EUROPEAN HEALTH CARE OUTCOMES, PERFORMANCE AND EFFICIENCY

Are stroke patients equally treated in Europe?

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EuroHOPE

Definition of stroke

- WHO definition: “Rapidly developed clinical signs of focal (or global in case of subarachnoid haemorrhage) disturbance of cerebral function, lasting more than 24 hours or leading to death before that, with no apparent cause other than of vascular origin.”
- International stroke classification (used by EuroHOPE):
  - **Ischaemic stroke** due to a thrombosis in cerebral artery – **this presentation**
  - Intracerebral haemorrhage
  - Subarachnoid haemorrhage
  - Ill-defined stroke

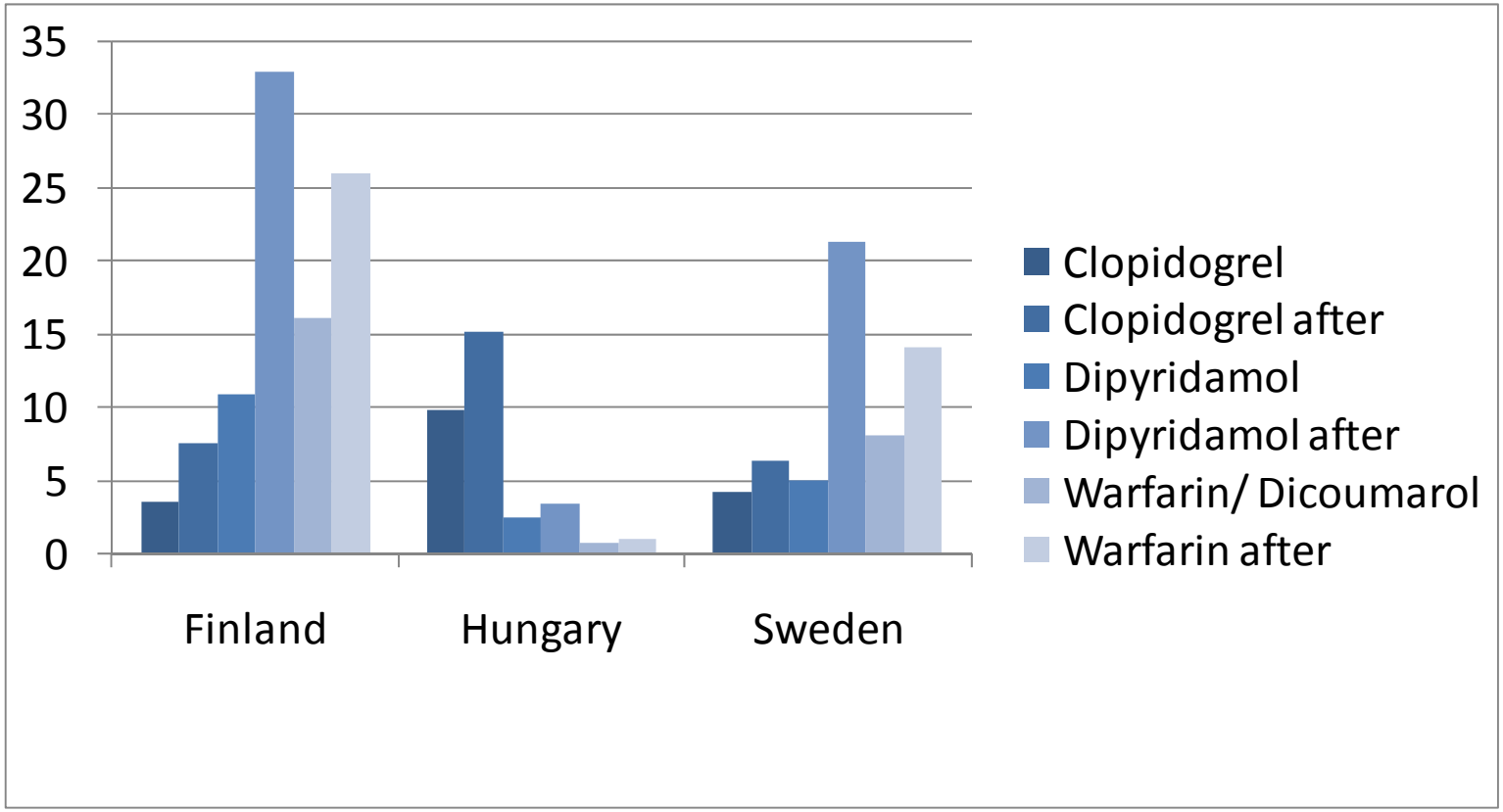
Numbers and incidence of ischaemic stroke in the database (year 2007)

