

2024



**THE SWEDISH  
TRAUMAREGISTER  
REPORT - 2024**

2025-05-20

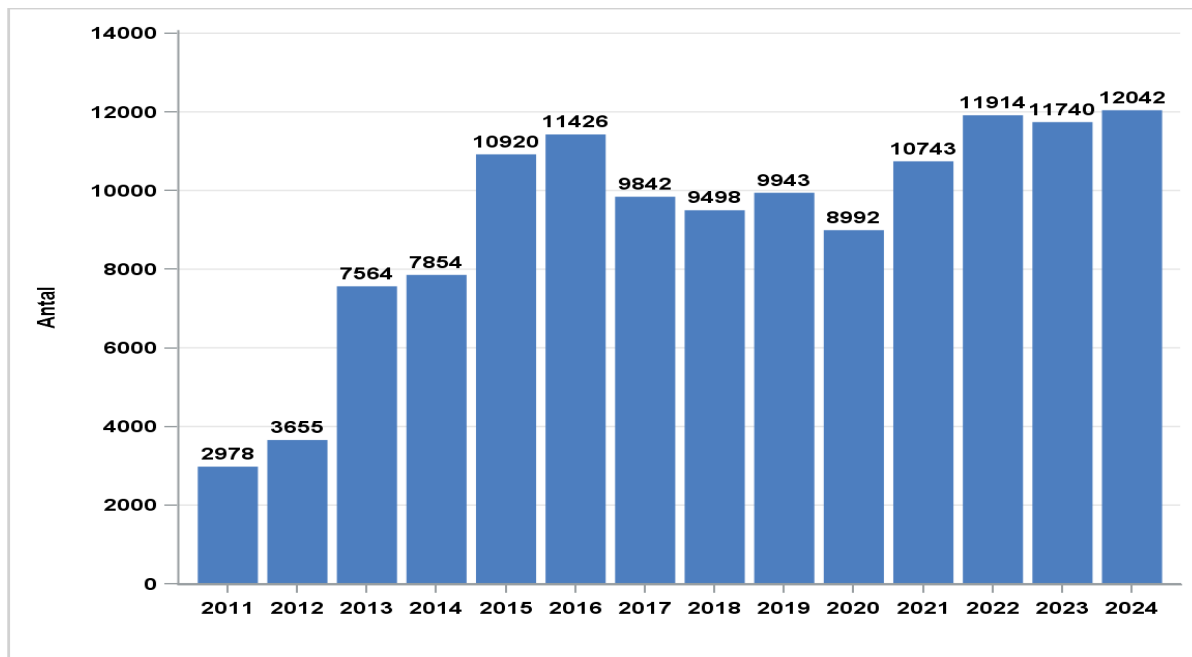
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## Introduction

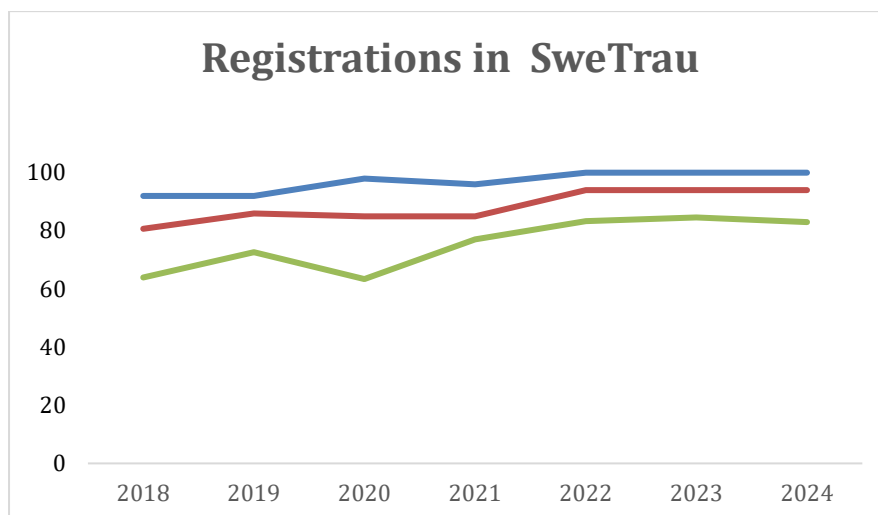
The Swedish Traumaregister (SweTrau) is important for continuous evaluation of traumacare in Sweden. Traumacare is associated with a big workload, and effective resources and processes in the care are important for the best outcome. SweTrau is important for research in the field of trauma. All Swedish emergency hospitals taking care of traumapatient are now linked to SweTrau that has been a register since 2011. Until 23th of April 2025 altogether 129,111 patients have been included in SweTrau of which 12,042 were included during 2024.

The figure shows included number of patients in SweTrau. Notably is the plateau that is reached during 2015 when almost all hospitals were associated. The decrease noted during 2020 might be explained by Covid-epidemy.



In SweTrau AIS-2015 was introduced 2023/2024.

Inclusion criteria are activated Trauma-alert either at level 1 or 2 (major or minor trauma) or a NISS -rate above 15 when assessing the injuries according to AIS-2015. The register contains the Utstein-paramters and also free fields for specific free parameters.



The figure shows the percentage of connected units (blue), the percentage of registrations (red) and the percentage of coverage (green)

## **Dataquality**

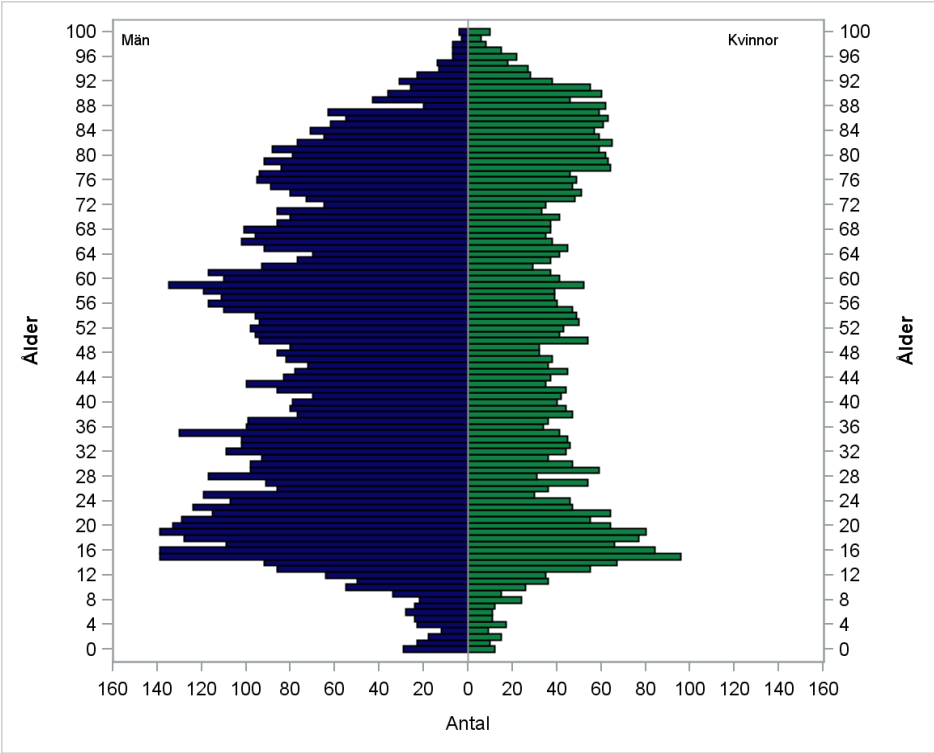
Still the data is entered manually by registrators. In order to secure a good quality there are logical controls in the system that prevents illogical data to be entered. Validation of the register is performed every other year and the conclusion is that most of the parameters are of good quality. In an article published 2023 the dataquality of SweTrau was validated (Holmberg L, Bergström M, Mani K, et al. Validation of the Swedish Trauma Registry (SweTrau). Eur J Trauma Emerg Surg. <https://doi.org/10.1007/s00068-023-02244-6>)

