STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Al-Haboubi et al. **Year:** 2012 **Country of study:** UK (England) **Aim of study:** To assess the effect of prescribing sugar-free chewing gum on oral health of community-dwelling dentate older people that attend routine dental care. **Study Design:** RCT **Quality Score:** + **External validity:** ++	**Source Population/s:** Community dwelling older people who were not regular chewers of gum. Aged 60 years and older with 6 or more teeth. Participants were recruited from primary care clinics. **Participant characteristics:** Age 70.2 Sex 36.6% male/63.4% female Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NR Education NR SES NR Fluoridation NR **Inclusion criteria:** People aged 60 years or older with a minimum of 6 natural teeth who were living independently in the community. **Exclusion criteria:** Regular gum chewers (who reported chewing gum on a daily basis); people who had used antibiotics in the preceding 4 weeks; people unable to provide informed consent.	**Programme/Intervention description:** Participants were prescribed and provided with 6 months supply of chewing gum (100% xylitol)) to use twice a day for 15 minutes each time along with instructions of how and when to use the gum. The intervention lasted 6 months. Participants were instructed to continue their regular oral hygiene practices and dental attendance (both groups). **Control/Comparator description:** No chewing gum prescribed or provided. Participants were instructed to continue their regular oral hygiene practices and dental attendance (both groups). **Total sample** n=186 **Intervention** n=95 **Comparator** n=91 **Baseline comparisons:** No significant differences in any of the variables at baseline inclusive of demographic variables by treatment group.	**Oral Health outcomes:** Number of teeth; decayed, missing and filled coronal surfaces and decayed and filled root surfaces all assessed using ADHS criteria for scoring dental caries DMFS score; DF surfaces Plaque levels, assessed using Plaque Index score (reduction in score indicating improvement) Gingival condition, assessed using Gingival Index (reduction in score indicating improvement). The labial and lingual surfaces of 6 index teeth were also measured using the Plaque and Gingival Indices. **Modifiable risk factor outcomes:** Frequency of tooth-brushing; use of additional oral hygiene products **Determinant outcomes:** NA **Follow-up periods:** 6 months (78.5% follow up)	**Oral Health:** Intervention n=75 for all outcomes Comparator n=71 for all outcomes Number of teeth, mean (SD) Intervention Baseline: 20.9 (6.5) Follow-up: 20.8 (6.4) 95% CI NR, p=0.442 for within group difference Comparator Baseline: 21.8 (5.0) Follow up: 21.7 (5.8) 95% CI NR, p=0.346 for within group difference 95% CI NR, p=0.426 for between group difference at follow-up Decayed coronal surfaces, mean (SD) Intervention Baseline: 1.2 (2.6) Follow-up: 0.8 (2.6) 95% CI NR, p=0.021 for within group difference Comparator Baseline: 1.3 (3.3) Follow-up: 1.1 (3.5) 95% CI NR, p=0.072 for within group difference 95% CI NR, p=0.522 for between group difference at follow-up Missing coronal surfaces, mean (SD) Intervention Baseline: 52.9 (30.5) Follow-up: 53.6 (29.7) 95% CI NR, p=0.125 for within group difference Comparator Baseline: 48.9 (26.9) Follow-up: 49.5 (27.1) 95% CI NR, p= 0.536 for within group difference 95% CI NR, p= 0.386 for between group difference at follow-up Filled coronal surfaces, mean (SD) Intervention Baseline: 31.6 (30.0) Follow-up: 34.4 (20.2) 95% CI NR, p<0.001 for within group difference	**Limitations identified by author:** Challenges of recording participants compliance with the protocol and the limited data relating to dental care during the study period (frequency of dental visits and specific treatment received at dental visits was not recorded). Potential bias introduced by recruitment of participants from health settings in that participants are likely to be more health conscious than the general population which may reduce the generalisability of the findings. **Limitations identified by review team:** Representativeness of eligible dental care settings not clear. No power calculation or expected effect size reported. The authors report details of the oral health status of the participants at baseline 'will be reported elsewhere'. Frequency of dental visits and specific treatment received at dental visits was not recorded but the authors report both groups had equal access to dental treatment. **Evidence gaps:** NR **Source of funding:** Dunhill Medical Trust. Chewing gum was supplied by Fennobon Oy, Finland who are reported as having no other involvement in the study.