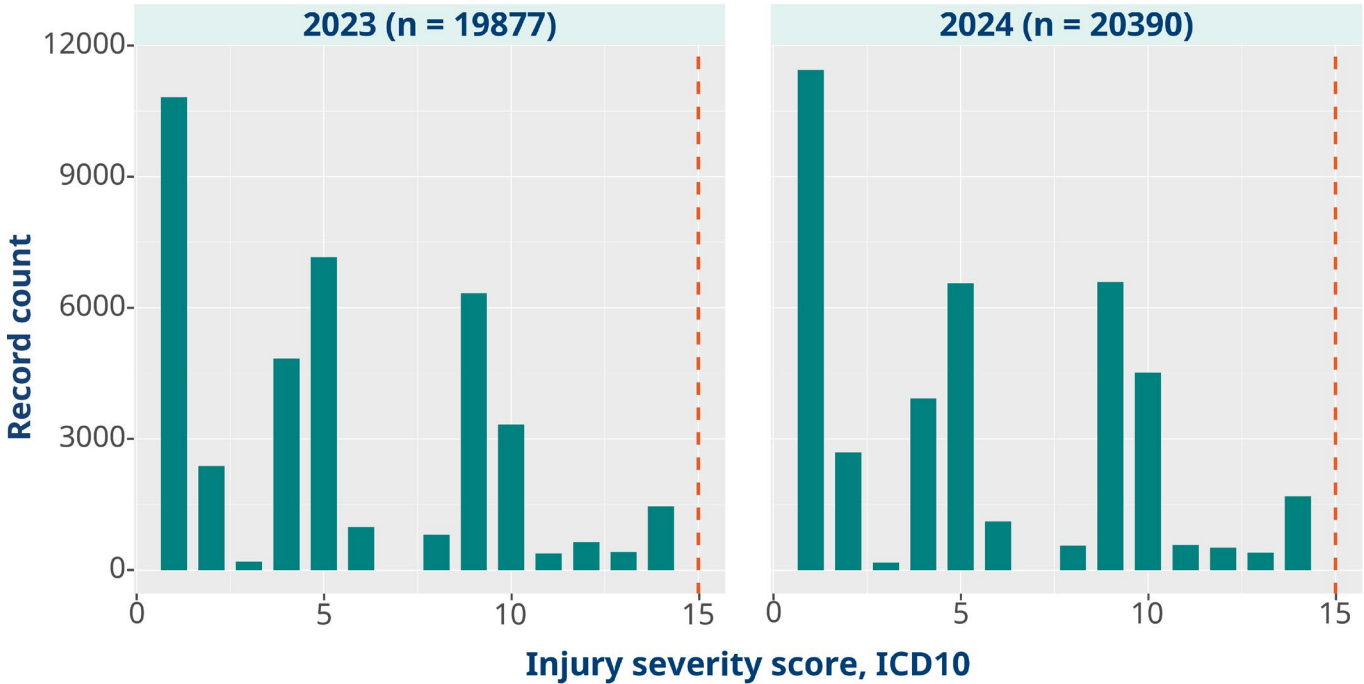
Injury classification	2023	2024	Percent change
Blunt	21,017	21,639	3.0%
Penetrating	1,448	1,390	<b>-4.0%</b>
Other	105	109	3.8%
Burn with trauma	95	100	5.3%
(Missing)	50	38	<b>-24.0%</b>

# Injury severity score (ISS) and length of stay (LOS)

Figure 7: Histogram of injury severity scores for trauma patients with severity less than fifteen based on ICD10.