## **Registrydata**

### **Demography**

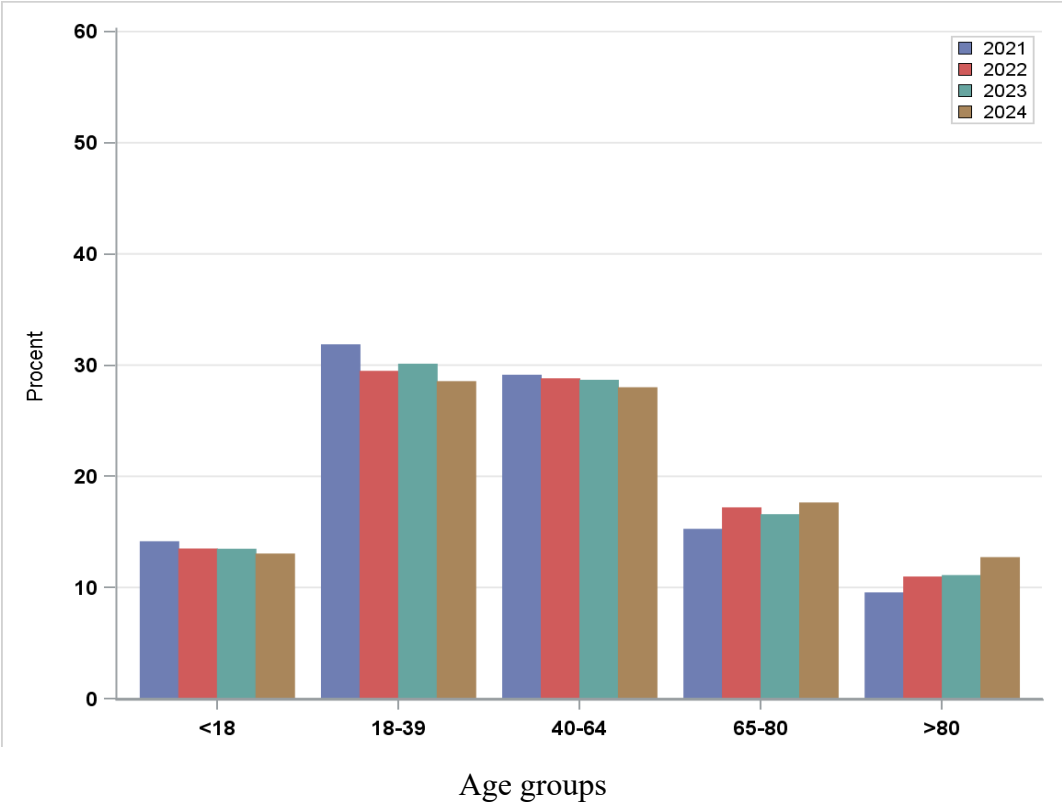
In 2024 12,042 traumacases were registered in SweTrau. The distribution of age and gender is shown in the figure below. 64,8% were men and 35,2% women.

**Fig 1. Age and gender2024, all SweTrau cases**



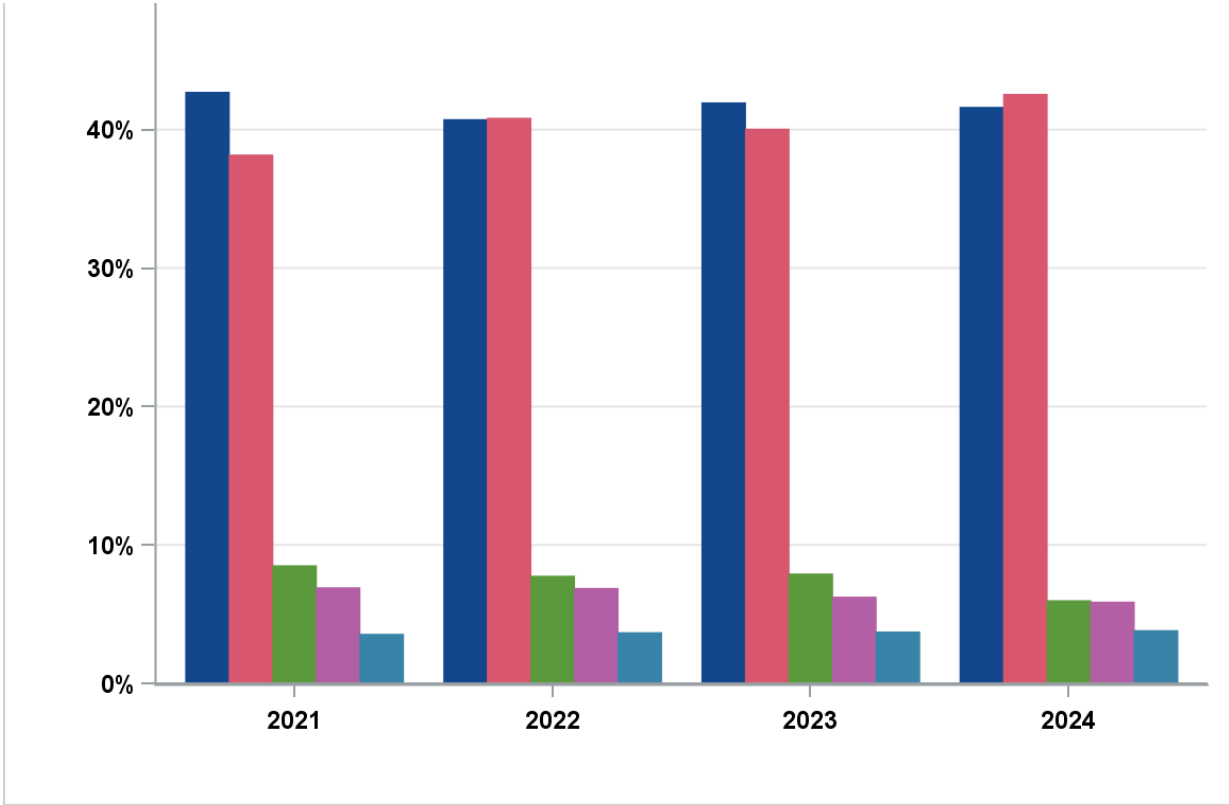
The figure below shows the change in age distribution over the last years. An impression is that trauma in elderly has increased, which might be an effect of an interest of elderly and trauma and that elderly arrives as trauma-alerts to a larger extent in the last years.

