

Review Two. Summary of Findings.

Ref	Year *1	Study design and aim	Population	Intervention/ service change	Comparator	Summary of results	Authors' conclusions	Reviewers' comments
1	2007	<p>To examine the nature of patients attending different dental practices.</p> <p>A cross-sectional study to measure (by questionnaire and visual inspection of teeth), in two different practice settings:                      i. patients' dental health                      ii. patients' views about dental visiting preferences, and reported levels of anxiety about dental care.</p>	<p>A convenience sample of 215 adult patients attending either one of three Dental Access Centres (DAC) in Halton &amp; St Helens PCT &amp; Warrington PCT, or one of three 'high street' general dental, multi-surgery practices located within one mile of the DACs (patients presenting with severe pain, bleeding or trauma were excluded).</p> <p>58 adult patients at the three DACs, and 157 adult patients attending three 'high street' general dental practices, were recruited on presentation to dental reception.</p>	Attendance at Dental Access Centre.	Attendance at 'high street' general dental practice.	<p><b>DAC patients</b>, compared to attenders of 'high street' practices:</p> <ol style="list-style-type: none"> <li>1. were from a more disadvantaged background (mean IMD*2 score 38.8 vs. 23.3)</li> <li>2. were three times more likely to be smokers (60% vs 19%)</li> <li>3. were more likely to attend a dentist only when in pain (48% vs 12%)</li> <li>4. were less likely to view regular attendance as very important (25% vs 45%).</li> <li>5. were less likely to have seen a dentist more than once in the last 12 months (44% vs 93%)</li> <li>6. were younger (55% vs 19% &lt; 35 years old)</li> <li>7. were more likely to be dental charge-exempt (41% vs 16%)</li> <li>8. had worse oral health (eg. active caries 79% vs. 33%)</li> <li>9. were twice as likely to have had toothache in the previous year (67% vs 31%)</li> <li>10. were more likely to be dentally anxious (50% vs 17%)</li> <li>11. were less likely to prefer to see the same dentist at each attendance (53% vs 80%)</li> <li>12. were less likely to rate their dental health as being good (15% vs 42%).</li> </ol>	DACs offer treatment to a different patient population than neighbouring 'high street' practices.	Substantial differences in size of intervention and comparator populations.

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2	2004	<p>To evaluate the effectiveness of a community-based programme.</p> <p>A quasi-experimental non-equivalent two group comparison of Central Services Agency monthly patient dental registrations in pre-school children (0-2, and 3-5 years old groups).</p>	<p>Mothers of pre-school children (number unspecified) in 23 purposively selected (lowest levels of preschool child dental registration and in the top 10% of the most deprived communities of Northern Ireland) rural &amp; urban electoral wards in the greater Belfast area.</p> <p>Nine wards allocated to the intervention community-based programme, and 14 wards to the control group.</p>	<p>A two year collaborative intervention ('Treasure Baby Teeth'), by 12 health visitors and 44 GDPs trained to promote dental registration &amp; access to dental care by pre-school children. Dental health education, free resources &amp; GDP dental registration vouchers given to mothers at three health visitors' baby development checks. GDPs offered preventive advice, including how to reduce pain-only attendance and to maintain registration. Welcome gift.</p>	<p>Usual service prior to new service.</p>	<p><b>Registration rates in 0-2 year olds:</b></p> <ol style="list-style-type: none"> <li>1. Statistically significant differences in the monthly registration rate at five months post-intervention between the intervention and control wards for the 0-2 year old group only (26% vs. 22%).</li> <li>2. During the two year intervention, the rate of change in registration for 0-2 year olds in the intervention wards was statistically significantly greater compared with the control wards. (25% vs. 22%).</li> <li>3. Comparison of the registration rates pre and post intervention showed a significant increase (17% to 26%) for 0-2 year olds living within the intervention area.</li> </ol> <p><b>Registration rates in 3-5 year olds:</b></p> <ol style="list-style-type: none"> <li>4. None of the above effects were seen in the 3-5 year old group.</li> </ol>	<p>The community-based, collaborative dental registration and access programme improved access to dental care for 0-2 year olds in families residing in areas of high social deprivation.</p>	<p>Unspecified study population size. Lacks detailed method for promotion of dental registration to older pre-school sibs. CSA data reports number of children registered with dentist as a proportion of all children from same age group in same area, so no details on the scale of activity in the intervention areas by health visitors/dentists.</p>