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Comparator Baseline: 33.6 (19.9) Follow-up: 36.1 (20.9) 95% CI NR, p=0.010 for within group difference 95% CI NR, p=0.610 for between group difference at follow-up Decayed root surfaces, mean (SD) Intervention Baseline: 0.3 (0.7) Follow-up: 0.4 (0.8) 95% CI NR, p=0.418 for within group difference Comparator: Baseline: 0.2 (0.5) Follow-up: 0.2 (0.6) 95% CI NR, p=0.708 for within group difference 95% CI NR, p=0.154 for between group difference at follow-up Filled root surfaces, mean (SD) Intervention Baseline: 0.6 (1.4) Follow-up: 0.8 (1.6) 95% CI NR, p=0.073 for within group difference Comparator Baseline: 0.7 (1.6) Follow-up: 0.6 (1.4) 95% CI NR, p=0.837 for within group difference 95% CI NR, p=0.570 for between group difference at follow-up DMFS score, mean (SD) Intervention Baseline: 85.6 (28.1) Follow-up: 88.7 (26.8) 95% CI NR, p=0.001 for within group difference Comparator Baseline: 83.8 (24.1) Follow-up: 86.7 (23.3) 95% CI NR, p=0.033 for within group difference 95% CI NR, p=0.627 for between group difference at follow-up DF surfaces (DFS), mean (SD)	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Intervention Baseline: 32.7 (21.2) Follow-up: 35.1 (20.5) 95% CI NR, p= 0.003 for within group difference Comparator Baseline: 34.9 (19.5) Follow-up: 37.2 (20.3) 95% CI NR, p=0.043 95% CI NR, p=0.542 for between group difference at follow-up Plaque Index score, mean (SD) Intervention Baseline: 0.6 (0.7) Follow-up: 0.3 (0.3) 95% CI NR, p<0.001 for within group difference Comparator Baseline: 0.6 (0.4) Follow-up: 0.6 (0.5) 95% CI NR, p=0.772 for within group difference 95% CI NR, p<0.001 for between group difference at follow-up Gingival Index score, mean (SD) Intervention Baseline: 0.9 (0.3) Follow-up: 0.7 (0.3) 95% CI NR, p<0.001 for within group difference Comparator Baseline: 1.0 (0.3) Follow-up: 0.9 (0.3) 95% CI NR, p=0.008 for within group difference 95% CI NR, p<0.001 for between group difference at follow-up **Modifiable risk factor:** Frequency of tooth-brushing Between group differences, NS; 95% CI and p-value NR Use of additional oral hygiene products Between group differences, NS; 95% CI and p-value NR **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Axelsson et al. **Year:** 2005 **Country of study:** Sweden **Aim of study:** To evaluate the effect of a needs-base caries prevention programme in children and young adults. **Study Design:** Before and after **Quality Score:** - **External validity:** -	**Source Population/s:** All children between the ages of 0 and 19 years attending school in Varmland county, Sweden from 1979 to 1999. **Participant characteristics:** Age 0 to 19 years (range) Sex NR Sexual orientation NR Disability NR Ethnicity NR Religion NR Occupation NA Education NR SES NR Fluoridation No water fluoridation; school-based fluoride mouth rinse programmes recommended in the late 1970s **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Prophy-dental clinics (prophylaxis clinics) were gradually introduced into elementary schools in 1975. Dental hygienists or dental assistants provided individualised, needs-related preventative dentistry in 1979. Program contents varied according with age: Aged 0 to 2 years - Antenatal counselling (individual and group) for expectant mothers, provided by dental hygienists or preventative dental assistants and focusing on transmission of cariogenic microbes and dietary habits. High risk individuals were offered counselling at public health dental centres (by hygienists and dental assistants) regarding good oral hygiene, dietary habits and early introduction of fluoride toothpaste. Aged 3 to 5 years - kindergarten programme delivered by dental assistants, hygienists and teachers included supervised tooth brushing with a fluoride toothpaste, oral health education games. Approximately 10% were assessed as being at high risk, and received professional mechanical tooth cleaning (PMTC), and fluoride varnish treatments 2 to 4 times a year. Aged 5.5 to 7.5 years - programme focused on the maintaining caries free fissures of the first permanent molars. Emphasis on twice daily brushing by parents with a special technique and fluoride toothpaste. At risk groups receive supplemental PMTC, use of fluoride and chlorhexidine varnishes and fissure sealants. Aged 8 to 11.5 years: low risk group received education regarding daily teeth cleaning from dental assistants and hygienists in school based prevention clinics. 