**Fig 2. Age distribution during 2021-2024, all SweTrau cases**



### Mechanisms of injury

**Fig 3. Injuries grouped in the most common mechanisms expressed as percentage 2021-2024.**

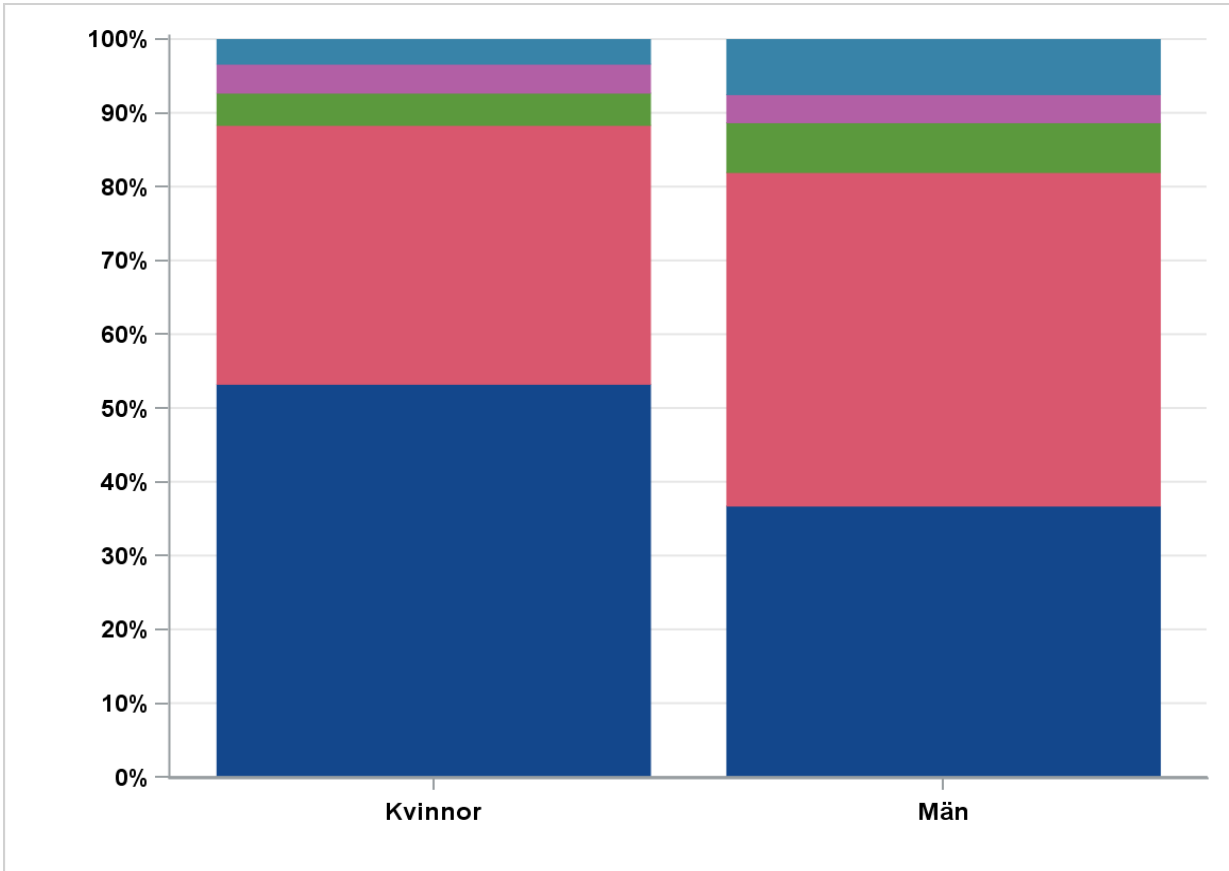


Traffic accidents (blue), Falls (red), Penetrating (green), Non-penetrating, Hit (purple) , Other mechanisms (lightblue).

Fig 4 Injury mechanisms, a comparison between genders 2024.

- Percentage of falls is higher in women (53,3%) as compared to men (36,8 %).
- Percentage of trafficaccidents is higher in men (45,2 %) as compared to women (35,1 %).
- Percentage of blunt trauma (hit) is higher in men (6,7 %) as compared to women (4,4 %).
- Percentage of penetrating truama is higher in men (7,5 %) as compared to women (3,3 %).

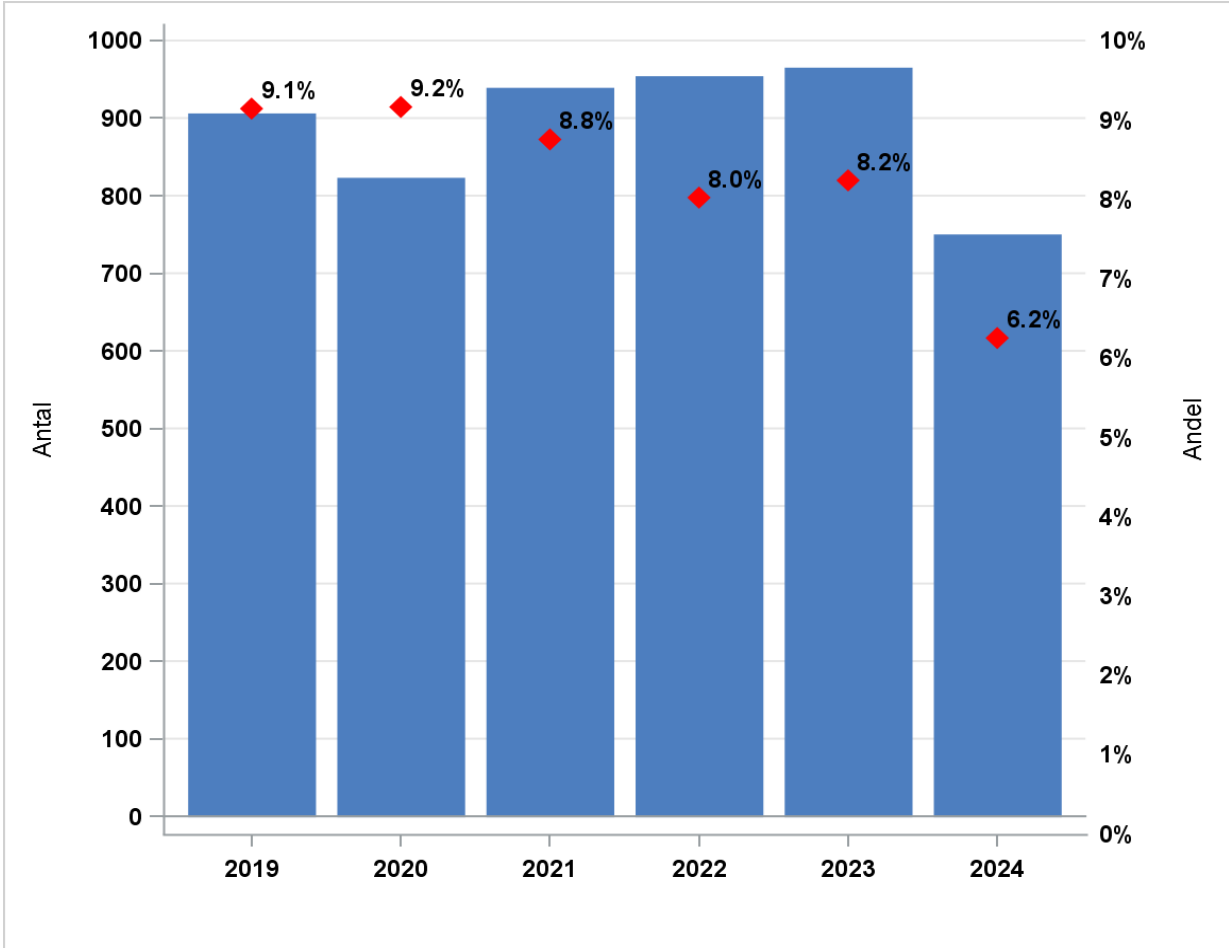
Fig 4. Distribution of traumamechanisms 2024, a gender comparison