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3	2006	<p>An observational prospective cohort study to determine dental attendance (by socio-economic status) and treatment outcomes following two models of infant, primary and junior school dental screening.</p> <p>Matching of study data to identify children screened by the two models who attended the General Dental Service (GDS), Personal Dental Service or Community Dental Service within four months of being screened.</p>	<p>8,505 children aged 6-9 years attending 169 state maintained schools in Runcorn, Widnes, St Helens and Knowsley,</p> <p>4,087 children were randomly allocated to a 'New model' of dental screening, and 4,418 to a 'Traditional model', with referral triggered for screened-positive children.</p>	<p>'New model' of school dental screening.</p> <p>Screening dentists were trained &amp; calibrated to an agreed set of clinical criteria, any of which would trigger referral.</p> <p>Criteria included: caries to the permanent dentition, presence of sepsis, untreated trauma to permanent anterior teeth, presence of gross plaque or calculus. It excluded caries in the primary dentition.</p>	<p>The usual service of 'Traditional model' dental screening.</p> <p>Children were referred if the dentist felt dental treatment was needed. Parents issued with letter.</p>	<p><b>New model:</b></p> <ol style="list-style-type: none"> <li>1. A smaller number of children were referred using the New model (571 (14%) vs 1208 (27%)).</li> <li>2. Within the New model, 46% of referred children attended the dentist, and 41% of non-referred.</li> <li>3. 303 children were referred by the New model screening due to caries in permanent dentition; 133 of these attended a dentist. Of these attenders, 53% received treatment, most commonly restoration.</li> <li>4. Children referred using the New model were categorised by quintiles of IMD by postcode. The children in the most affluent quintile were less likely to be referred than the children in the most deprived quintile (9% vs 23%).</li> <li>5. Once referred, the children in the most affluent quintile (as in 4 above) were more likely to attend than children in the most deprived quintile (62% vs 39%).</li> <li>6. Children in the most affluent IMD quintile (as in 4 above) were twice as likely to receive treatment to their carious permanent teeth as those in the most deprived quintile (34% vs 16%).</li> </ol> <p><b>Traditional model:</b></p> <ol style="list-style-type: none"> <li>7. Within the 'Traditional model', 48% of referred children attended the dentist, and 39% of non-referred attended within four months of screening.</li> </ol> <p><b>Other:</b></p> <ol style="list-style-type: none"> <li>8. 81% of children attending due to referral for caries in permanent teeth went to GDS.</li> </ol>	<p>Two break down points in the screening programme: less than half of screened positive children attend the dentist; of these, less than one quarter receive appropriate treatment. The majority of study participants derived little benefit from the school dental programme in relation to dental attendance and treatment for carious permanent teeth. School dental screening does not resolve inequalities in dental disease and uptake of dental services. Further research needed to identify the barriers preventing screened positive children receiving treatment to caries in permanent dentition.</p>	<p>Possible confounding due to lack of information about the adequacy of local treatment facilities. Potential bias due to analysis of provision of treatment being limited to the intervention group only. Potential for stronger interpretation of results to indicate that dental screening may increase oral health inequalities. Lack of detail of process for referral in New model.</p>

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4	2001	<p>To evaluate the effectiveness of the referral system in encouraging children across social class groups to attend their GDP. Also, to examine other factors affecting children's dental attendance &amp; their importance in relation to screening outcome.</p> <p>A prospective comparative cohort study to establish dental caries levels in children with a positive school dental screening result.</p>	<p>64 schools, including 2321 children aged 5.5 – 7.5 years old, in the Causeway Health &amp; Social Services Trust, Northern Ireland. Stratified, blocked randomisation to equal-sized intervention and control groups. 980 children screened positive for untreated dental caries across both groups issued with a 17 item parental self-completion questionnaire for information on family social class grouping, the child's dental attendance and factors predictive of attendance (664 questionnaires completed, response rate 67%). Main outcome measure: reported GDP attendance in the two month period prior to issue of questionnaire.</p>	<p>Standard school dental screening. Screened positive children issued with a questionnaire two months later. 352 questionnaire responses obtained.</p>	<p>Delayed screening until after questionnaire completion to identify children with treatment need. 312 questionnaire responses obtained from those screened positive.</p>	<ol style="list-style-type: none"> <li>1. In the two months post-screening, 45% of the intervention group reported dental attendance. During the same period, 27% of the unscreened control group reported attendance.</li> <li>2. The intervention group's higher dental attendance (a 63% increase in the rate of attendance) was across all social class groups, with the biggest effect in the higher employed group (46% in intervention group vs. 27% control group).</li> <li>3. Attendance outcome was associated with time since parents' last visit, parents' perception of child treatment need, child attends for regular checkups and screening. Social class was not significantly associated with attendance outcome.</li> <li>4. Among those lacking attendance/appointment the reported barriers included child fear of dental treatment (53%), and parent fear of dental treatment (17%).</li> <li>5. Mean dmft in intervention &amp; control groups was 4.85, with no statistically significant variation between groups.</li> <li>6. A significant proportion of children with unmet dental needs were not accessing dental services.</li> </ol>	<p>School dental screening significantly improved dental attendance, although overall many children with unmet dental needs are not accessing dental services. Improved attendance occurred throughout the social classes ie. social class was a less useful predictor of dental attendance. School dental screening, along with a child's previous dental check ups, and the time since the parent's last attendance, are the strongest predictors of dental attendance.</p>	<p>Self-reported dental attendance for main outcome measure – potentially unreliable. Lack of follow up to questionnaire non-respondents.</p>

