been recorded in the North of Scotland. However, there has been no prevalence study in this area since 1983.

Aims We undertook a new prevalence study of MS in Aberdeen City, and the Orkney and Shetland islands to: calculate age-gender specific prevalence rates; compare variations in age-gender standardised prevalence rates between areas and over time; calculate prevalence rates by MS sub-type, diagnostic criteria and to gather information on disability status.

Methods We used GP-practice records, hospital records and laboratory data for case ascertainment of patients alive and resident in the study area on prevalence day (24 September 2009), verified their diagnoses by reviewing medical records and included participants according to the research diagnostic criteria of Poser, McDonald 2001 and McDonald 2005. Information on disability was gathered from medical records and patient questionnaires. Prevalence rates and CIs were calculated assuming a Poisson distribution and standardised against the Scottish population (30 June 2009).

Results We found 590 patients in the combined study area (Aberdeen 442, Orkney 82, Shetland 66). Mean age was 52 years (SD ±15), and the age-standardised male to female ratio was 1.2 (95% CI 1.6 to 2.1). The standardised prevalence rate for the combined study area was 257 per 100 000 (95% CI 236 to 277), in Aberdeen City 257 per 100 000 (95% CI 214 to 257), in Orkney 421 per 100 000 (95% CI 329 to 512) and in Shetland 505 per 100 000 (95% CI 231 to 379). There were significant differences between Orkney and the other areas, and significant differences in the prevalence rates over time in Orkney and Shetland, but not for Aberdeen City. A relapse-remitting disease pattern was recorded in 50% of participants and 45% of patients had significant disability levels.

Conclusion The prevalence of MS has increased in the North of Scotland over the last 30 years, which may reflect methodological differences in studies over time, improved diagnostic methods, or a true increase in prevalence due to improved survival, higher incidence rates or as a result of migration. Currently Orkney has the highest MS prevalence rate in the world. New disability data could be used to plan health services in these communities.
System collected information on demographic characteristics (age, sex, race/ethnicity and marital status), socioeconomic position (education and annual household income) and tooth loss, which was self-reported on a 4-point scale (none, 1 to 5, 6 or more but not all, and all teeth). Income inequality at state level was measured with the Gini coefficient, based on household income for 1979, 1989 and 1999, respectively. Two-level ordered logit models with individuals nested within states were used to test the association of state Gini coefficient at different lag periods with tooth loss after adjustment for state median household income and individuals’ characteristics.

**Results** In the fully adjusted models, state Gini coefficient was significantly associated with self-reported tooth loss when testing lag periods of 10- (OR: 1.18, 95% CI 1.05 to 1.32) and 20 years (OR 1.16, 95% CI 1.02 to 1.32). However, no association was found when testing the 30-year lag period (OR 1.12, 95% CI 0.92 to 1.35).

**Conclusion** This study suggests that state income inequality has stronger effects on self-reported tooth loss up to 20 years later.