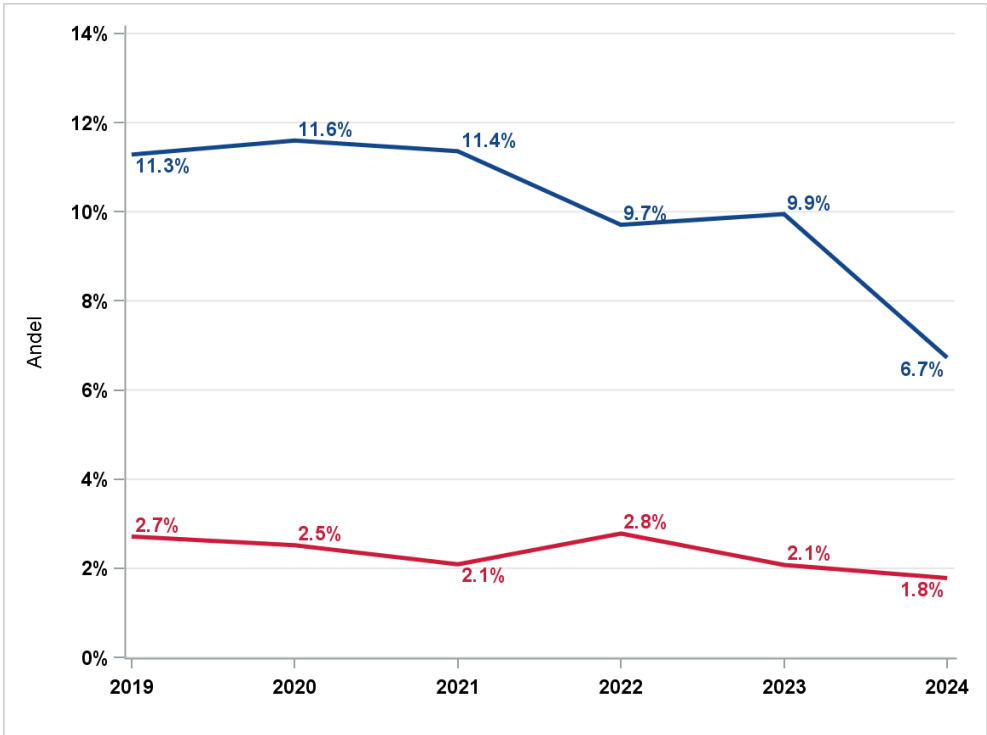
Traffic accidents (blue), Falls (red), Penetrating (green), Non-penetrating, Hit (purple) , Other mechanisms (lightblue).

Penetrating injury is more common in men than in women Fig 5 shows SweTrau-data of penetrating violence in percentage of all trauma and in absolute numbers. There is a trend towards a lower number during the last year

**Fig 5. Penetrating injuries in total and as percentage during the years 2019-2024.**

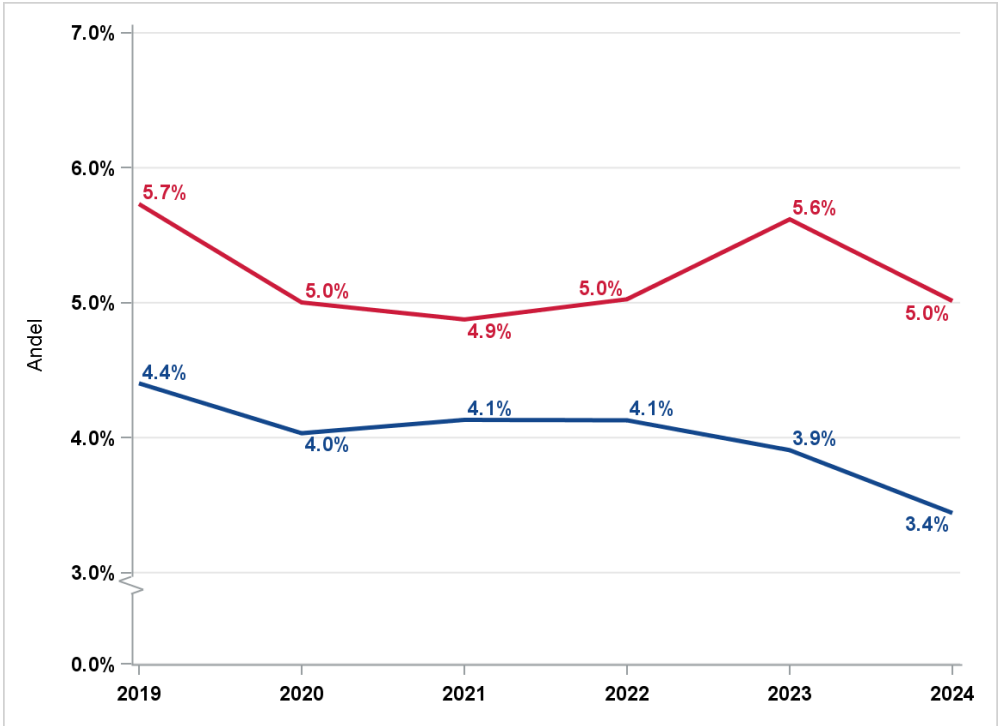


**Fig 6a. Abuse, a comparison during the years (2019–2024) and between genders.**



Men (blue), women (red)

**Fig 6b. Self-inflicted injury, a comparison during the years (2019–2024) and between genders.**



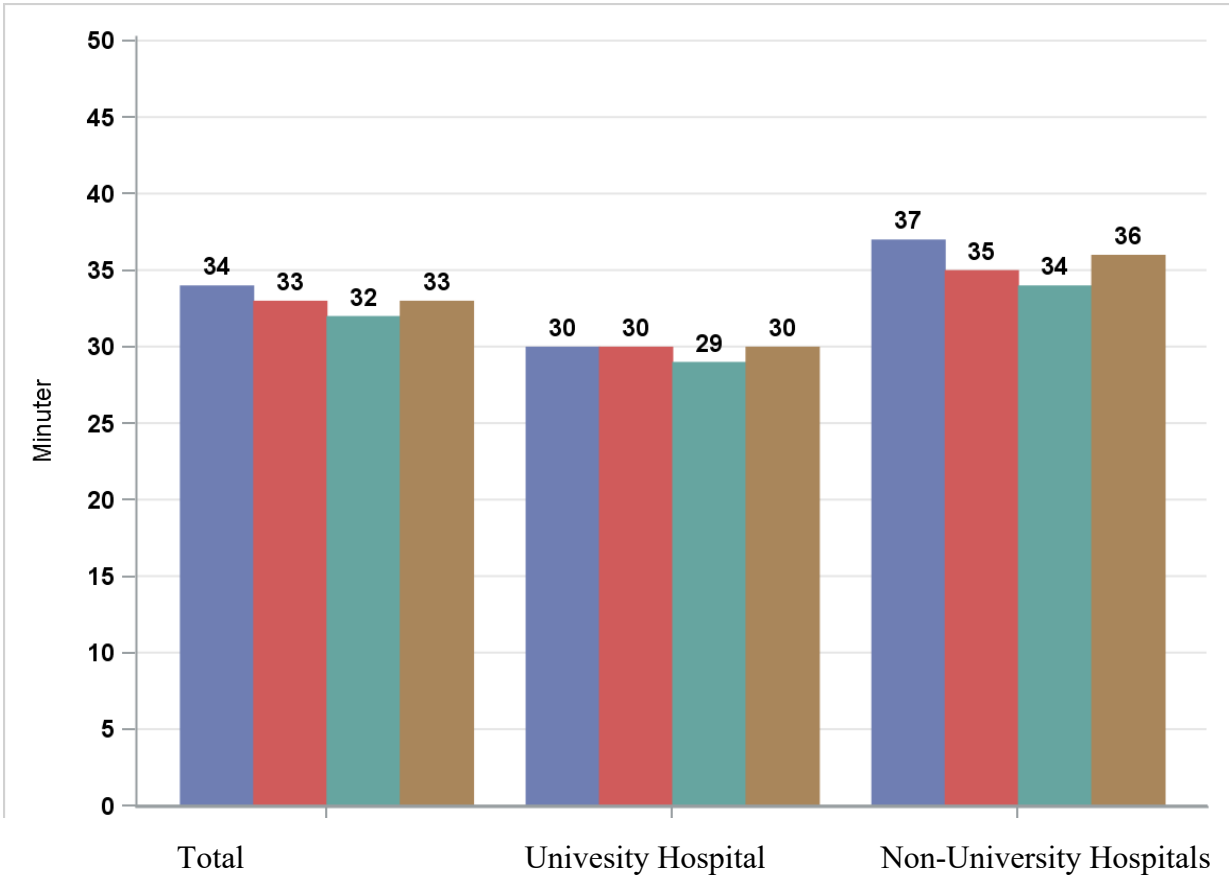
Men (blue), women (red)

# Inhospital

Time is an essential factor in the traumaprocess. In SweTrau some variables addresses the traumaprocess, such as time to CT for patients with GCS < 9.