	Total population	Ischaemic stroke (N)	Ischaemic stroke (N/10^5 inhabitants)
Finland	5 300 434	10282	245
Hungary	10 045 401	34 472	422
Netherlands	16 374 541	20 887	163
Sweden	9 182 927	19 201	265

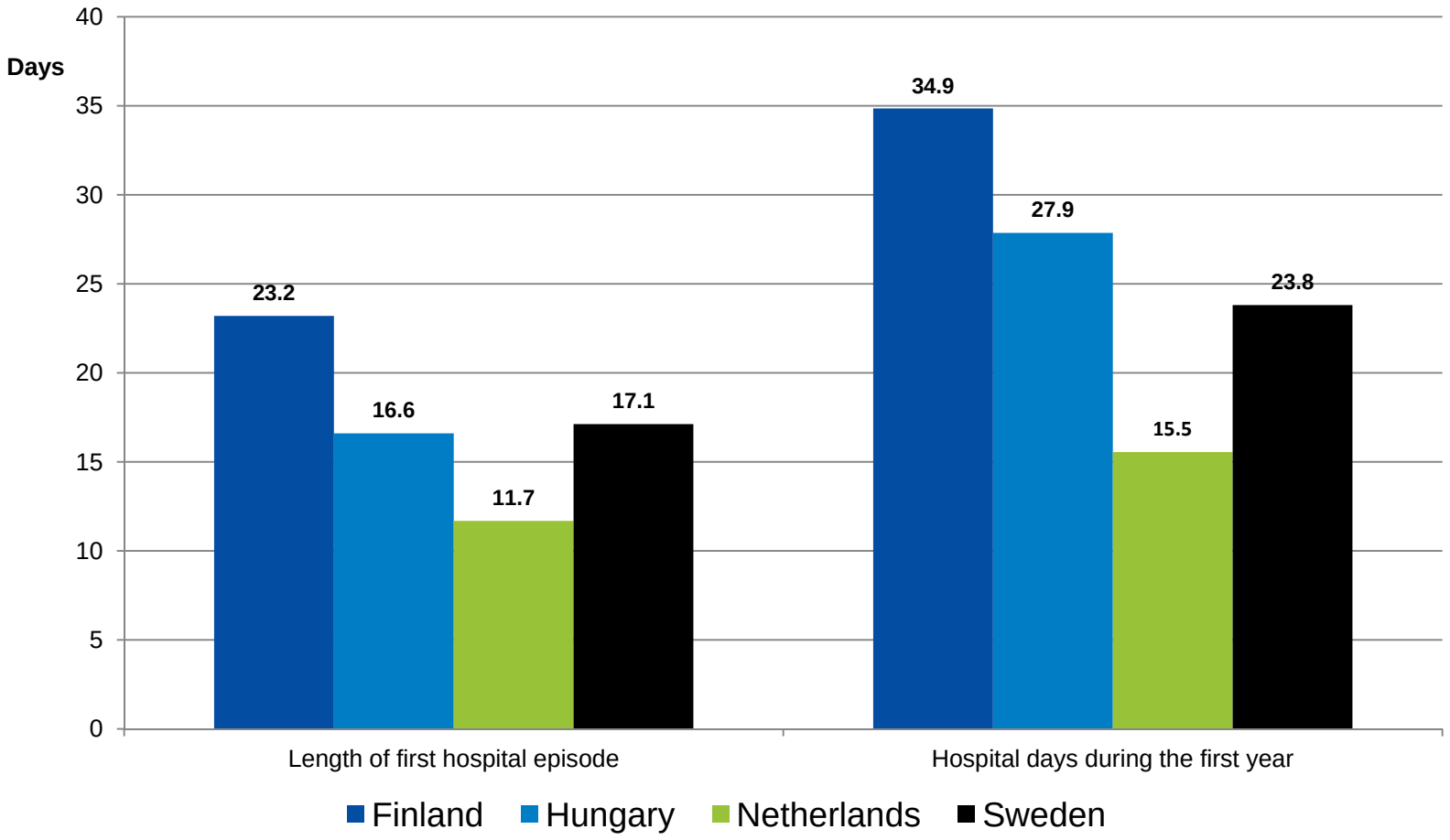
Demographics of the ischaemic stroke patients

