**IMPACT OF RECONFIGURATION OF STROKE SERVICES ON MORTALITY, LENGTH OF HOSPITAL STAY AND DISCHARGE DESTINATION**

**Background and aim**

In July 2010 a new multiple hub-and-spoke model for acute stroke care was implemented in London with 24/7 continuous specialist care during the first 72h to all stroke patients provided at 8 hyper-acute stroke units, and follow-up care provided in 24 stroke units. In April 2010 acute stroke services were reconfigured in Greater Manchester with hyper-acute care provided at a Comprehensive Stroke Centre (CSC) and two Primary Stroke Centres (PSCs). Individuals presenting within four hours of stroke are treated at the CSC or PSCs; those presenting outside this time are treated at one of 10 District Stroke Centres. We investigated the impact of both reconfigurations on mortality, length of hospital stay and discharge destination.

**Materials and methods**

We analysed stroke-level Admitted Patient Care data from *Hospital Episodes Statistics* for England from 2008-2012 linked to ONS mortality data for all patients with a diagnosis of stroke (ICD-10 codes I61, I63 and I64). Outcomes were mortality at 72h, 30d and 90d after stroke, LOS, and discharge to usual residence. We estimated difference-in-differences, regressing outcomes against time (before, during and after reconfiguration), region (London, Manchester, elsewhere), and interactions between time and region, controlling for age, gender, urban/rural classification, deprivation, ethnic group and stroke diagnosis. For mortality and discharge to usual residence we used logistic regression; for LOS we used parametric survival models. We adjusted for clustering by provider.

**Preliminary results**

There were 372,613 strokes nationally during the period. In London after the reconfiguration, there was a statistically significant decline in the probability of mortality at 30d (predictive margin 0.1708 to 0.1446) and 90d (0.2509 to 0.2104), and median LOS (12.6 to 10.5 days). Mortality at 72h declined and discharge to usual residence increased, but the changes were non-significant. In Greater Manchester there was a significant decline in mortality at 90d (0.2932 to 0.2320) and non-significant reductions in mortality at 72h and 30d and LOS, and an increase in discharge to usual residence.

**Preliminary conclusions**

The reconfiguration of acute stroke services in London was associated with significant reductions in mortality at 30d and 90d and LOS. Mortality at 90d in Greater Manchester fell. Further reconfigurations of stroke services are proposed in Greater Manchester, to bring them more in line with the London model.