## Low injury severity histogram

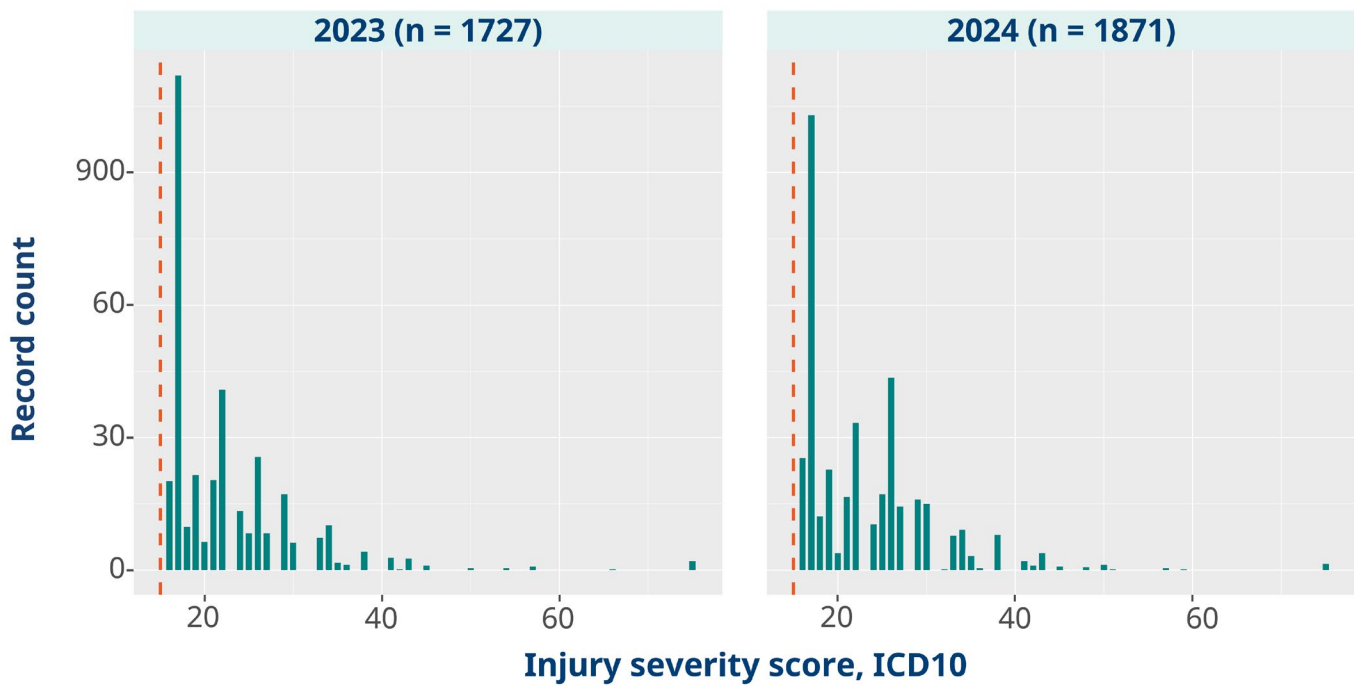
Annual comparison of trauma record counts by injury severity 1-15



**Figure 8: Histogram of injury severity scores for trauma patients with severity greater than fifteen based on ICD10.**

### High injury severity histogram

Annual comparison of trauma record counts by injury severity greater than 15



# Intensive care unit length of stay (ICU-LOS)

Figure 9a: Intensive care unit length of stay by injury severity score by level.

