



EUROPEAN HEALTH CARE OUTCOMES,
PERFORMANCE AND EFFICIENCY

EUROHOPE: Hip fracture in Europe – are slippery regions different?

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Hip fracture is the most common fracture and associated with increased mortality

- A hip fracture is a femoral fracture that occurs in the proximal end of the femur (the long bone running through the thigh), near the hip
- In the vast majority of cases, a hip fracture is a fragility fracture due to a fall or minor trauma in someone with weakened osteoporotic bone
- Hip fractures are associated with increased mortality rates and patients are at increased risk for premature death for many years after hip fracture (Abrahamsen 2009)
- Hip fractures, account for 63%-72% of hospital admissions for fracture in patients over the age of 50 years (Johnell et al 2005; Kanis et al 2011) and place a significant burden on the hospital system



The incidence of hip fracture varies across different countries

- A variety of studies have examined hip fracture rates in different regions of the world (Kanis 2006)
 - The highest risks of hip fracture are seen in **Norway, Sweden, Iceland** and Denmark
 - Germany, Switzerland, **Finland**, Greece, **The Netherlands, Hungary, Italy**, the UK and Portugal have been described as “high risk” countries defined as having a hip fracture probability that lies between 50% and 75% of the risk that is observed in Sweden

The study aims to identify potential cross country differences and best practices

- This study is aiming at comparing quality and costs in the treatment of hip fracture in Europe
- And to explore the reasons behind differences in health outcomes and resource utilisation
 - Treatment practices and guidelines (e.g. time to surgery)
 - Type of surgical procedure used
 - Organisation of health care
- Patients > 50 years of age that are surgically treated and has one of the following diagnoses are included:
 - Collum fracture (S72.0)
 - Pertrochanteric fracture (S72.1)
 - Subtrochanteric fracture (S71.2)
- Patients with a hip fracture in the previous 365 days are excluded

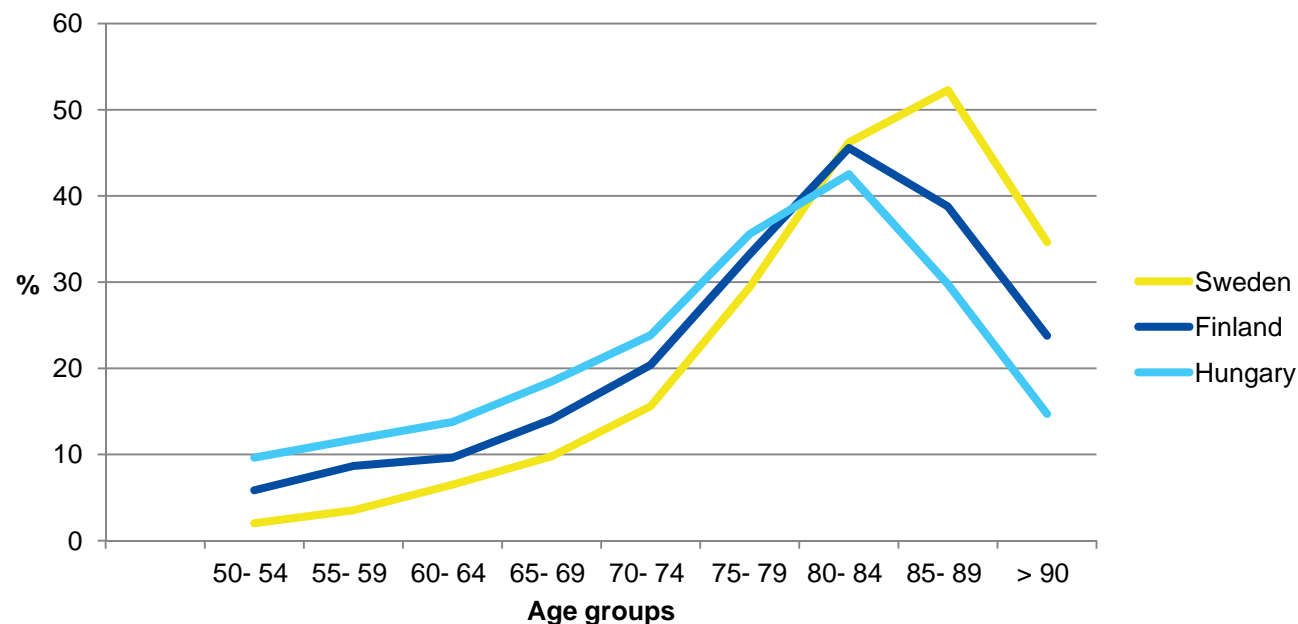
The incidence of surgically treated patients was highest in Sweden in 2007, then come Hungary