10% were selected as high risk at received supplemental caries prevention treatment from a professional. Aged 12 to 14 years - considered high risk and received hygienist and assistant led lessons on preventative dentistry, self-care education. Regarding cleaning fissures of second molars, use of fluoride dentifrice. High risk students were taught to clean teeth before each meal and use fluoride chewing gum after each meal. High risk students were offered supplementary caries preventive measures (PMTC, topical fluoride varnish, chlorhexidine varnish, fissure sealants) provided by dental hygienists or	**Oral Health outcomes:** Percentage of caries-free 3-year olds. Mean Caries prevalence in permanent teeth (mean DFS, all surfaces and approximal surfaces per individual). Caries incidence (new DSs per individual) **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 20 years (% follow-up reported as 'nearly 100%')	**Oral Health:** Caries-free 3-year olds, n (%) pre-programme (1973): NR (35%) post-programme (1993): NR (97%) 95% CI NR; p=NR DFS prevalence (12 year olds), mean (SD) Pre-programme (1979): 6 (NR) Post-programme (1999): 0.3 (NR) 95% CI NR; p=NR DFS prevalence(16 year olds), mean (SD) Pre-programme (1979): 12 (NR) Post-programme (1999): 1.15 (NR) 95% CI NR; p=NR DFS prevalence (19 year olds), mean (SD) Pre-programme (1979): 24.3 (NR) Post-programme (1999): 2.1 (NR) 95% CI NR; p=NR DSs incidence per individual (7 year olds), mean (SD) Pre-programme (1979): 0.85 (NR) Post-programme (1999): 0.02 (NR) 95% CI NR; p=NR DSs incidence (12 year olds) mean per individual Pre-programme (1979): 1.15 (NR) Post-programme (1999): 0.06 (NR) 95% CI NR; p=NR DSs incidence (19 year olds) mean per individual Pre-programme (1979): 2.0 (NR) Post-programme (1999): 0.2 (NR) 95% CI NR; p=NR **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** No statistical analysis conducted; no potential confounders reported in narrative results. Numbers of participants not reported; no power calculation provided nor analysis conducted. No statistical analysis or data regarding number of participants for each outcome; no narrative review of potential confounders over the 20 year programme time period. School-based fluoride mouth rinse programmes (one every one to two weeks) were recommended by the Swedish Board of Health and Welfare in the late 1970s. No statistical comparisons reported; unclear whether differences in oral health outcomes were statistically significant. No reporting on potential confounding factors over the 20 year period. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
		assistants. Aged 15 to 19 years: Considered a low risk group, attention focused on maintaining oral hygiene as third molars emerge, focus on a healthy lifestyle (e.g. dietary habits). **Control/Comparator description:** No intervention (precise nature of caries prevention efforts before programme introduction not reported). **Total sample** NR **Intervention** NR **Comparator** NR **Baseline comparisons:** NR			

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Biesbrock et al. **Year:** 2003 **Country of study:** USA **Aim of study:** To assess the effect of a four week oral health education programme on the gingival health of children. **Study Design:** Before and after **Quality Score:** + **External validity:** -	**Source Population/s:** Children between the ages of 5 and 15 years who were members of a Boys and Girls Club of America in urban Kentucky, USA. **Participant characteristics:** Age 9.5 (follow-up mean) Sex 58.6 male/41.3% female (follow-up) Sexual orientation NR Disability NR Ethnicity Black 21%, White 76%, Other 3% Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** Good general health, a minimum of 12 permanent teeth, agreement to delay elective dentistry (included prophylaxis) during the study. **Exclusion criteria:** Health conditions requiring antibiotics prior to dental exam, active treatment for cancer or seizure disorders, any condition that interfered with examination procedures.	