## ICU LOS by level of trauma centers — 2023

High severity cases with ED LOS over 2 hours indicated in orange

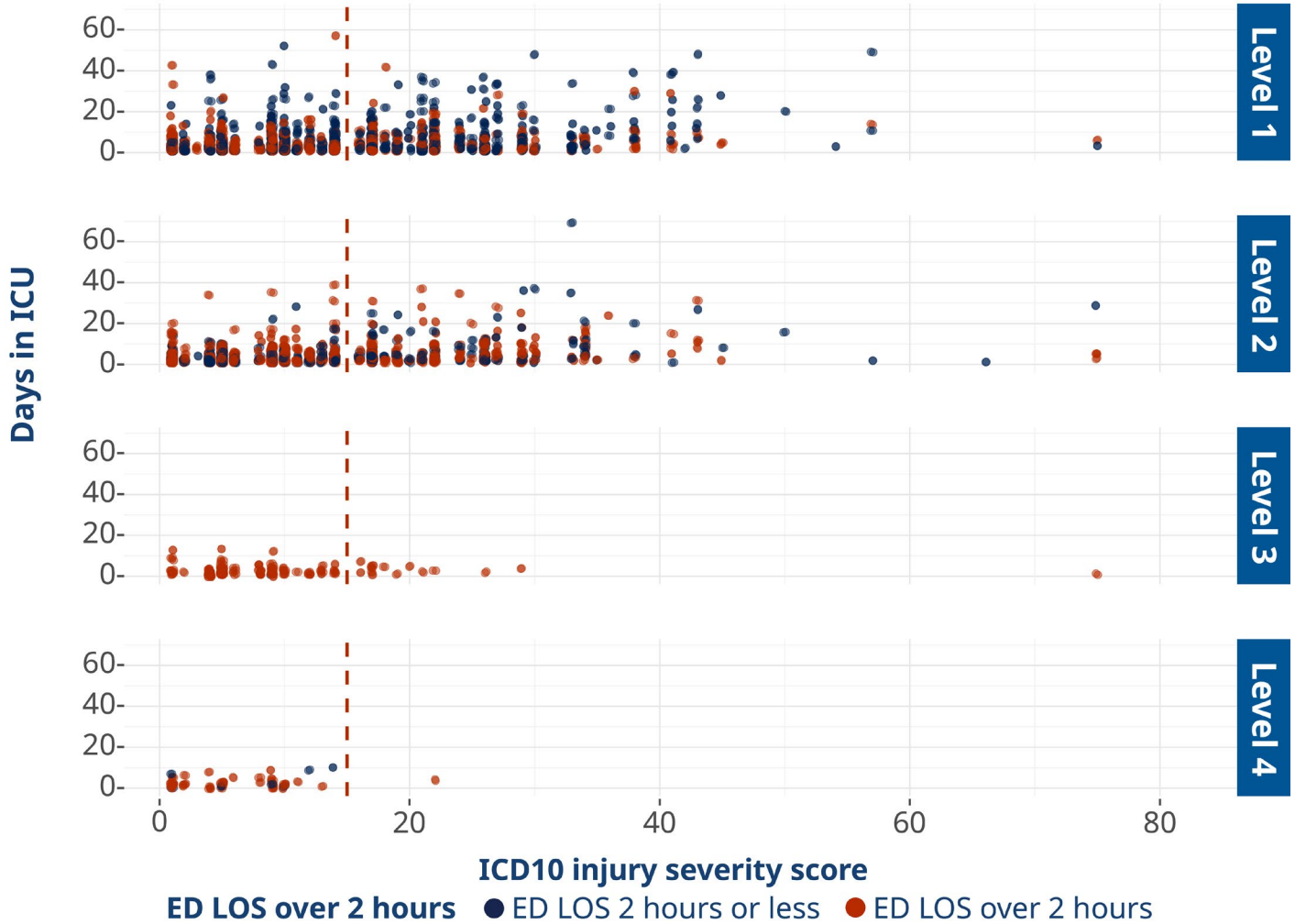
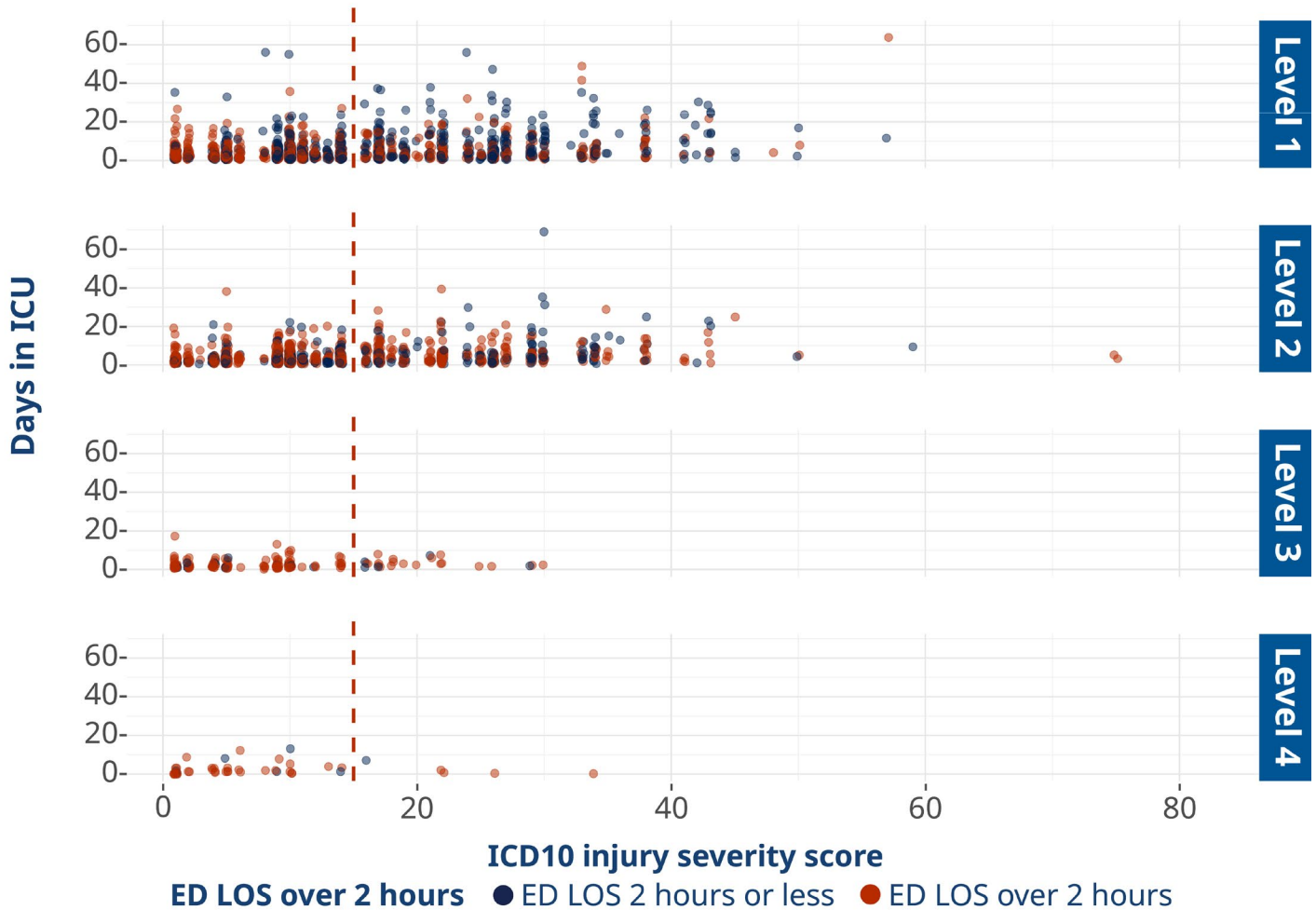