	No of patients	Total population	Incidence (per 100 000 population)
Sweden	12 136	3 411 896	355.7
Hungary	11 314	3 677 570	307.6
Finland	5 153	2 016 030	255.6

- Across all three countries approx. 30% of patients are men and 70% are women



In Sweden 70% of patients are aged 80 years or above, in Finland 59% and in Hungary 48%

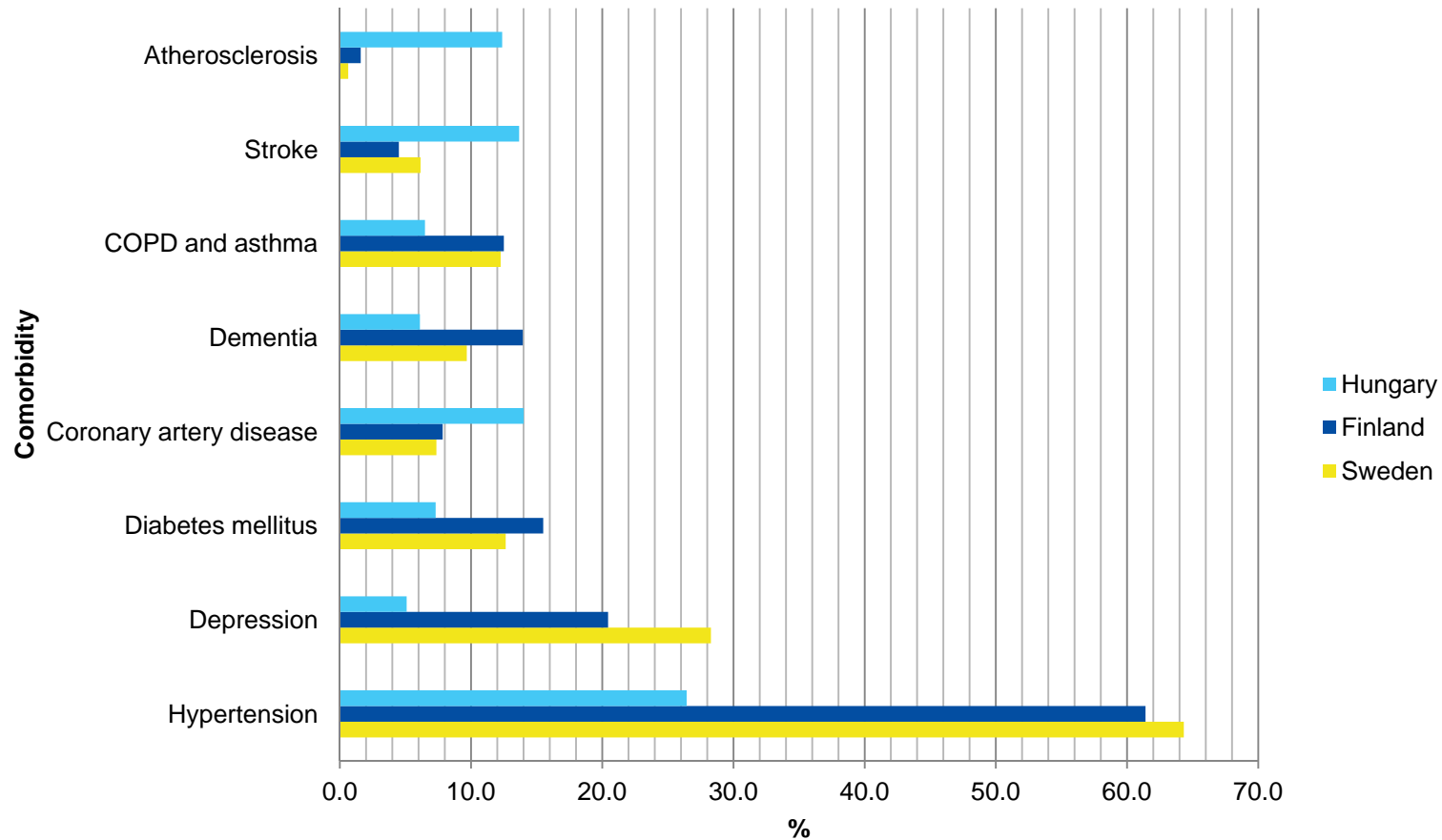


- The median age is 84 years in Sweden compared to 81 in Finland and 79 in Hungary

