

Variation in Dental Care Provision among Adolescents

Key Findings:

- this study was based on the consumption of dental care of 12,846 adolescents between 2003 to 2008;
- 67% of total treatment expenditure related to orthodontic treatments, 22% to restorative treatments, 8% to other care and 3% to extractions;
- those of lowest socio-economic status were less likely to have received orthodontic treatment and had a higher likelihood of receiving: extractions, restorative treatment and fillings and endodontic treatment;
- for adolescents where the household reference person (HRP) had never worked and had no qualifications, there was significantly less cumulative total expenditure on dental care.

BACKGROUND TO THE RESEARCH

The aim of this study was to examine socio-economic variations in the provision of NHS dental care among adolescents in Northern Ireland. Previous research has shown socio-economic inequalities in dental health even among those who are eligible for free dental care (under 18 years of age).

METHODOLOGY AND RESULTS

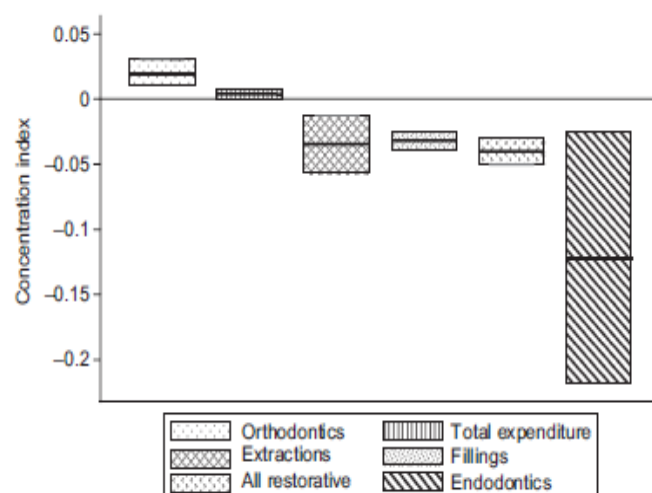
A Distinct Linkage Project linked data from the Northern Ireland Longitudinal Study (NILS) to dental registration and reimbursement data for publicly funded care delivered by general dental practitioners. An anonymised project-specific dataset was created (using one-way encryption methodology to ensure confidentiality) and accessed within a secure setting managed by the Northern Ireland Statistics and Research Agency.

The NILS dataset included 2001 Census information on the socio-economic status of the household (based on the occupation and educational attainment of the HRP¹). Other variables included sex, parental marital status and number of siblings to provide detail on the socio-demographic context and potential impacts on service use. Dental data provided information on types of care and registration status (i.e. whether or not registered with a dentist) for 12,846 adolescents aged 11/12 at the start of the study period (from 2003 to 2008).

Variations in cumulative expenditure for both total dental care and separate categories of care (such as extractions, orthodontics, preventative and restorative), as well as registration patterns, were analysed by individual attributes. Multivariate regression analyses were used to examine for differences in care and concentration indices to show how expenditure was distributed across social classes (Figure).

¹ The HRP is used to characterise the household as a unit and is chosen on the following criteria: economic activity, then age, then order on the census form.

Figure: Concentration Indices according to Socio-Economic Status by Dental Care Type



Indices > zero = greater concentration in the higher social classes
Indices < zero = greater concentration in the lower social classes

POLICY IMPLICATIONS

- The study reveals that there are significant differences in the patterns of utilization of dental care by socio-economic grouping: whether this best meets the population's needs with respect to a publicly funded service needs further investigation.
- This work also highlights the potential deficiency of a demand-led service dental care health provision where treatment activity by dental practitioners is rewarded but there no incentives for prevention of dental disease.
- NI dental services are under review and should be informed by evidence on the impact of existing services on dental inequalities in health and health care provision. As health care resources come under increasing pressure, access needs to be more explicitly linked to need.

NORTHERN IRELAND LONGITUDINAL STUDY (NILS)

The NILS, a sister study to the Northern Ireland Mortality Study (NIMS), is a large-scale record linkage study based on an approximate 28% sample of the Northern Ireland population (c. 500,000 individuals). Both studies allow exploration of health and socio-demographic characteristics. The **NILS Research Support Unit** provides information, advice and support for users of the NILS and NIMS databases. Contact us at: www.nils-rsu.census.ac.uk.

This Research Brief is based on Telford C, Murray L, Donaldson M & O'Neill C (2012) *An analysis examining socio-economic variations in the provision of NHS general dental practitioner care under a fee for service contract among adolescents*. Community Dentistry and Oral Epidemiology.

For further information please go to: [NILS RSU Publications](http://www.nils-rsu.census.ac.uk).