Figure 9b: Intensive care unit length of stay by injury severity score by level.

### ICU LOS by level of trauma centers — 2024

High severity cases with ED LOS over 2 hours indicated in orange



# Trauma admit and activations

## Trauma team activation

The following table shows the number of activations for each member of the trauma team. Refer to OAR chapter 333, division 200 Exhibit 3 Oregon Hospital Trauma Team Activation Criteria for activation. All activations in the data have been coded to fit one of the following activation levels: full, modified, no activation or retroactive. Data are reported as (Missing) where no activation data was entered in the trauma record.

**Table 15: Annual record count of trauma team specialty.**

Trauma team specialty	2023	2024	Percent change
Emergency department (ED) attending	18,601	18,842	1.3%
Trauma surgeon	9,082	8,876	<b>-2.3%</b>
Trauma nurse 1	7,081	6,978	<b>-1.5%</b>
Physician assistant	3,127	3,279	4.9%
Radiology	2,073	2,023	<b>-2.4%</b>
Anesthesia	1,801	1,762	<b>-2.2%</b>
Trauma nurse 2	2,072	1,713	<b>-17.3%</b>
Laboratory	1,682	1,626	<b>-3.3%</b>
Orthopedic surgeon	1,179	1,414	19.9%
Non-surgical	1,216	1,171	<b>-3.7%</b>
Neurosurgeon	791	932	17.8%
Respiratory	832	699	<b>-16.0%</b>
Nursing supervisor	584	489	<b>-16.3%</b>
Recorder	361	477	32.1%
Medicine	259	407	57.1%
Emergency services	39	342	776.9%
Oral-maxillofacial surgeon (includes ENT and dental)	295	296	0.3%
Pediatric surgeon	166	134	<b>-19.3%</b>

**Table 16: Annual record count of trauma team activation level.**

Activation	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Full	2,905	0.13	2,853	0.12	<b>-1.8%</b>
Modified	14,543	0.64	14,719	0.63	1.2%
None	4,706	0.21	4,862	0.21	3.3%
(Missing)	561	0.02	842	0.04	50.1%

## Transfers

When a patient is transported from one hospital to another for continued care, they are considered a transfer. The following tables summarize patients transferred out of trauma centers and patients transferred into trauma centers, which includes patients transferred to a trauma center from a facility that does not participate in the trauma system. In addition to summarizing all trauma transfers, subsets of pediatric and geriatric trauma are also shown in separate tables for transfers in and transfers out of trauma centers.

## Transferred out

**Table 17: Annual record count of all patients transferred out by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	1	48	48	0	0	0	0	0	0
	2	326	0	183	26	84	0	33	0
	3	783	0	0	336	128	73	175	71
	4	1,301	172	520	64	101	0	205	239
2024	1	83	83	0	0	0	0	0	0
	2	287	0	167	21	75	0	24	0
	3	770	0	0	283	161	83	185	58
	4	1,325	182	508	50	93	0	258	234
Percent change	1	72.9%	72.9%	0	0	0	0	0	0
	2	<b>-12.0%</b>	0	<b>-8.7%</b>	<b>-19.2%</b>	<b>-10.7%</b>	0	<b>-27.3%</b>	0
	3	<b>-1.7%</b>	0	0	<b>-15.8%</b>	25.8%	13.7%	5.7%	<b>-18.3%</b>
	4	1.8%	5.8%	<b>-2.3%</b>	<b>-21.9%</b>	<b>-7.9%</b>	0	25.9%	<b>-2.1%</b>

## Pediatric transfers out

**Table 18: Annual record count of pediatric patients transferred out by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	1	1	1	0	0	0	0	0	0
	2	77	0	48	7	14	0	8	0
	3	66	0	0	30	6	8	13	9
	4	75	12	31	4	4	0	14	10
2024	1	13	13	0	0	0	0	0	0
	2	70	0	39	8	17	0	6	0
	3	60	0	0	24	11	7	12	6
	4	80	13	30	2	8	0	13	14
Percent change	1	0	0	0	0	0	0	0	0
	2	-9.1%	0	-18.8%	14.3%	21.4%	0	-25.0%	0
	3	-9.1%	0	0	-20.0%	83.3%	-12.5%	-7.7%	-33.3%
	4	6.7%	8.3%	-3.2%	-50.0%	100.0%	0	-7.1%	40.0%