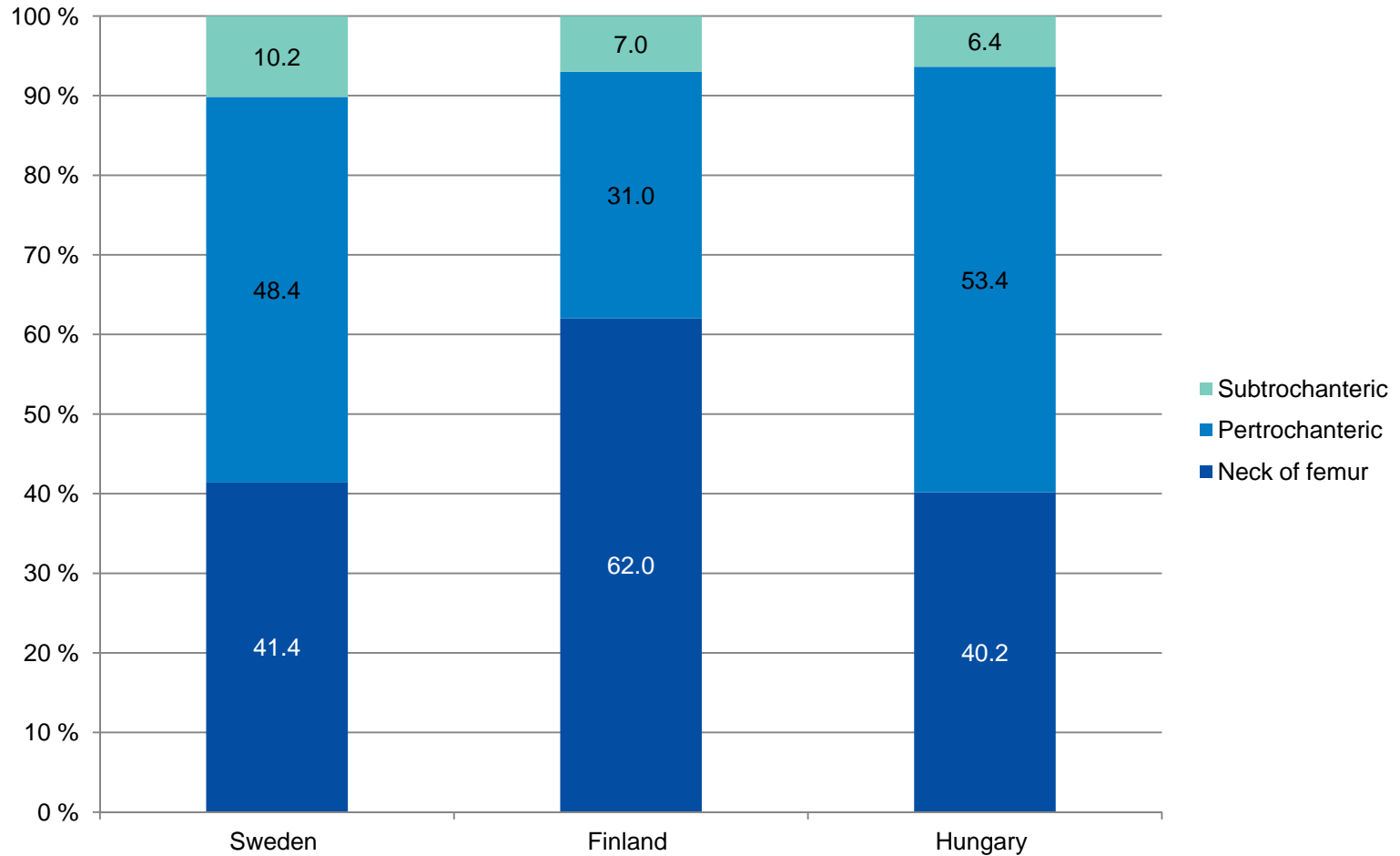
Across the board the vast majority of patients are admitted from home and few has suffered a previous hip fracture

- 84 % of the Swedish patients and 72% of the Finnish patients are admitted from home
- Patients with a hip fracture within the past 3 years:
 - 4.1% of the Swedish patients
 - 3.4% of the Finnish patients
 - 2.8% of the Hungarian patients