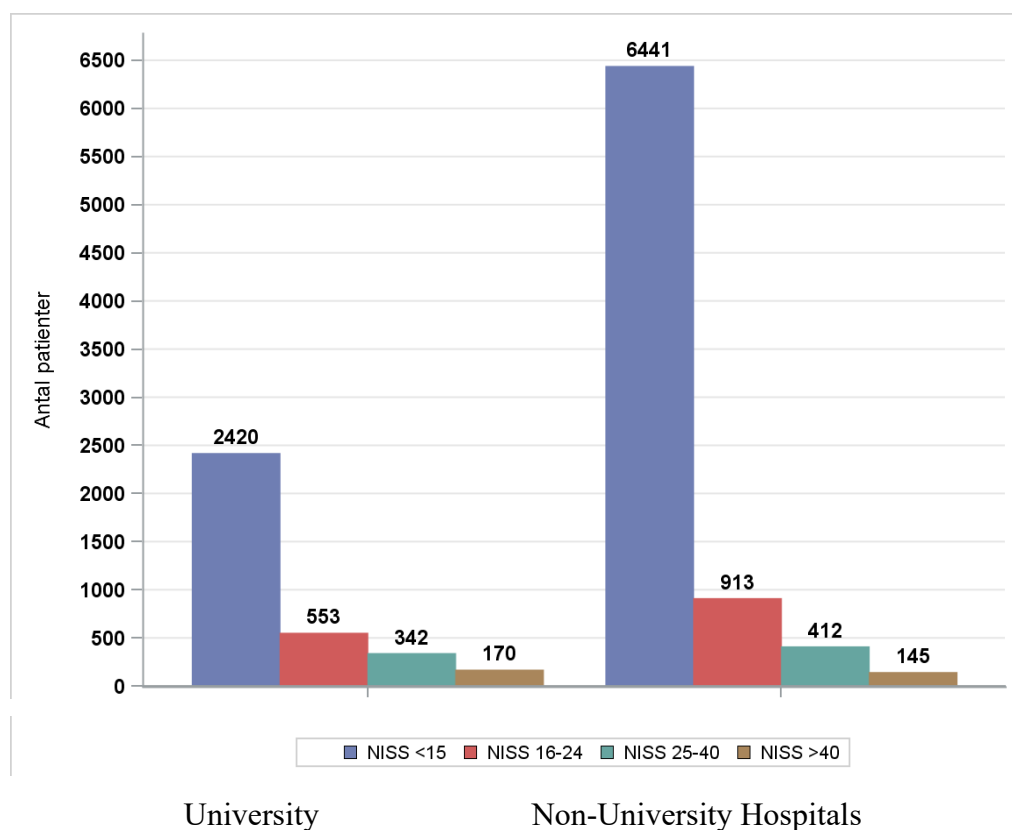
In Fig 10 time from arrival to hospital until CT is performed is shown in median for the years 2021-2024. The mediantime for all hospitals in 2024 was 33 minutes (University hospitals 30 minutes as compared to non-university hospitals 36 minutes)

**Fig 10. Time to CT during the years 2021-2024 for patients with GCS < 9.**



2021 (blue), 2022 (red), 2023 (green), 2024 (brown)

**Fig 11. Distribution of injury severity (NISS-groups) between University and Non-University Hospitals 2024.**



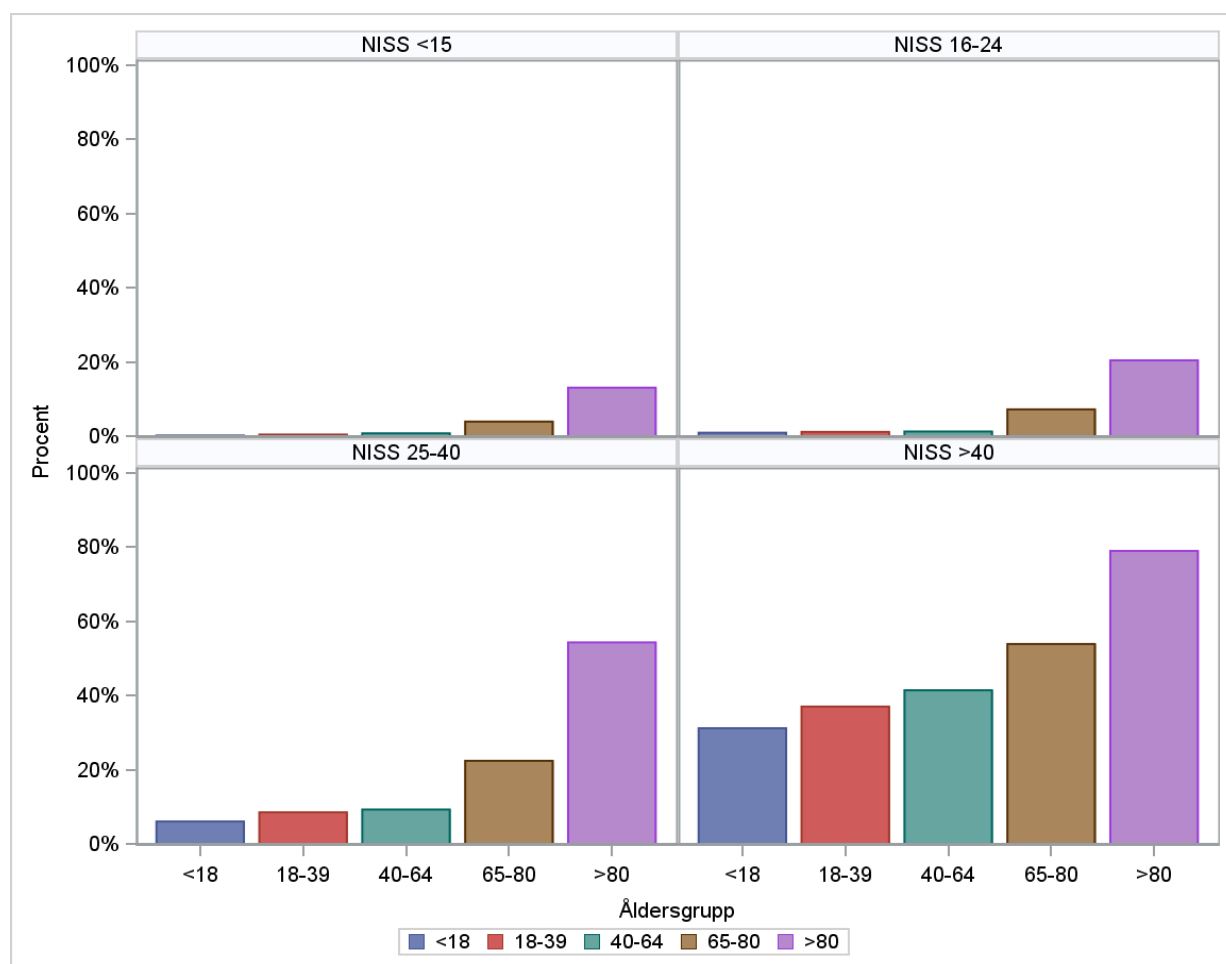
**Table. Level of function after the initial hospital stay according to Glasgow Outcome Scale (GOS) – 2024.**