## Geriatric transfers out

**Table 19: Annual record count of geriatric patients transferred out by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 6	ATAB 7	ATAB 9
2023	1	26	26	0	0	0	0	0	0
	2	84	0	45	4	28	0	7	0
	3	335	0	0	127	64	30	90	24
	4	631	80	259	37	49	0	102	104
2024	1	42	42	0	0	0	0	0	0
	2	69	0	37	2	23	0	7	0
	3	359	0	0	118	88	35	96	22
	4	671	86	273	20	37	0	145	110
Percent change	1	61.5%	61.5%	0	0	0	0	0	0
	2	<b>-17.9%</b>	0	<b>-17.8%</b>	<b>-50.0%</b>	<b>-17.9%</b>	0	0	0
	3	7.2%	0	0	<b>-7.1%</b>	37.5%	16.7%	6.7%	<b>-8.3%</b>
	4	6.3%	7.5%	5.4%	<b>-45.9%</b>	<b>-24.5%</b>	0	42.2%	5.8%

## Transferred in

ATAB 6 and ATAB 9 both had less than 5 records of patients transferred into trauma centers within the given years of data. Those regions are not included in the following transfer-in counts by ATAB. All records for patients transferred into Level 4 trauma centers indicate the referring hospital was another trauma center.

**Table 20: Annual record count of all patients transferred-in by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 7
2023	1	2,550	2,550	0	0	0	0
	2	1,014	0	223	347	130	314
	3	8	0	0	2	2	4
	4	17	0	2	1	10	2
2024	1	2,549	2,549	0	0	0	0
	2	1,083	0	214	319	183	367
	3	8	0	0	4	1	3
	4	11	0	1	0	8	2
Percent change	1	0	0	0	0	0	0
	2	6.8%	0	-4.0%	-8.1%	40.8%	16.9%
	3	0	0	0	100.0%	-50.0%	-25.0%
	4	-35.3%	0	-50.0%	-100.0%	-20.0%	0

## Pediatric transfers in

**Table 21: Annual record count of pediatric patients transferred in by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 3	ATAB 5	ATAB 7
2023	1	385	385	0	0	0
	2	23	0	12	0	11
2024	1	430	430	0	0	0
	2	18.0%	0	2.0%	7.0%	9.0%
Percent change	1	11.7%	11.7%	0	0	0
	2	<b>-21.7%</b>	0	<b>-83.3%</b>	0	<b>-18.2%</b>

## Geriatric transfers in

**Table 22: Annual record count of geriatric patients transferred in by ATAB and level.**

Year	Level	Level total	ATAB 1	ATAB 2	ATAB 3	ATAB 5	ATAB 7	ATAB 9
2023	1	961	961	0	0	0	0	0
	2	534	0	130	147	86	171	0
	3	5	0	0	1	1	3	0
	4	16	0	2	1	10	1	2
2024	1	1,035	1,035	0	0	0	0	0
	2	610	0	132	147	122	209	0
	3	5	0	0	3	0	2	0
	4	9	0	1	0	7	1	0
Percent change	1	7.7%	7.7%	0	0	0	0	0
	2	14.2%	0	1.5%	0	41.9%	22.2%	0
	3	0	0	0	200.0%	<b>-100.0%</b>	<b>-33.3%</b>	0
	4	<b>-43.8%</b>	0	<b>-50.0%</b>	<b>-100.0%</b>	<b>-30.0%</b>	0	<b>-100%</b>

## Trauma system outcomes

### Discharge

Trauma patient discharge is the process of completing the care in the trauma center and documenting the outcome upon transferring the patient out of the trauma system. Typically, this is documented in the emergency department disposition field. Often hospital discharge is also documented in the trauma record; in some cases, this creates overlap and variation between ED and hospital discharge counts. The following tables summarize annual counts of statewide emergency department and hospital discharge outcomes in the OTR. Records reporting a death outcome in both the ED and hospital discharge are shown as documented in the record. When defining the location of death in the trauma system, additional data elements are used to disambiguate any apparent overlap.

