

Scottish Health Boards' Dental Epidemiological Programme  
**Report of the 1998/99 Survey of 14 Year Old Children**  
**Executive Summary**

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The Scottish Health Boards' Dental Epidemiological Programme (SHBDEP) is a joint venture between the fifteen Scottish Health Boards, represented through the Consultants in Dental Public Health and Chief Administrative Dental Officers Group (CDPH/CADOs Group), and the Chief Scientist Office's Dental Health Services Research Unit based at the University of Dundee. Standardised surveys of dental health are undertaken on randomly selected samples of children across Scotland following the criteria and timetable laid down by the British Association for the Study of Community Dentistry (BASCD). This allows Health Boards to compare their results not only with other areas in Scotland but also with other parts of the United Kingdom. These surveys are essential for monitoring disease levels and patterns of care in order that appropriate measures can be taken to improve the dental health of Scottish children.

**Aim**

The aim of this year's survey was to determine current levels of tooth decay in Scottish 14 year olds (dental caries measured clinically at the dentinal level) and to illustrate the impact of deprivation on the dental health of these young adolescents; these results are summarised below. Details of other aspects of the survey can be found in the full report, including details on oral cleanliness, developmental defects of enamel, fissure sealants and orthodontic treatment needs.

**Key Results**

**Dental caries experience ( $D_3MFT$ ) for Scotland:** For the 5,891 children examined, the overall result of a mean number of decayed, missing and filled teeth ( $D_3MFT$ ) of 2.75, represents an improvement from the figure of 3.1 recorded in the previous survey of Scotland's 14 year olds in 1994/95, although it still remains higher than the mean values reported in 1995 and indeed 1991 for most other areas of Great Britain. The map opposite (Appendix L, Figure L2 of the Report) shows the variation in the distribution of dentinal caries experience across Scotland.

**Dental caries experience ( $D_3MFT$ ) for individual Health Boards:** The Figure, opposite, shows the mean number of decayed, missing and filled teeth ( $D_3MFT$ ) for each Health Board and the 95% confidence intervals associated with each mean. The size of the error bars indicate the very limited extent to which the figure can be interpreted as a simple league table of disease experience; differences falling within the limits of the error bars are not statistically significantly different from one another.

**The proportion with "caries experience" and the pattern of attack:** More than two thirds (68%) of 14 year olds were found to have already experienced decay at the "caries into dentine" level of detection (that is decay penetrating beyond the enamel surface of the teeth). The majority of the decay experience (58%) was found in the first permanent molars, although a further 20% had occurred in recently erupted second permanent molars. Almost half (48%) of the dentinal decay and fillings were found on the occlusal (or biting) surfaces of the back teeth. Further consideration of the use of fissure sealants to prevent occlusal caries is therefore warranted.

**Trends over time:** The modest overall fall in caries experience suggests that caries levels are continuing to fall, but at a slow pace. This is in line with the trend observed previously through the most recent surveys of 5 and 12 year olds in Scotland. The mean missing teeth (MT) component (0.3) and the filled teeth (FT) component (1.6) show no real change since the last survey in 1994/95. The improvement in the relative amount of restorative care provided is encouraging. The "Care Index" ( $[FT/D_3MFT] \times 100$ ) has risen from 51.7 to 56.7, perhaps in response to the revised dental contract in 1996 which allowed fee for item of treatment for restorative care for the first time since 1990.