**Programme/Intervention description:** The Crest Cavity Free Zone Program consists of three modules dependent upon participant age: Modules are taught as eight separate one-hour sessions, twice a week for four weeks. Educational programme utilises games, explorations and exercises. During the first session, participants were provided with a toothbrush, tube of toothpaste (fluoride content not specified) dental floss (for those aged 10 to 15 years) and disclosing tablets for the identification of plaque. Topics covered included developing good oral hygiene techniques (brushing and flossing), anatomy of teeth and gums, developing a positive attitude towards dentists and dental visits, and education concerning nutrition. **Control/Comparator description:** No separate comparison group (comparison participants' baseline measures). **Total sample** n=99 **Intervention** NA **Comparator** NA **Baseline comparisons:** NA	**Oral Health outcomes:** Loe-Silness Gingival Index (GI) assessed during clinical examination with a probe and measured on six surfaces per tooth (excluding the third molars). Plaque Index (PI) assessed during clinical exam using the Turesky Modification of the Quigley-Hein Index. A red-disclosing agent was used and the score was derived based on the buccal and lingual surfaces of all teeth (except the third molars) **Modifiable risk factor outcomes:** NA **Determinant outcomes:** Oral health hygiene knowledge, assessed using a child completed five-item questionnaire **Follow-up periods:** 4 weeks (75.6% follow-up)	**Oral Health:** n=75 for all comparisons Gingival Index, mean (SD) Baseline: 0.37 (0.21) Follow-up: 0.18 (0.13) Difference: -0.19 units, -51% 95% CI NR; p<0.001 Plaque Index, mean (SD) Baseline: 3.80 (0.49) Follow-up: 2.68 (0.46) Difference: -1.12 units, -29% 95% CI NR; p<0.001 **Modifiable risk factor:** NA **Determinant:** Oral hygiene knowledge, n (%) Plaque (n=74) Baseline: 60 (81%) Follow-up: 63 (85%) NS 95% CI and p-value NR Recommended brushing frequency (n=73) Baseline: 60 (82%) Follow-up: 64 (88%) NS 95% CI and p-value NR Recommended brushing duration (n=75) Baseline: 38 (51%) Follow-up: 52 (69%) 95% CI NR; p<0.05 Recommended dental visit frequency (n=75) Baseline: 48 (64%) Follow-up: 61 (81%) 95% CI NR; p<0.05 Healthy foods (n=75) Baseline: 46 (75%) Follow-up: 61 (81%) NS 95% CI and p-value NR	**Limitations identified by author:** Short programme duration, small sample size **Limitations identified by review team:** Recruitment methods not describe, differences between eligible and source population not described. No information on proportion of eligible subjects agreeing to participate was reported; unclear whether there were differences beween those who agreed to and non-participants. No power calculation or expected effect size reported. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Biesbrock et al. **Year:** 2004 **Country of study:** USA **Aim of study:** To assess the effect of a four week oral health education programme on the gingival health of children. **Study Design:** Before and after **Quality Score:** + **External validity:** -	**Source Population/s:** Children between the ages of 6 and 15 years who were members of a Boys and Girls Club of America in Chicago, IL. **Participant characteristics:** Age 10.8 (mean) Sex 55.6% male/44.4% female Sexual orientation NR Disability NR Ethnicity Black 90%, White 4%, Other 6% Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** Good general health, a minimum of 12 permanent teeth, agreement to delay elective dentistry (included prophylaxis) during the study. **Exclusion criteria:** Health conditions requiring antibiotics prior to dental exam, active treatment for cancer or seizure disorders, any condition that interfered with examination procedures.	