	Mean age	< 65yr (%)	Female (%)
Finland	74	14,3	51,1
Hungary	69,5	11,9	52,5
Netherlands	71,3	27,8	50,0
Sweden	76,1	11,3	49,3

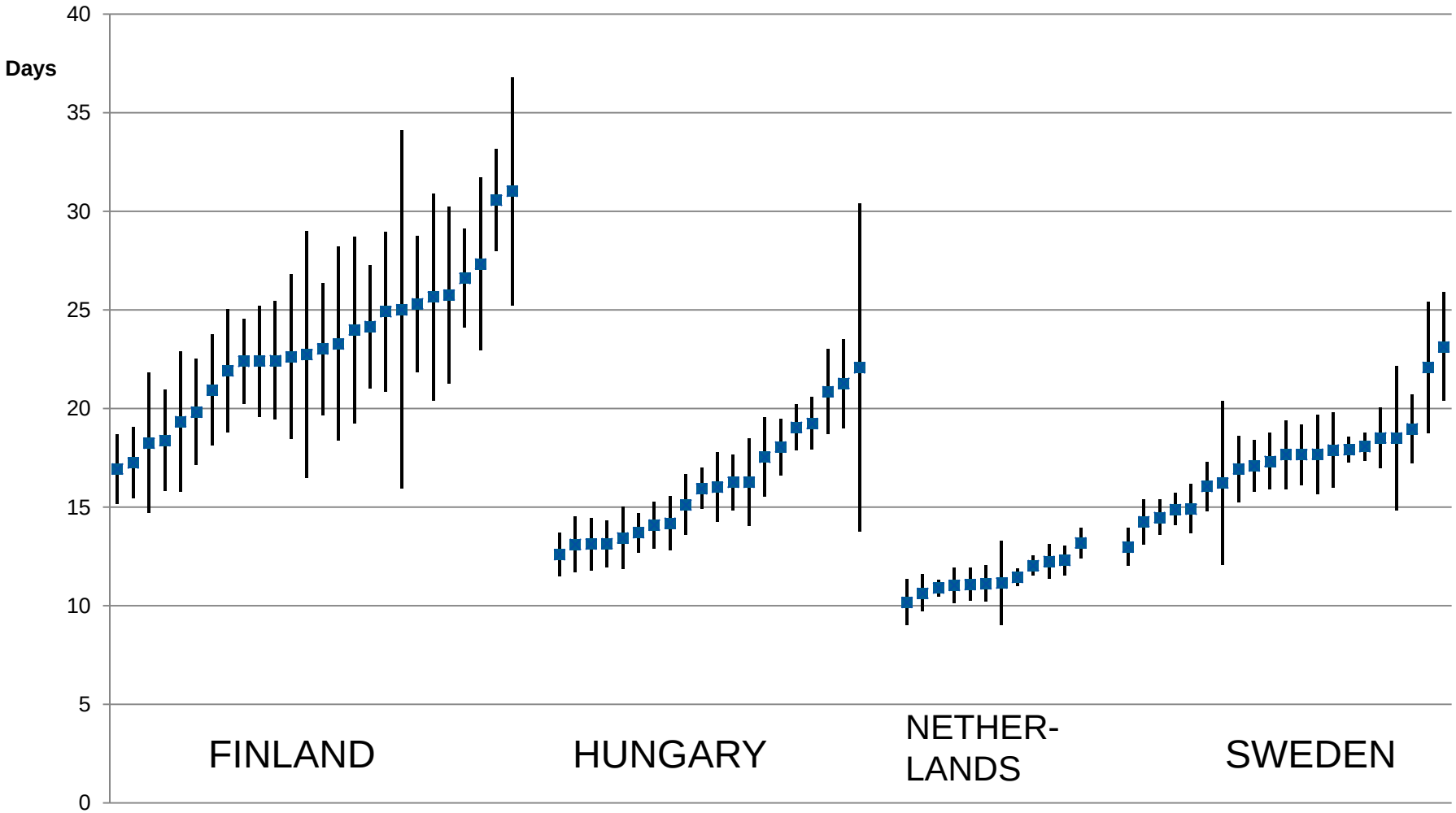
Antithrombotic medication one year prior and after ischaemic stroke