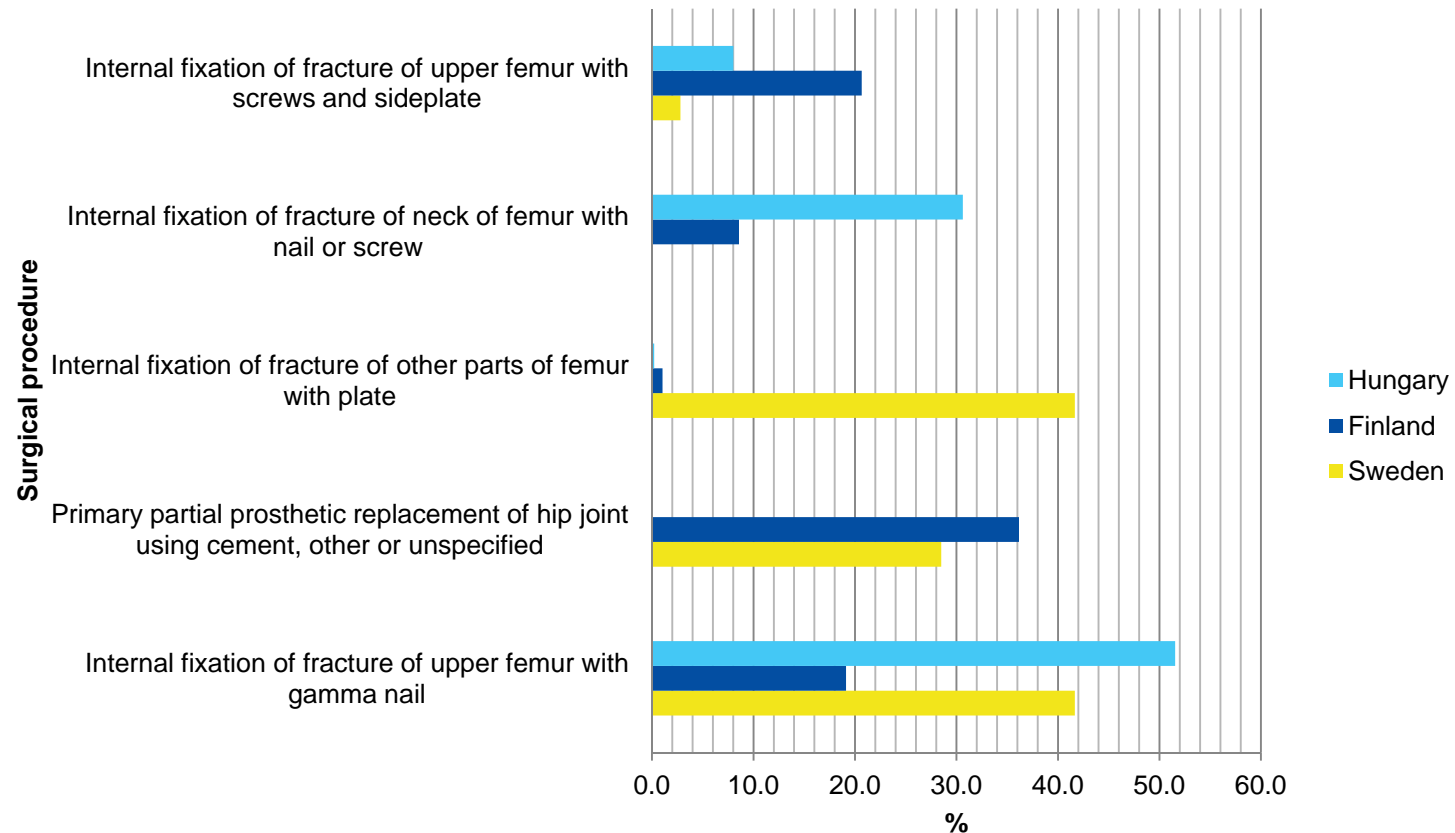
The most important co-morbidities are hypertension and depression