**Programme/Intervention description:** Crest Cavity Free Zone Program consists of three modules dependent upon participant age: Modules are taught as eight separate one-hour sessions, twice a week for four weeks. Educational programme utilises games, explorations and exercises. Participants were provided with a toothbrush, tube of toothpaste (fluoride content not specified) dental floss (for those aged 10 to 15 years) and disclosing tablets for the identification of plaque. Topics covered included developing good oral hygiene techniques (brushing and flossing), anatomy of teeth and gums, developing a positive attitude towards dentists and dental visits, and education concerning nutrition. **Control/Comparator description:** No comparator group (comparisons to pre-intervention baseline assessment) **Total sample** n=106 **Intervention** NA **Comparator** NA **Baseline comparisons:** NA	**Oral Health outcomes:** Loe-Silness Gingival Index (GI) assessed during clinical examination with a probe and measured on six surfaces per tooth (excluding the third molars). Plaque Index (PI) assessed during clinical exam using the Turesky Modification of the Quigley-Hein Index. A red-disclosing agent was used and the score was derived based on the buccal and lingual surfaces of all teeth (except the third molars) **Modifiable risk factor outcomes:** NA **Determinant outcomes:** Oral health hygiene knowledge, assessed using a child completed five-item questionnaire **Follow-up periods:** 4 weeks (84.9% follow-up)	**Oral Health:** n=90 for all comparisons Plaque Index, mean (SD) Baseline: 3.06 (0.58) Follow-up: 2.97 (0.56) Difference: -0.09 units, -3% 95% CI NR; p<0.044 Gingival Index, mean (SD) Baseline: 0.184 (0.146) Follow-up: 0.140 (0.117) Difference: -0.044 units, -24% 95% CI NR; p<0.001 **Modifiable risk factor:** NA **Determinant:** n=89 Oral hygiene knowledge (5 of 5 answers correct), n (%) Baseline: 33 (37%) Follow-up: 62 (70%) 95% CI NR; p<0.001	**Limitations identified by author:** Short programme duration, small sample size **Limitations identified by review team:** Recruitment methods not describe, differences between eligible and source population not described. No information on proportion of eligible subjects agreeing to participate was reported; unclear whether there were differences beween those who agreed to and non-participants. No power calculation or expected effect size reported. **Evidence gaps:** NR **Source of funding:** Funded by Proctor and Gamble.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Binkley et al. **Year:** 2010 **Country of study:** USA **Aim of study:** To assess the effect of a dental care coordinator intervention on dental attendance among low income children. **Study Design:** RCT **Quality Score:** + **External validity:** -	**Source Population/s:** Children aged 4 to 15 living in Louisville, KY USA and enrolled in Medicaid who had not accessed a dentist through the programme in at least two years. **Participant characteristics:** Age child: 10 (mean), caregiver: 36-38 (group means) Sex caregiver: 99.3% female Sexual orientation NR Disability NR Ethnicity Caregiver: black 81% to 88%, While 12% to 16%, Asian 0% to 1.5%, American Indian 0% to 1.5% Religion NR Occupation Caregiver: working 35% to 48%, Not working 34% to 35%, Other (retired, in school) 18% to 30% Education Caregiver: did not complete high school 10% to 23.5%, High school graduate 26.5% to 44%, Some college 43% to 47%, College graduate 3% SES NR Fluoridation NR **Inclusion criteria:** Currently and previous 2 years enrolled in Medicaid ; aged 4 to 15 at baseline; no Medicaid dental claims for previous 2 years. **Exclusion criteria:** NR	**Programme/Intervention description:** A 45-60 minute home visit with the child's caregiver by a dental care coordinator to discuss personal barriers to dental care access (including lack of knowledge of Medicaid and the importance of oral health). Information regarding available Medicaid services and providers, and the association between oral and general health were discussed. This information was supplemented with pamphlets by the American Dental Association. Toothbrushes, too paste and mouth-rinse was also provided. During home visits the care coordinator also provided the child with oral hygiene instructions. Caregivers who refused a home visit were provided with similar information over the phone, and products were mailed to the home. To address structural barriers, the coordinator provided assistance in finding a dentist if the child did not have one and with scheduling dental appointments. Bus vouchers were provided in order to assist with transportation if this was identified as a barrier to access. Weekly follow-up phone calls were made in order to continually assist with obtaining dental care. **Control/Comparator description:** Routine Medicaid benefit up-dates and newsletters. **Total sample** n=226 **Intervention** n=113 **Comparator** n=113 **Baseline comparisons:** None detected.