

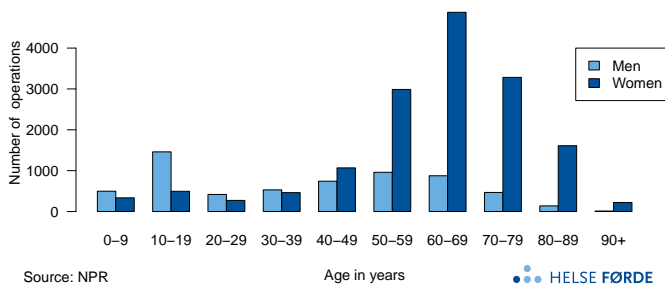
# Wrist fractures

Wrist fractures are the most common type of fracture in Norway, accounting for about 20 % of all fractures. This is among the highest incidences in the world. Wrist fractures are most common among boys younger than 20 years and women older than 50 years. National guidelines for the treatment of wrist fractures in adults were drawn up in 2013, to reduce the variation in treatment procedures between hospitals and to ensure optimal patient treatment. Stable wrist fractures are treated conservatively, while surgical treatment is recommended for unstable wrist fractures. Stabilising the fractures with plates is recommended rather than external fixation or pinning. It is also recommended that restraint should be exercised when it comes to operating on patients with a low level of functioning.

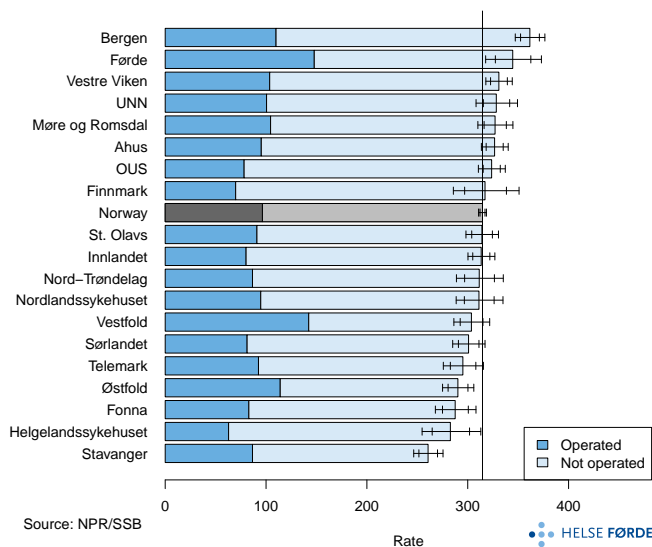
## Background

Wrist fracture is defined by a primary or secondary diagnosis of S52.5 or S52.6 (ICD-10). Surgical treatment is defined by a diagnosed wrist fracture in combination with one or more of the procedure codes NCJ25, NCJ27, NCJ35, NCJ37, NCJ45, NCJ47, NCJ55, NCJ57, NCJ65, NCJ67, NCJ75, NCJ77, NCJ85, NCJ87, NCJ95, NCJ97 (NCSP). Conservative treatment is defined by a diagnosed wrist fracture in the absence of the above-mentioned surgical procedure codes. Patients aged 18 years or older are included in the sample, except in the figure that shows gender and age distribution of patients who have been operated.

Each year there are about 12,500 wrist fractures in Norway, and one third of them are operated.



Total number of operations for wrist fractures during the period 2012–2016, for Norway as a whole. The patients have been broken down by gender and age group.



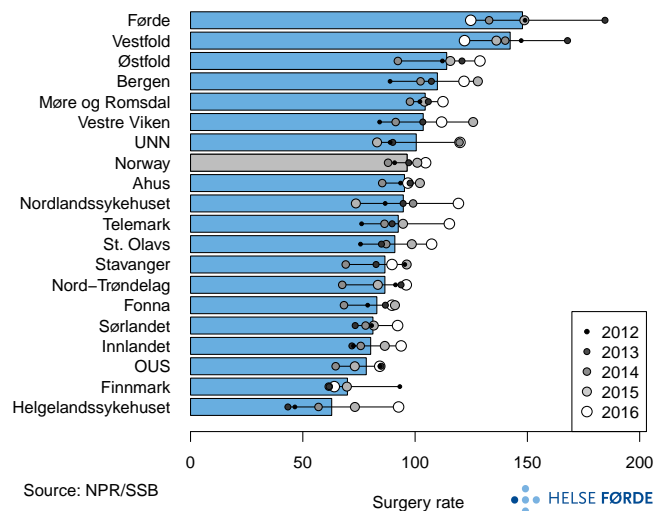
Fracture rate: Total number of wrist fractures per 100,000 population (18 years and older) in 2012–2016, broken down by hospital referral area and for Norway as a whole. Bars show average value per year with 95 % and 99.8 % confidence intervals, broken down by operated and non-operated fractures. Vertical line indicates the rate for Norway as a whole. Rates have been adjusted for gender and age.

## Results

Surgical treatment for wrist fracture is more than twice as common in Førde as in Helgelandssykehuset hospital referral area.

In the Finnmark and Helgelandssykehuset areas 22 % of all wrist fractures are operated, while 47 % are operated in the Vestfold area. At the national level 31 % of all wrist fractures are operated.

Plate fixation is the most frequently used surgical technique in almost all hospital referral areas. External fixation is used to a large extent only in the Stavanger and Helgelandssykehuset hospital referral areas.



Surgery rate: Number of operated wrist fractures per 100,000 population (18 years and older), broken down by hospital referral area and for Norway as a whole. The bars show the average value per year for the period 2012–2016, and the dots represent the rates for each year. The rates have been adjusted for gender and age.

## Comments

There is considerable variation in surgery rates for wrist fractures. Part of the variation reflects differences in incidence between different parts of Norway, but the variation in surgery rate and percentage operated on is so high that there is reason to believe that there is an element of unwarranted variation in the surgical treatment of wrist fractures.

In the period after publication of national guidelines, treatment practices have become more uniform. The variation in surgery rates has decreased, as areas with the highest and lowest number of operations per population have moved towards the national average.