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5	1988	A descriptive case study to compare school children's uptake of dental treatment offered to a school in 1987 and delivered at a local community dental service clinic, with that in 1988 when a mobile dental clinic visited the school. Also to compare the type of treatment undertaken and the productivity achieved.	<p>Purposive selection of total population, one whole primary school for children aged 4-11 years, in a fluoridated water area with a high proportion of residents born outside the UK and high levels of socio-economic groupings IV and V.</p> <p>In December 1987 all available children (n=483) were examined under normal school inspection conditions, treatment offered where needed and acceptance forms distributed. In October 1988, the whole school inspection and correspondence process was repeated (n=445).</p>	129 children were offered treatment in a mobile dental unit sited at the school.	256 children were offered treatment at a 'fixed' community dental clinic within half a mile of the school.	<p><b>Children's attendance:</b></p> <ol style="list-style-type: none"> <li>1. More children accepted treatment in the mobile clinic than the fixed clinic (80% vs 43%).</li> <li>2. Most children who accepted treatment completed their treatment at the mobile clinic, compared to few at the fixed clinic (91% vs. 12%<sup>*3</sup>).</li> <li>3. Fewer children did not return treatment acceptance forms for treatment at the mobile clinic than the fixed clinic (14% vs 53%).</li> <li>4. Half of children seen in the mobile clinic had not previously visited a dentist.</li> </ol> <p><b>Other outcomes:</b></p> <ol style="list-style-type: none"> <li>5. Pattern of dental care: more fillings, less prophylaxis and no broken appointments per treatment hour in the mobile unit.</li> <li>6. Fewer patients seen, however more restorative work provided per treatment hour.</li> </ol>	Use of a mobile dental unit to provide treatment at a school with high ethnic minority population produced a marked increase in uptake and completion compared to a fixed clinic. Mobile units remove barriers to dental attendance such as travel to clinic, remembering the appointment, family circumstances.	<p>Descriptive and case study only: low quality of evidence.</p> <p><sup>*3</sup> Error in Table Two: the proportion of children accepting treatment at the fixed clinic who completed it is 14/109x 100 = 12.8%, not the 4% and 9% reported.</p>

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6	1992	<p>A study to assess the effectiveness of a dental display and competition in improving dental health knowledge and behaviour.</p> <p>A before and after study of a dental health promotion campaign organised by the Community Dental Service (advice to prevent tooth decay, the advantages of dental registration, provision of leaflets, free product samples) in a deprived north Manchester shopping centre as part of National Smile Week 1992.</p>	<p>A random sample of 245 of the adult general population visiting the shopping centre were interviewed using a piloted short questionnaire about dental knowledge and their, or their children's dental attendance. 99 were interviewed one month before the campaign display, and 146 were interviewed two months after the campaign display, using the same questions with one further question to ask if the display had been seen.</p>	<p>An information display about the advantages of being a registered patient, &amp; of receiving preventive advice eg. regular checkups and registering babies as early as possible. Participation in competitions: 1042 participants in a 'Safe Snack' competition; also, one for people not registered with a general dental practice, to stimulate registration through entry to a prize draw (n=38).</p>	<p>Absence of dental display in shopping centre.</p>	<p>Analyses based upon respondents up to and including 45 years old (n=178).</p> <p><b>Children's dental attendance:</b></p> <p>1. A statistically significant increase in the number of parents taking all their children to the dentist (26% prior, 60% after seeing the display).</p> <p><b>Other outcomes:</b></p> <p>2. In the Safe Snack competition, there was a statistically significant increase in the correct answers about sweets (37% to 58%) before and after the display, also about snacks (47% to 75%). However the percentage of those who had not seen the display and answered correctly was similar to the percentage of those answering correctly prior to the display.</p> <p>3. A high level of 95% of respondents prior to the display, and 98% afterwards, correctly identified which of the options provided was a safe drink for teeth.</p> <p>4. No statistically significant differences in all measures were detected between those who were interviewed before the campaign and those who were interviewed after who had not seen the display.</p>	<p>The display was an effective way of increasing knowledge and raising awareness of risk factors, however it was less effective in changing dental behaviour.</p>	<p>Low quality of evidence: observational, descriptive. Uncertain power of the evaluation tools to assess what was of interest.</p>

\*<sup>1</sup> Year of study where known, or publication date. \*<sup>2</sup> IMD = Index of Multiple Deprivation