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## CONTENT

International benchmarking provides an opportunity to learn from other healthcare systems and improve the quality of care.

## METHOD

Data for patients treated in 2014 were extracted from the Sentinel Stroke National Audit Programme (SSNAP) (England and Wales) and Riksstroke (Sweden). Both registers have national coverage and are estimated to include approximately 95% of admitted stroke patients, with 69686 ischaemic stroke patients from England and Wales and 20386 from Sweden included in the analysis.

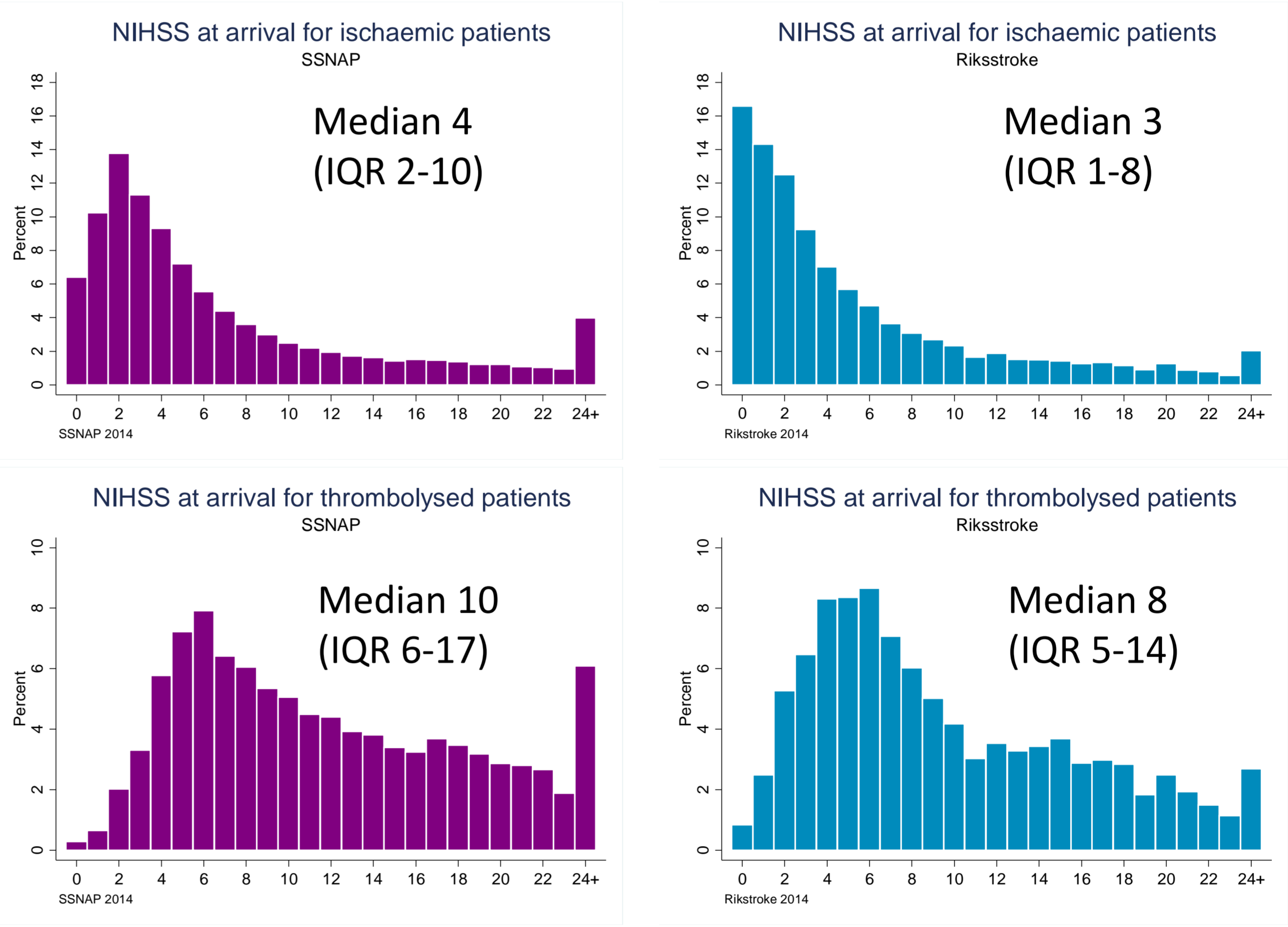
## RESULTS

- The percentage of ischaemic strokes thrombolysed was higher in England and Wales (13%, 8929) than in Sweden (11%, 2271). This trend is also present for patients aged over 80 (11% vs 9%). The age distributions for both men and women were similar in both populations but the percentage thrombolysed was higher in England and Wales for most age groups for both men and women. [Figure 1]
- NIHSS was available for 80% of patients in England and Wales and 50% of patients in Sweden. For thrombolysed patients the corresponding percentages were 90% and 82% respectively. The median NIHSS score (if fully completed) for ischaemic stroke patients was higher in England and Wales compared to Sweden (4 vs 3, Kruskal–Wallis test  $p < 0.001$ ) and the patients that were thrombolysed had suffered more severe strokes in England and Wales compared to Sweden (10 vs 8, Kruskal–Wallis test  $p < 0.001$ ). [Figure 2]