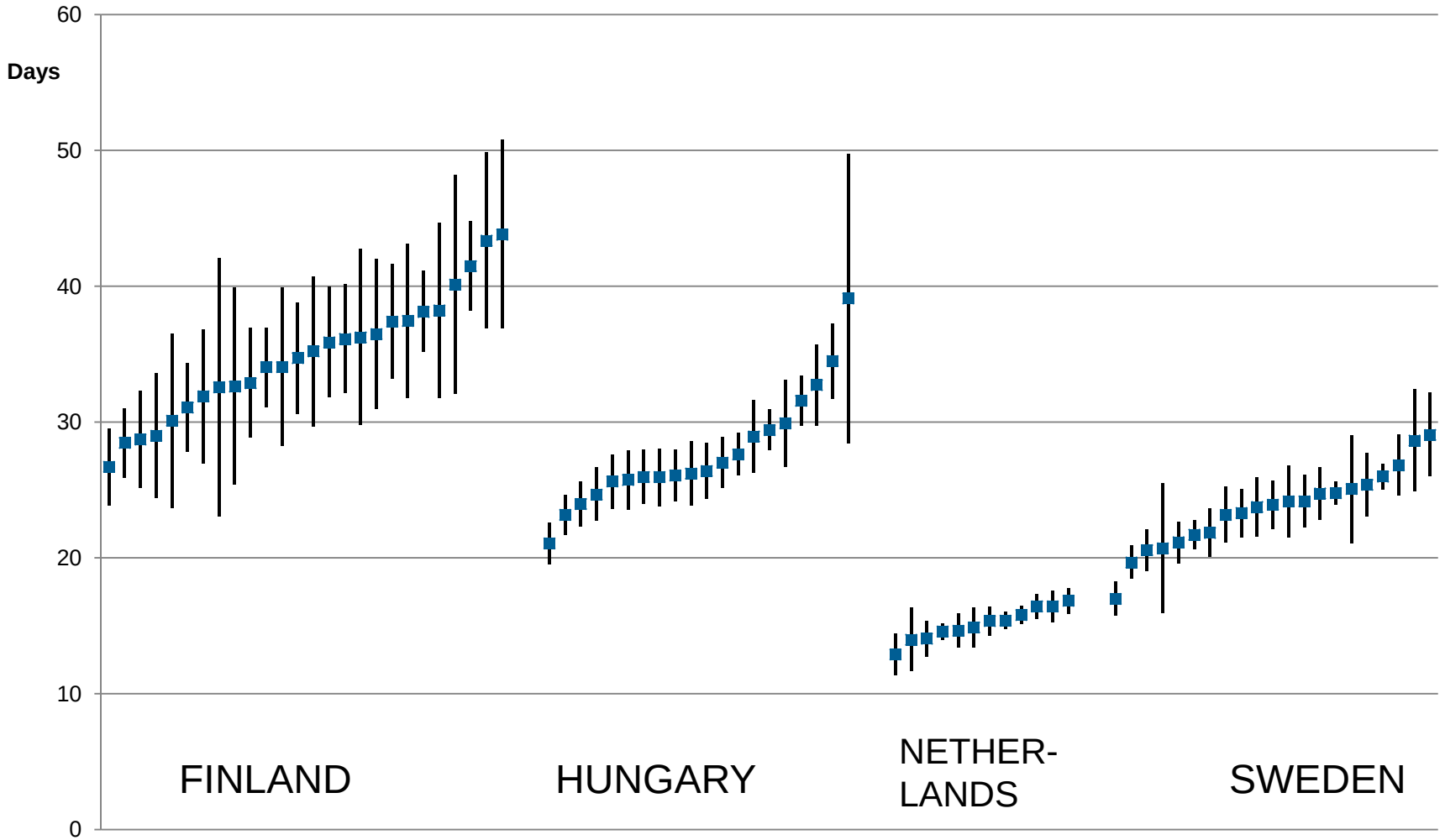
Mean hospital days of ischaemic stroke patients during first hospital episode and the first year by country, adjusted for age and sex