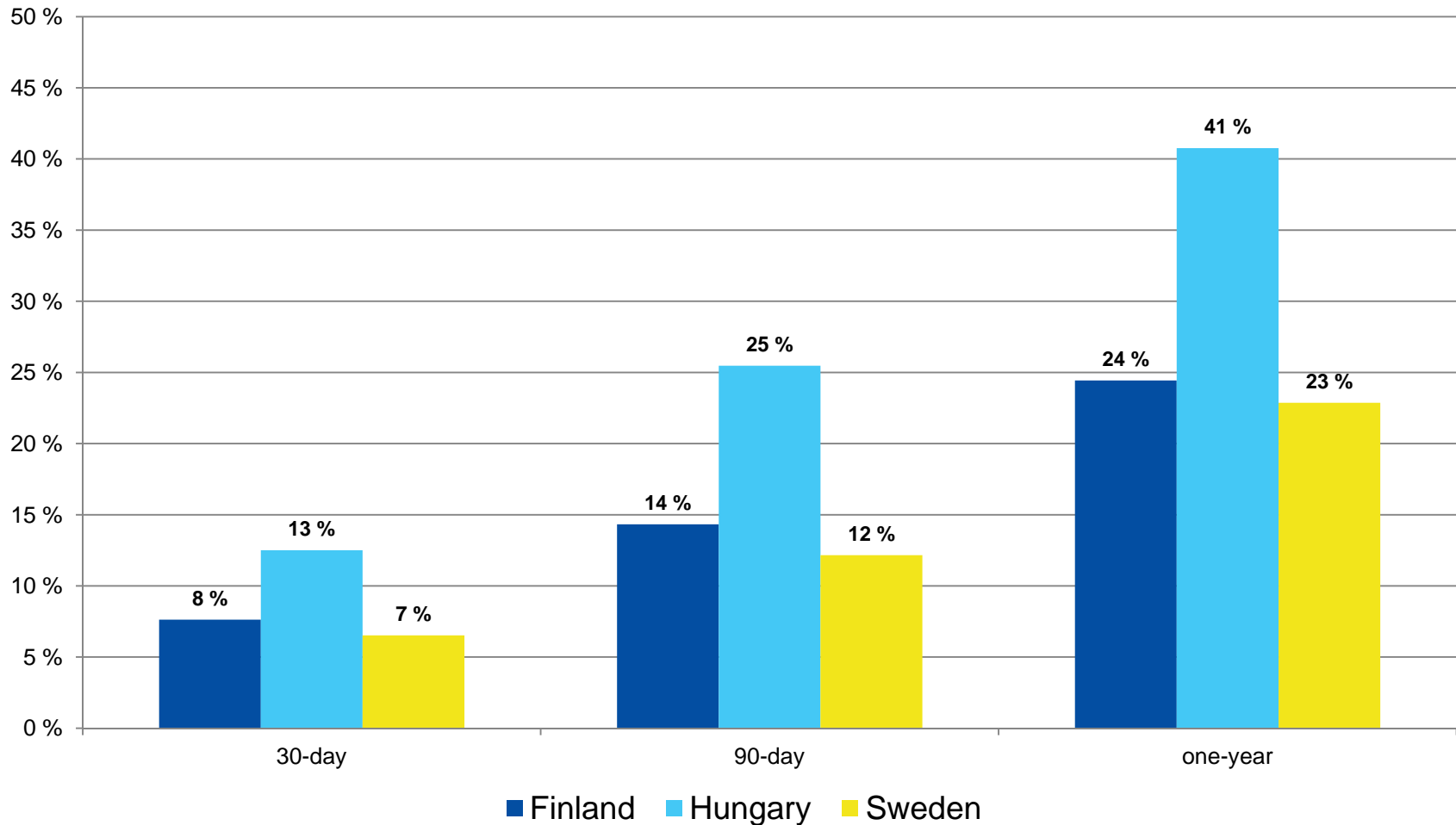
The vast majority of patients suffers from a fracture in the neck of femure



Internal fixation with gamma nail is the