GOS-level	2024	
	NISS<15	NISS>15
Good recovery	62%	16%
Moderate invalidity	28%	47%
Severe invalidity	8.1%	21%
Persistent vegetative condition	0.1%	0.2%
Dead	1.4%	16%
Unknown	0.3%	0.2%

## Mortality related to age and severity of injury.

Increased 30 day mortality is seen in increasing degree of of injury reflected by NISS. There is a clear impact of increasing age as shown in figure 12. Patients are grouped in NISS-groups <15, 16-24, 25-40 and >40 and in age-groups <18, 18-39, 40-64, 65-80 and >80 years of age.

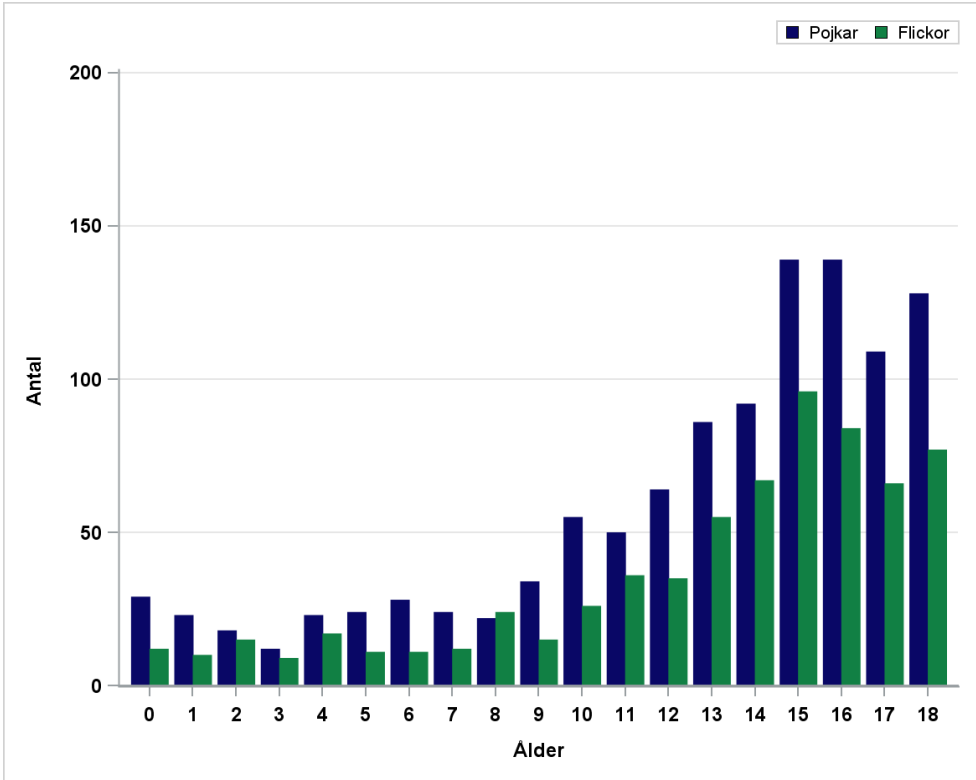
**Fig 12. 30-day mortality in groups of increasing degree of injury and age.**



### Age-group < 18 year

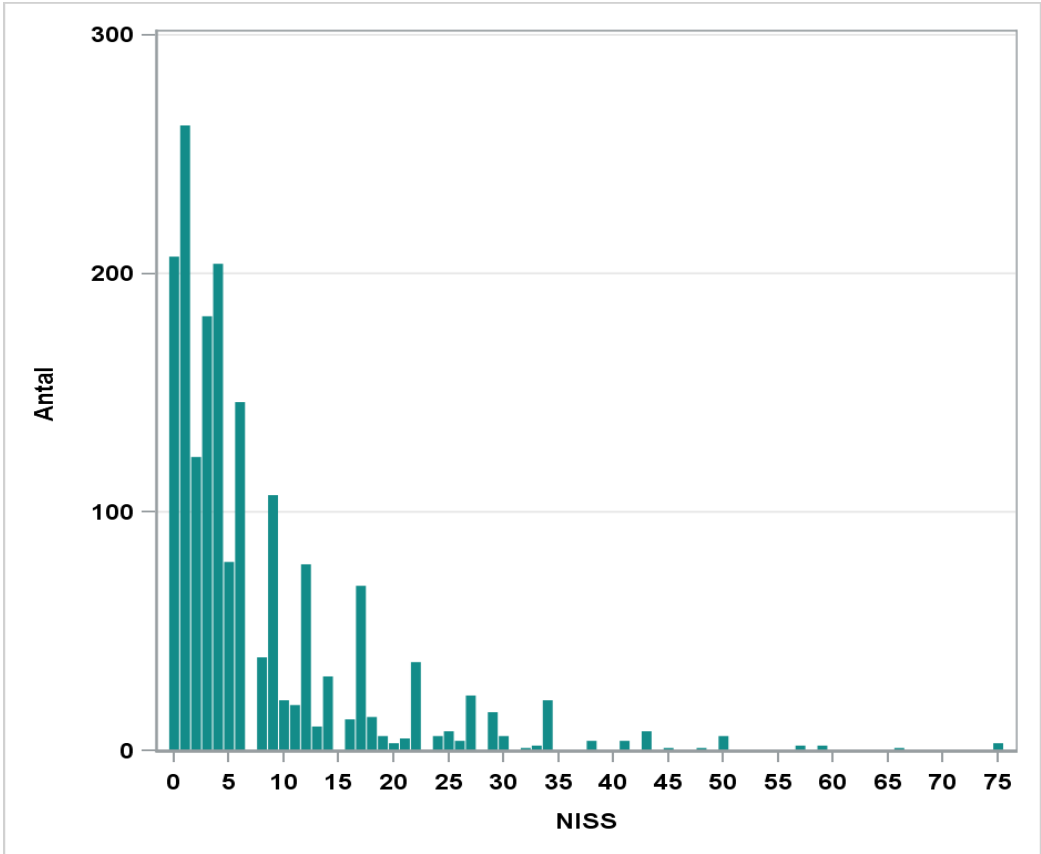
In fig 13 patients < 18 years in SweTrau are shown. There is a clear increase of traumacases in teenagers with boys dominating. Fig 14 illustrates the frequency of traumacases in NISS groups of increasing severity. The majority of children is luckily enough not severely injured.