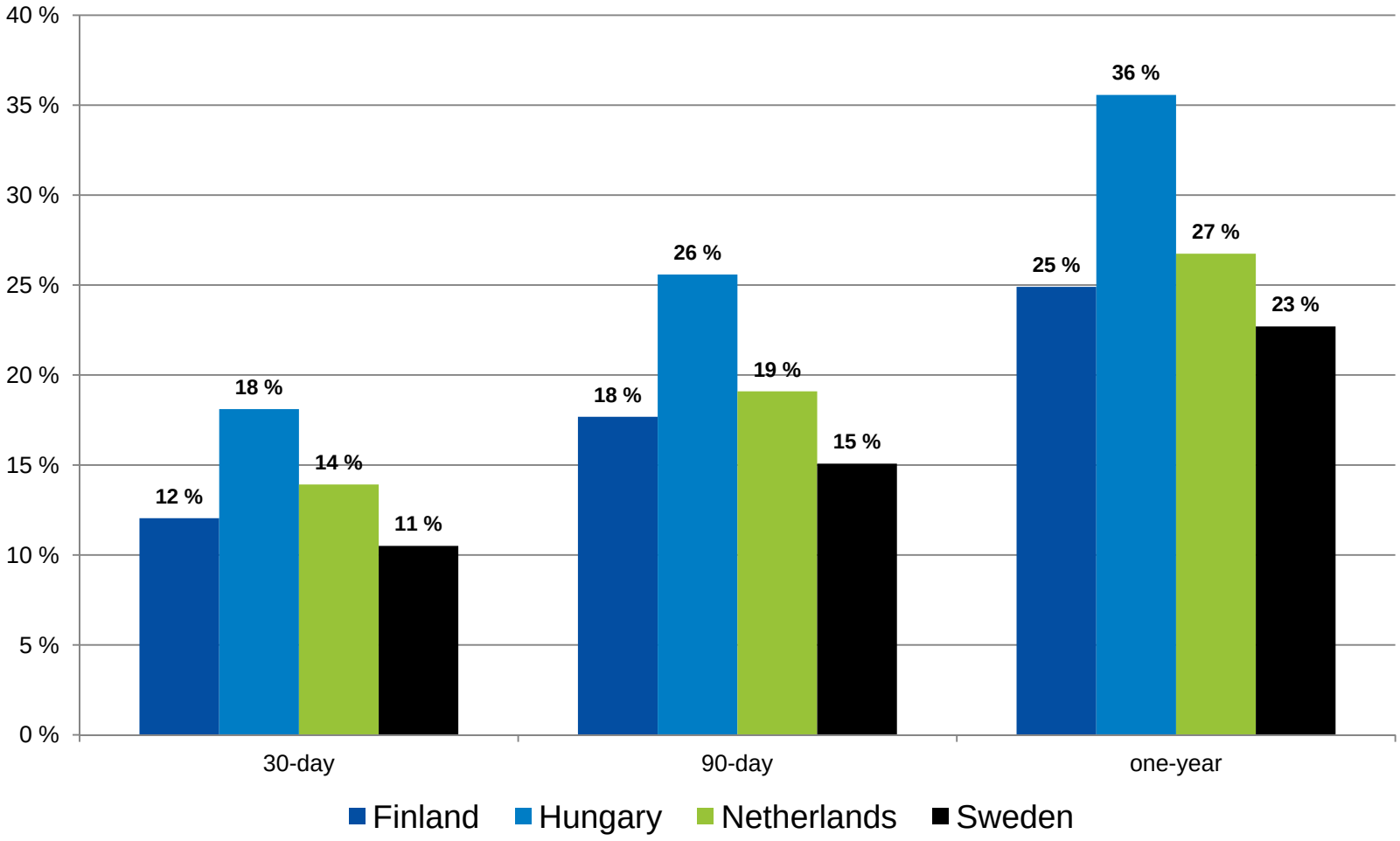
Mean length of first hospital episode of ischaemic stroke patients per region by country, adjusted for age and sex, with confidence intervals