most common surgical procedure used



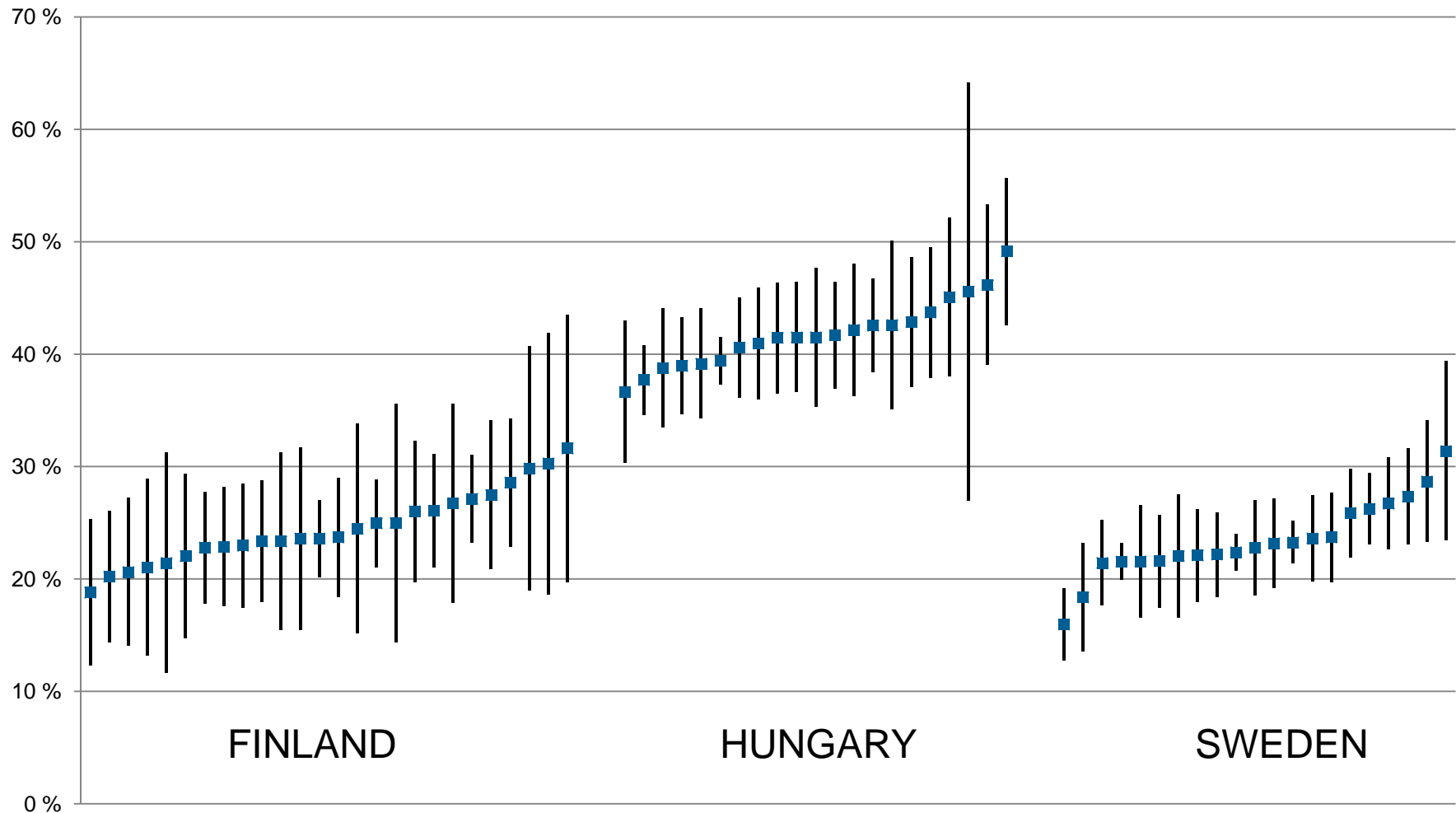
Mean mortality rates; 30- day, 90-day and one-year (adjusted for age and sex)