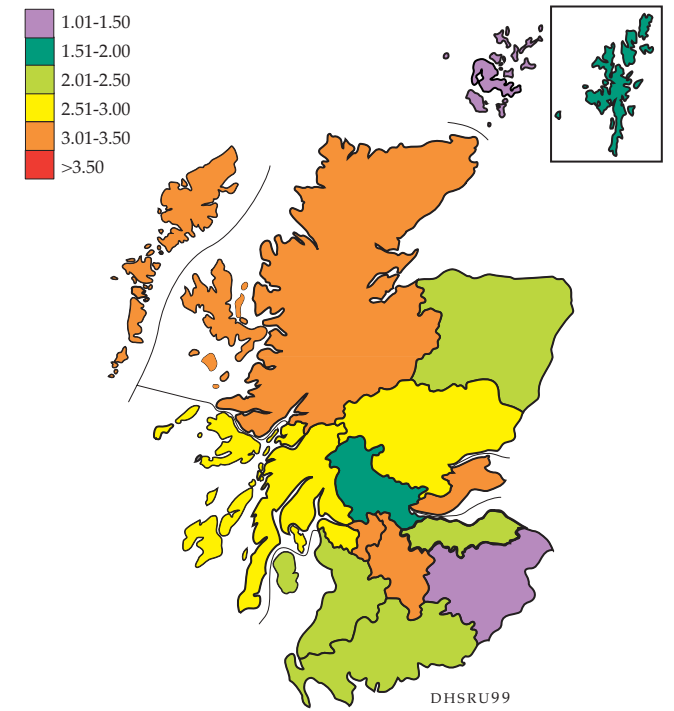
**Inequalities in dental health:** The strong association between deprivation and decay, reported within, and in addenda to, previous SHBDEP surveys, remains clear in this year's results, see figure opposite (Figure 6 in the Report). Almost four times as many children in the least deprived category (1) are "free" of caries compared with their more unfortunate contemporaries in the most deprived category (7).

**Uneven distribution of decay:** The skew in the distribution of the decay must be appreciated as, although almost two thirds of the children (62.4%) are free from dentinal decay ( $D_3T=0$ ), small groups have very high levels of disease. 38% of the children have all of the untreated decayed surfaces, with half of the decayed surfaces being found in an unfortunate 6% of the children examined. Recognition of this skewed distribution lies at the heart of the Government's proposals for improving dental health in the recent white paper "Towards a Healthier Scotland".

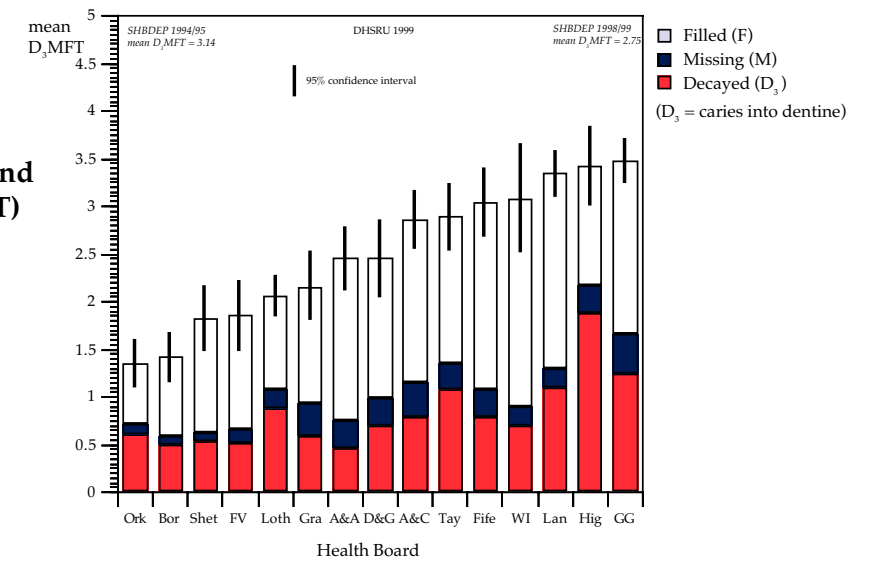
More detailed information can be obtained in the full Report. Copies can be obtained from the Dental Health Services Research Unit, Dental School, Park Place, Dundee DD1 4HR. For local information please contact the Chief Administrative Dental Officer or Consultant in Dental Public Health at the relevant Health Board. (The Report is also available at <http://www.dundee.ac.uk/dhsru/>).

EXECUTIVE SUMMARY

**Mean  $D_3MFT$  Results for Scotland by Health Board 1998/99**  
 ( $D_3$  = caries into dentine)



**Mean number of Decayed, Missing and Filled Teeth ( $D_3MFT$ ) per child for each Health Board.**



**The proportion of children "free" of caries experience ( $D_3MFT = 0$ ) by DEPCAT score**