**Fig 13. Age- and genderrelated distribution of patients <18 years**



**Boys (blue), Girls (green)**

**Fig 14. Degree of injury (NISS) in patients <18 years**

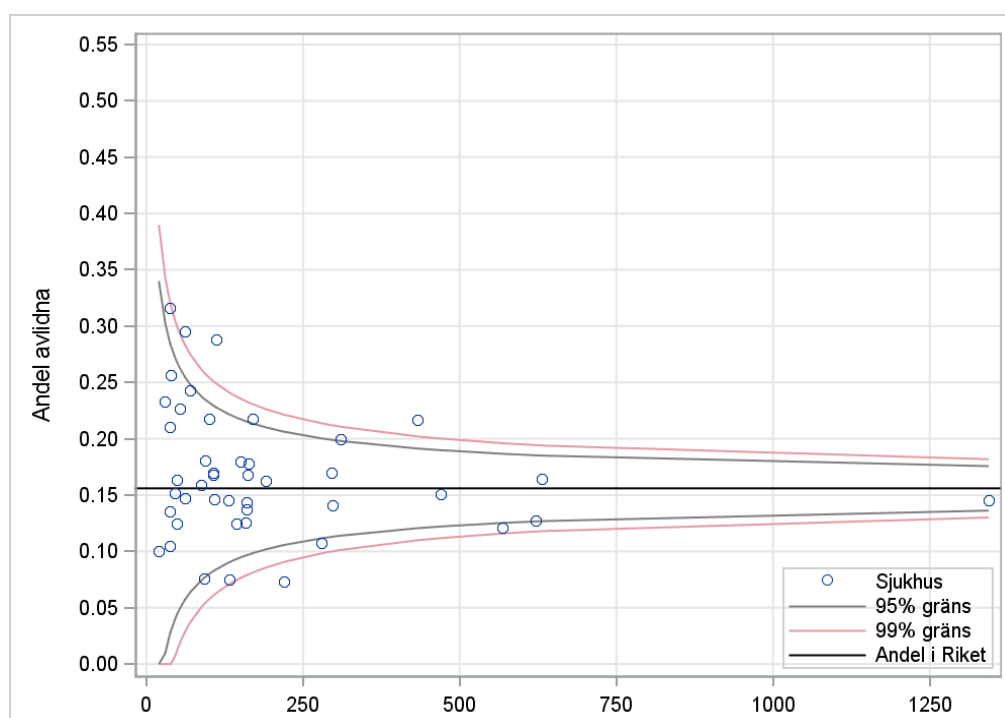


## Difference in mortality between hospitals

Data from SweTrau shows difference in 30-day mortality between hospitals. This may be explained by different case-mix, traumaorganisation and quality of reports. The funnel-plot shown in figure 15 shows a relation between 30-day mortality and the number of patientes registered in SweTrau for all hospitals in Sweden 2022-2024.

The scatter is bigger among hospitals with few cases which is not astonishing. During this period three out of 45 hospitals are above the 95% confidence interval. This could be compared to the period 2020-2022 where six hospitals were above the 95% confidence interval.

**Fig 15. The 30-day mortality of patientes with NISS>15 for hospitals in Sweden related to the amount av patientes registered in SweTrau.**



**Number of observations per hospital**

## Development of qualityindicators

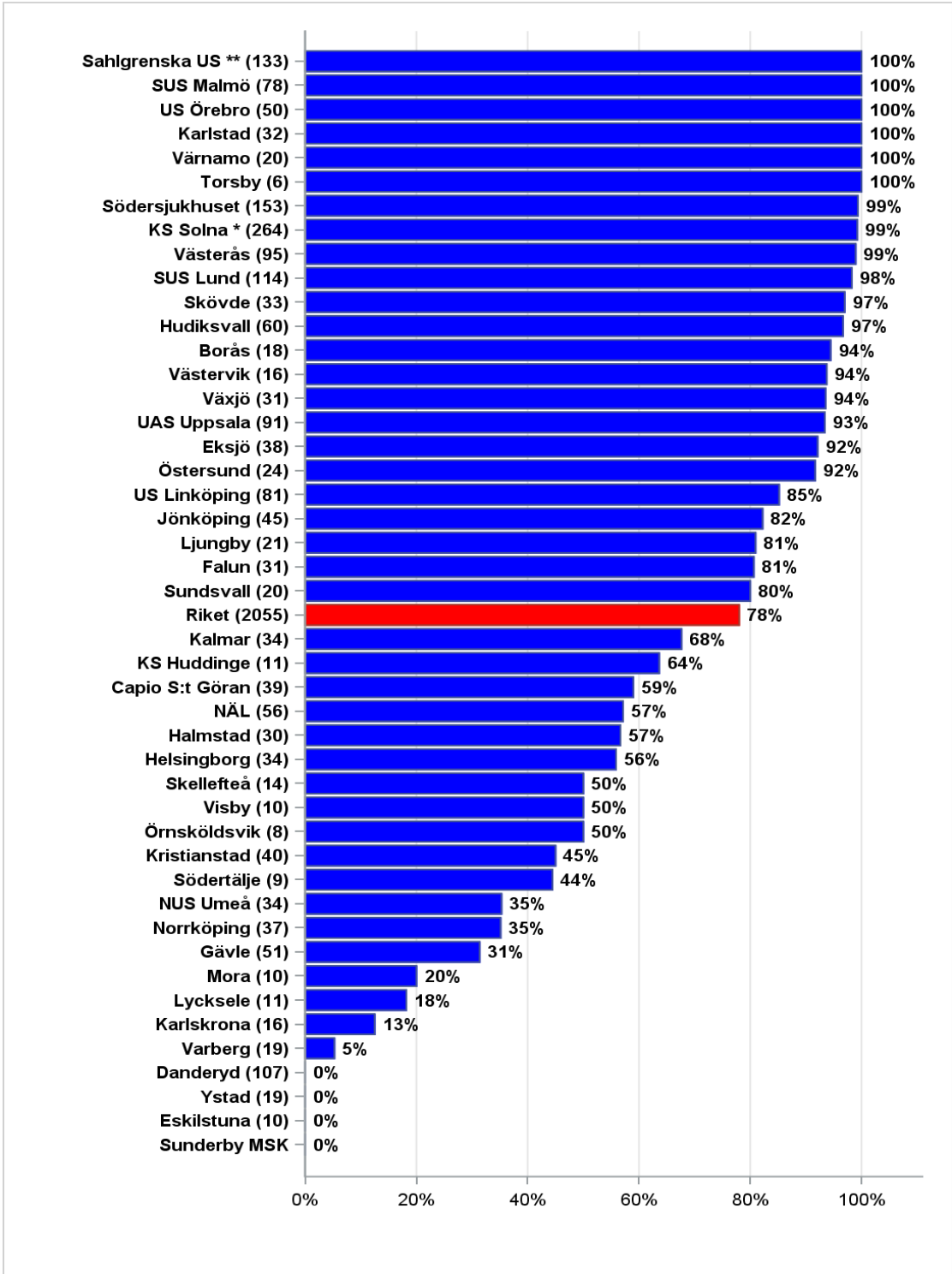
The main purpose for a qualityregister is to contribute to the improvement patient care. This goes hand in hand with research. SweTrau has identified three indicators that are followed over the years. These are:

- **The proportion of Mortality review**
- **The proportion of complete registration within 90 days**
- **Time to CR for patients with GCS<9.**