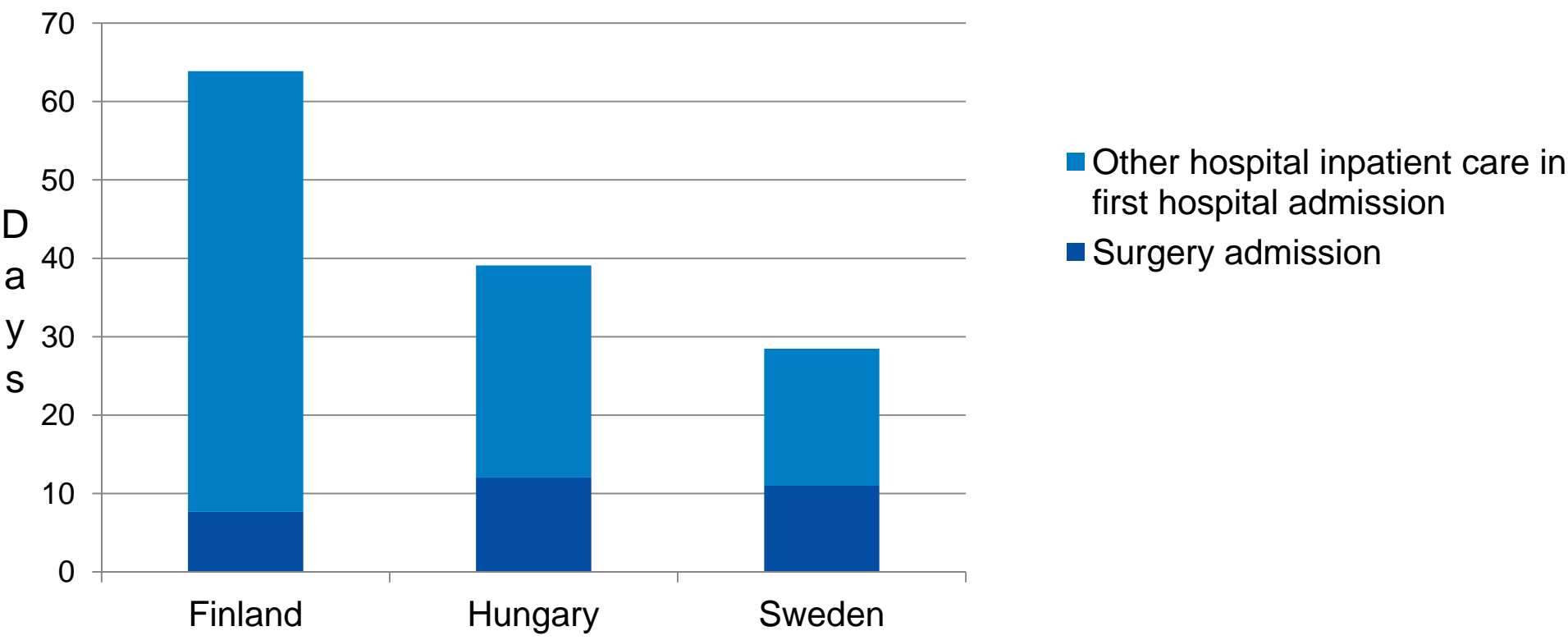


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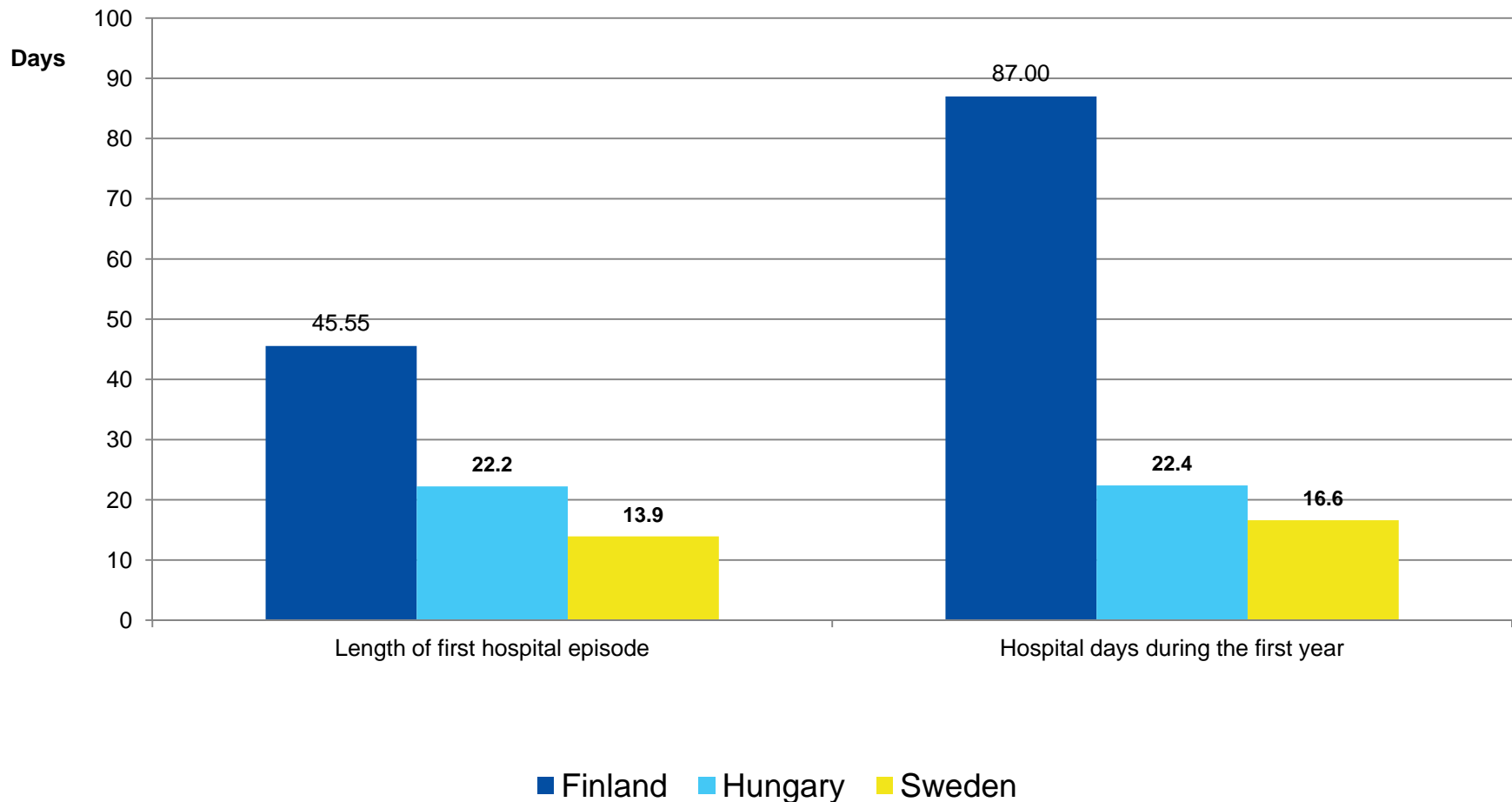
One-year mortality per region by country (adjusted for age and sex, with confidence intervals)