## Emergency department discharge

**Table 23: Annual trauma record counts by emergency department disposition.**

Documented ED disposition	2023	2024	Percent change
Home without services	7,934	8,161	2.9%
Floor bed (general admission, non-specialty unit bed)	5,783	5,866	1.4%
Intensive care unit (ICU)	2,314	2,384	3.0%
Transferred to another hospital	2,290	2,253	<b>-1.6%</b>
Telemetry/step-down unit (less acuity than ICU)	1,344	1,371	2.0%
Operating room	1,176	1,088	<b>-7.5%</b>
Observation unit (unit that provides < 24 hour stays)	904	969	7.2%
Patient admitted and discharged from hospital	409	541	32.3%
Other (jail, institutional care, mental health, etc.)	167	195	16.8%
Home with services	134	158	17.9%
Left against medical advice	123	147	19.5%
Died	137	143	4.4%

## Hospital discharge

**Table 24: Annual trauma record counts by hospital disposition.**

Documented hospital disposition	2023	2024	Percent change
Patient discharged from ED	9,796	10,257	4.7%
Discharged to home or self-care (routine discharge)	7,623	7,167	<b>-6.0%</b>
Discharged/transferred to skilled nursing facility	2,110	2,359	11.8%
Discharged/transferred to home under supervised care	1,125	1,304	15.9%
Deceased/expired	565	589	4.2%
Discharged/transferred to inpatient rehab unit	399	470	17.8%
Discharged/transferred to a short-term general hospital	381	439	15.2%
Discharged/transferred to hospice care	233	218	<b>-6.4%</b>
Left against medical advice or discontinued care	209	197	<b>-5.7%</b>
Discharged/transferred to psych hospital/unit	84	91	8.3%
Discharged/transferred to an intermediate care facility	45	51	13.3%
Discharged/transferred to court/law enforcement	48	46	<b>-4.2%</b>
Discharged/transferred to long-term care hospital	37	46	24.3%
Discharged/transferred to other type of institution	60	42	<b>-30.0%</b>

## Trauma deaths

Deaths can be recorded in several fields within the Oregon Trauma Registry:

- When a patient arrives in the ED, they are observed for signs of life (recorded as SIGNS or NO SIGNS).
- The admission status of a patient recorded on the “demographics” page can record “DOA.”
- The ED disposition field can report “DIED.”
- The hospital disposition field can report “EXPIRED.”
- The patient final outcome “Live/Died” can report “D.”
- The “Outcome at Hospital Discharge” field can denote the outcome “Dead.”
- A patient readmitted after being discharged can have a readmission status as “D” (similar to live/die in final outcome on the discharge page).
- A record can also contain a death location recorded on the discharge page.

## Annual count of deaths

**Table 25: Oregon trauma deaths, 2023–2024.**

Year	Total death count	Death location	n	Percent of total deaths
2023	698	DOA	34	4.9%
		ED	118	16.9%
		Hospital	543	77.8%
2024	728	DOA	50	6.9%
		ED	109	15.0%
		Hospital	566	77.8%

## Injury severity and patient demographics for reported trauma deaths

Injury severity greater than 15 is considered a “High” Injury Severity Score (ISS). Low injury severity scores in trauma death cases can be attributed to cessation of injury diagnosis upon the physician’s determination of patient time of death. The score can also be missing if no injuries are diagnosed in the ED prior to the time of death.

**Table 26: Trauma deaths by qualitative injury severity categories.**

Qualitative ISS	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Low	449	0.64	455	0.62	1.3%
High	218	0.31	246	0.34	12.8%
(Missing)	31	0.04	27	0.04	<b>-12.9%</b>

### Count of death by age group

**Table 27: Trauma deaths by age group.**

Age group	Count 2023	Proportion 2023	Count 2024	Proportion 2024	Percent change
Pediatric	6	0.011	7	0.012	16.7%
Adult	200	0.368	177	0.313	<b>-11.5%</b>
Geriatric	337	0.621	382	0.675	13.4%
Total hospital deaths	543	1.000	566	1.000	4.2%

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