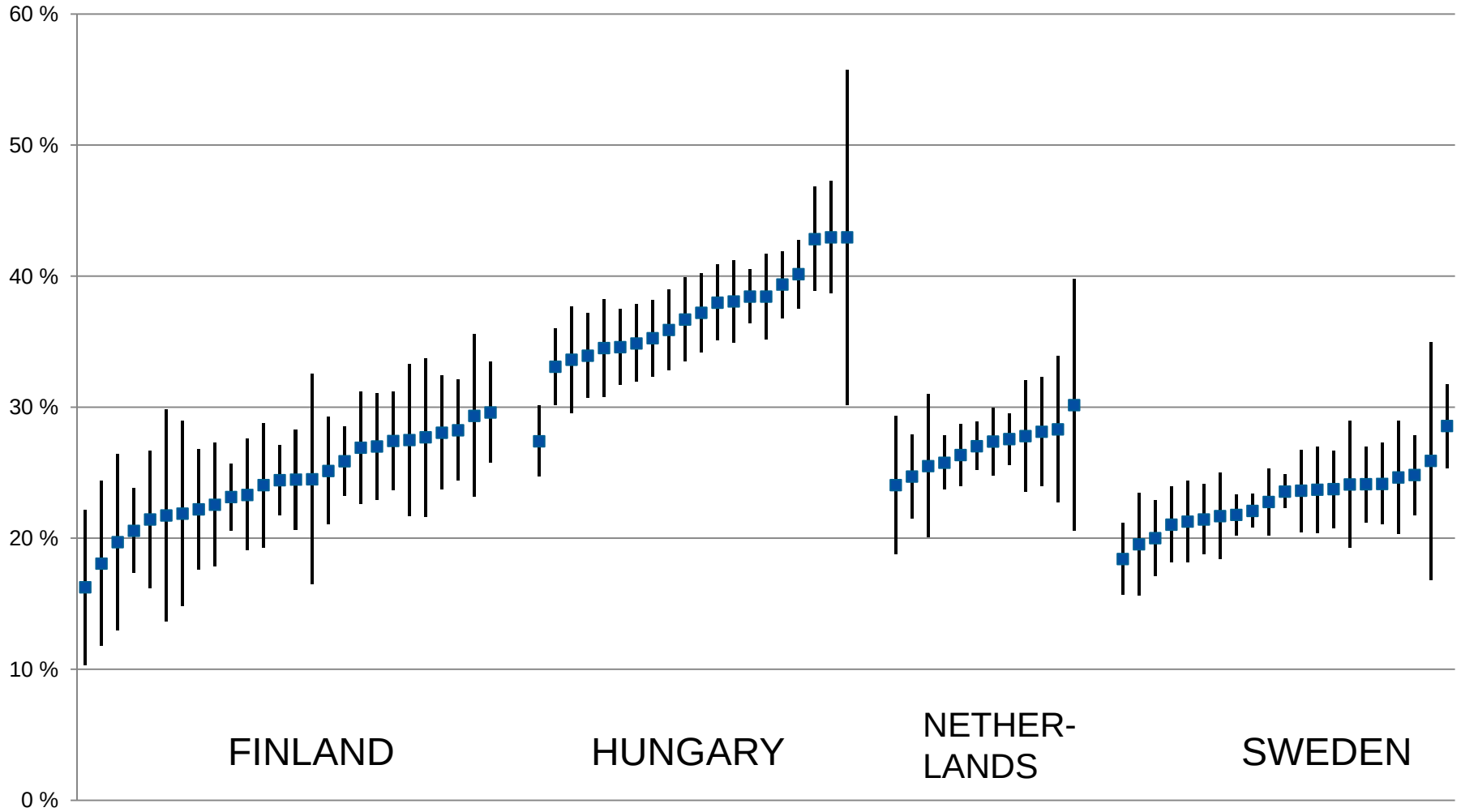
Mean length of stay of ischaemic stroke patients in one year per region by country, adjusted for age and sex, with confidence intervals



Mean mortality (30-, 90-day and one-year (%)) of ischaemic stroke patients by country, adjusted for age and sex



Mean one-year mortality of ischaemic stroke patients per region by country, adjusted for age and sex, with confidence intervals



Summary of findings

- The patients are youngest and the incidence of stroke is highest in Hungary
- Data of thrombolysis and stroke centre care is at present deficient
- Antithrombotic treatment is most common in Finland and least common in Hungary
- Length of stay at hospital is longest in Finland
- Mortality is similar in Finland, Sweden, and Netherlands and lower than in Hungary

Conclusions: Are ischaemic stroke patients equally treated in Europe?

- No, the patients are not treated equally.
- There are large differences in the quality and effectiveness of treatment.
  - both between countries and between regions.
  - The country differences are somewhat dependent on the risk adjustment (will be elaborated further).

Conclusions: What could be done?

- Better data of thrombolysis and stroke center treatment is needed to ensure appropriate acute care.
- There is need to promote antithrombotic treatment both in primary and secondary prevention of stroke.
- Starting of benchmarking => evaluation of what the best practice regions (e.g. mortality under 20 % of mean: three regions in Finland and two in Sweden) do differently and how to use this information to improve treatment quality.

Thank you!