Mean length of stay of first hospital episode



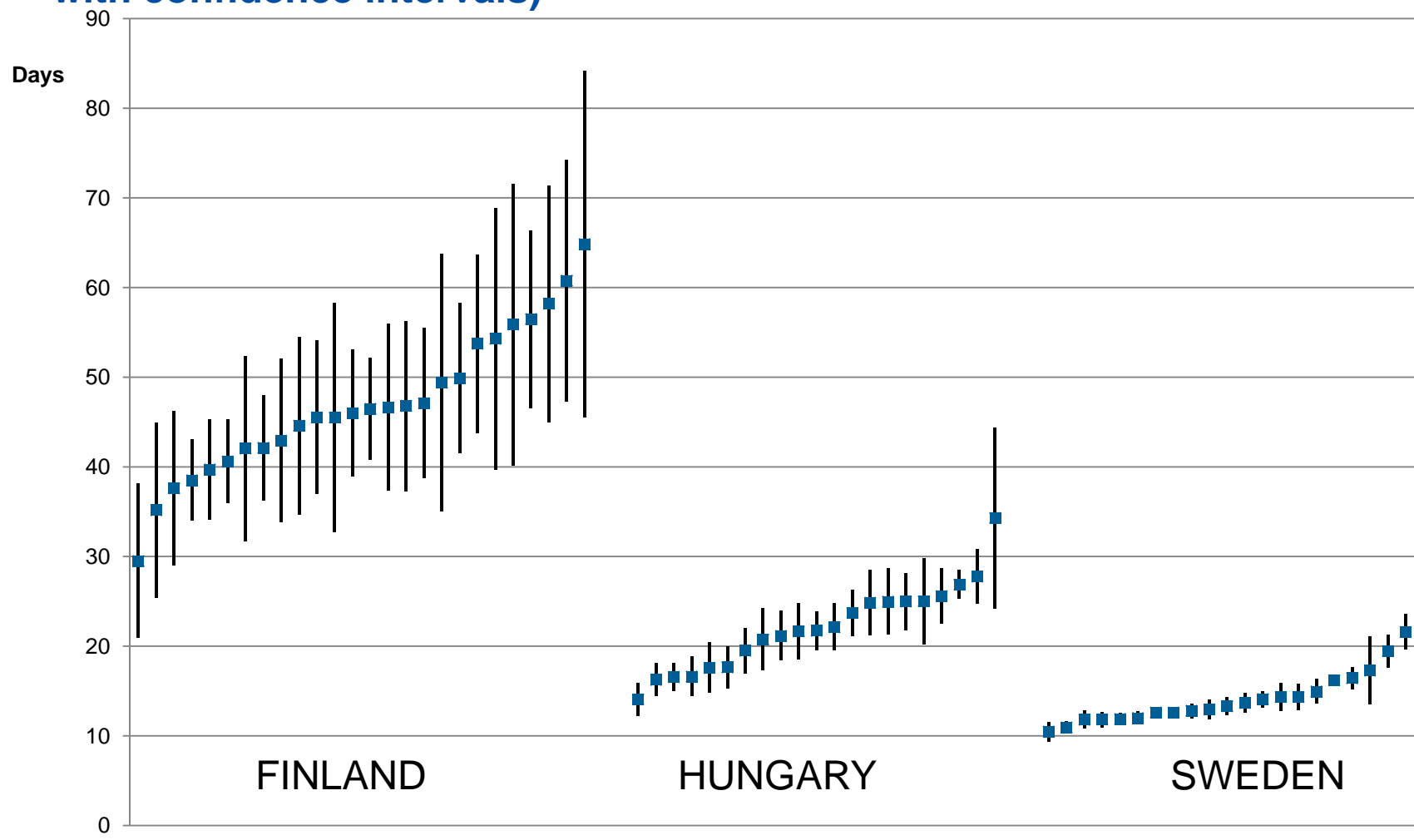
Mean length of stay during first hospital episode and the first year (adjusted for age and sex)





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Mean length of stay first hospital episode per region by country (adjusted for age and sex, with confidence intervals)



So, cross-country differences in quality and resource utilisation exists

- Differences of incidences are in line with other sources
 - Slippery regions in general don't seem to be different
- Osteoporosis (and related diseases) that is claimed to be a main comorbidity is only found in less than 2% of the patients
 - Hypertension and depression are the most common comorbidities
- The share of patients above 80 years is largest in Sweden.
 - Still, one year mortality is the lowest , and
 - And length of stay is the shortest
- However, at the regional level
 - The mortality rates are similar to them of Finland, and
 - Length of stay is similar to them of Hungary
- Next steps includes further analyses of reasons behind the identified differences
 - Differences in post- surgical care (e.g. organisation of rehabilitation)
 - Differences in clinical guidelines (e.g. time to surgery)