Figure 1: Age distribution

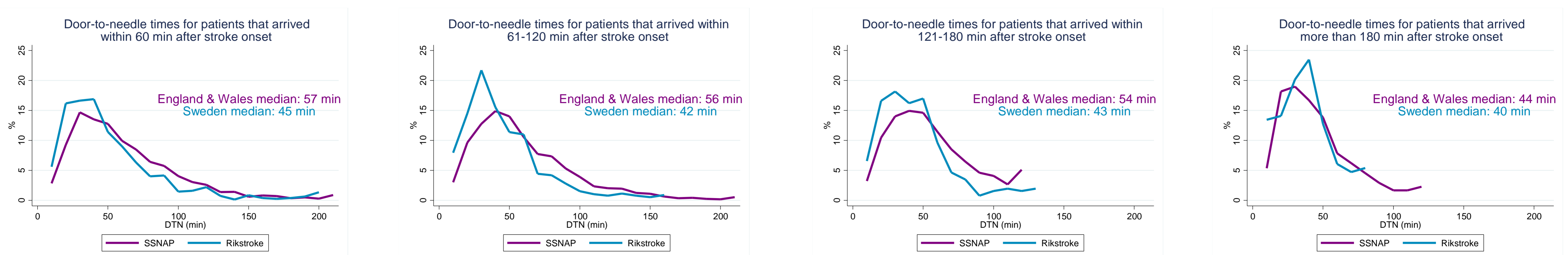


Figure 2: NIHSS distribution



- A lower number of hospitals per population provided thrombolysis in England and Wales compared to Sweden (3 vs 7 per 1000000 population) whilst the median number of patients thrombolysed per hospital was higher in England and Wales compared to Sweden (55 vs 25 patients per year).
- Onset-to-arrival and door-to-needle times were slower in England and Wales compared to Sweden (77min vs 67min and 55min vs 45min). Only 28% of patients were thrombolysed within 40 minutes of arrival in England and Wales compared to 43% in Sweden. Figure 3 shows a breakdown of door-to-needle times grouped by onset-to-arrival times.

Figure 3: Breakdown of onset to arrival times and door-to-needle times by onset-to-arrival times



## CONCLUSIONS

According to data from two national registers, a greater proportion of patients are thrombolysed in England and Wales compared to Sweden. Limited data on NIHSS make it difficult to conclude if the severity differs for all ischaemic stroke patients but for thrombolysed patients with better NIHSS coverage the data indicate that thrombolysed patients in England and Wales are likely to have suffered more severe strokes. Median door-to-needle times are faster in Sweden despite the median number of patients per hospital being lower.