## **Qualityindicator- Mortality review**

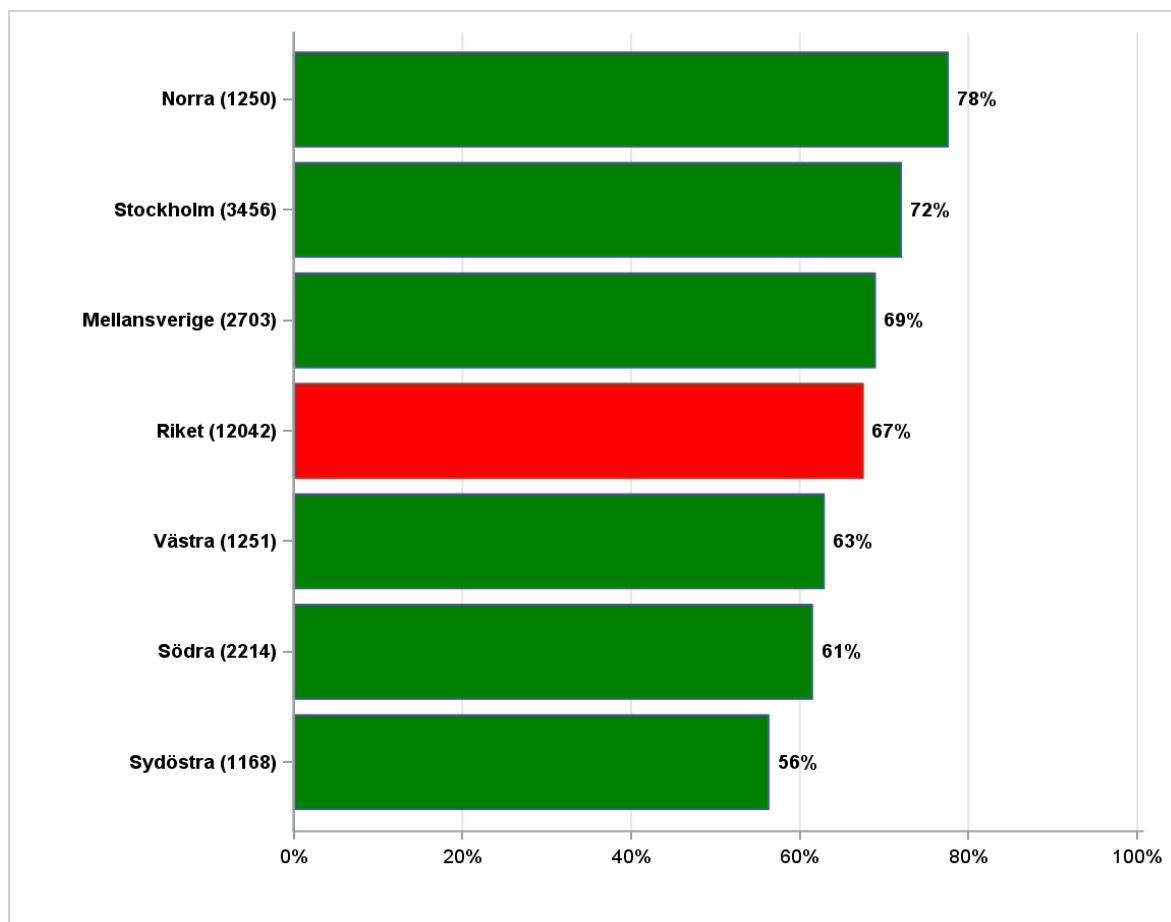
A standardised review of mortality is important in order to improve the quality of care. During the conferences it is discussed whether the death following trauma was preventable or not and if routines have to be changed. This will lead to continuous improvement in care. In figure 16 it is shown to what extent hospitals in Sweden have performed this review.

**Fig16. Percentage of Mortality reviews performed in individual hospitals during the years 2022-2024.**



## Qualityindicator – Completed registrations within 90 days.

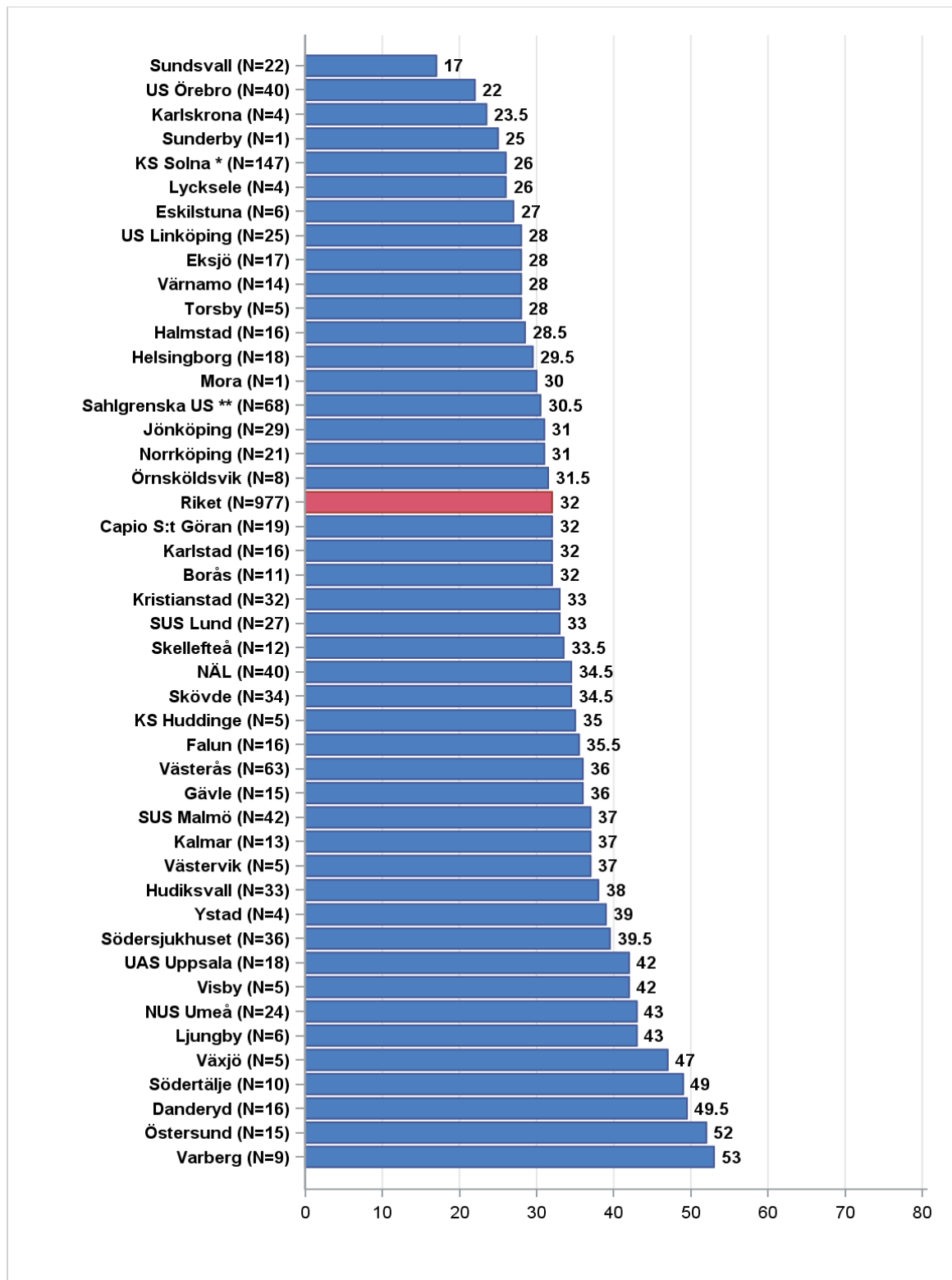
Figur 17. Percentage completed registrations within 90 days for the regions in Sweden



## Qualityindicator – Time to CT for patients with GCS <9

For patients with severe injuries it is important that the resuscitation and diagnostics such as trauma-CT is performed without delay. Time to trauma-CT for patients with GCS>9 (per definition unconscious) may serve as an indicator how efficient patients with severe traumaconditions are handled, provided that they not are undergoing an urgent operation prior to CT.

**Fig 18. Medianvalue for the time to trauma CT for patients with GCS<9 (year 2022-2024)**



# Research and development

## PhD – projects and dissertations (2014-2025)

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