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Routine or preventive dental service utilisation, assessed using Medicaid service claim files. Routine/preventive care was defined using American Dental Association procedure codes for periodic or comprehensive dental examination, prophylaxis (cleaning), radiographs, sealants and fillings. **Determinant outcomes:** NA **Follow-up periods:** 1 year from baseline (60.2% follow-up)	**Oral Health:** NA **Modifiable risk factor:** n=68 intervention n=68 comparator Used routine/preventive dental services, n (%) Intervention: 29 (43%) Comparator: 18 (26.5%) p=0.047 Subgroup analysis - Family Income <$15,000/year Used routine/preventive dental services, n (%) Intervention (n=46): 20 (43%) Comparator (n=46): 9 (20%) p=0.014 Subgroup analysis - Family Income >$15,000/year Used routine/preventive dental services, n (%) Intervention (n=22): 13 (59%) Comparator (n=22): 13 (59%) p=1.00 **Determinant:** NA	**Limitations identified by author:** Possible selection bias due to recruiting methods (sample of caregivers likely already concerned with oral health); Difference between numbers randomised and assessed due to unintentional inclusion of children who had seen the dentist in the last two years. **Limitations identified by review team:** Recruitment through a mailed letter from the Medicaid Dental Services inviting caregivers to participate, 11% response. Allocation methods not reported; unclear if allocation was concealed. Use of Medicaid claim forms to assess dental service utilisation may not have captured all services used (e.g. if children attended non-Medicaid providers) **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Blair et al. **Year:** 2004 **Country of study:** UK (Scotland) **Aim of study:** To develop and evaluate NHS-based strategies likely to improve dental health and reduce inequalities in pre-5 year olds' oral health in two of the most socio-economically deprived communities in Greater Glasgow, Scotland. **Study Design:** Interrupted time series **Quality Score:** + **External validity:** ++	**Source Population/s:** Programme: The pilot area for the programme was the G22 postcode area which was a particularly socioeconomically deprived area of Glasgow where there was very poor dental health experience of infants shown in a needs assessment. The programme was implemented from 1996. Comparator: The comparator area was the G33 postcode area of Glasgow, which was of similar SES to G22. The programme was implemented in the area from 1998. **Participant characteristics:** Age 36 to 59 months (range) Sex NR Sexual orientation NA Disability NR Ethnicity 0.4% ethnic minority population (pilot area), 0.5% ethnic minority population (comparator area) Religion NR Occupation NA Education NA SES Socioeconomically deprived. Pilot area SES indicators: 39.0% single parent households, 21.5% male unemployment, 88.3% no car, 9.9% of babies breast fed. Comparator area SES indicators: 39.6% single parent households, 18.9% male unemployment, 84.4% no car, 13.4% of babies breast fed. Fluoridation NR **Inclusion criteria:** All residents in the postcode areas were targeted by the programme, with the focus on pre-5 year olds. Only infants aged 36 to 59 months were analysed. **Exclusion criteria:** None.	**Programme/Intervention description:** The programme was developed in the pilot area in collaboration with parents, carers, and opinion formers, including community volunteers, statutory agencies, charities, charities and the local business sector. The groups identified lifestyle issues that they thought could be modified locally, and were appropriate targets given the scientific literature. The programme involved collaboration from heath visitors, pharmacists, medical practitioners, and nursery staff. The main targets were early nutrition, regular oral hygiene, use of fluoride dentifrice, and "The Friendly Dentist Scheme". Individuals and groups were reached through multiple settings. The campaigns included breakfast clubs in schools and community centres, annual community fairs, promotion of sugar free medicines in National Smile Week, snack and meal policies for schools, tooth brushing schemes (e.g. in nurseries), free toothbrush and fluoride dentifrice (500ppm in 1996/97, 1000ppm from 1997), fruit promotion in nurseries and schools, a child friendly dentist scheme, opportunistic primary care oral health promotion, parenting support baby club, baby bottle swap/cup provision, opportunistic oral health promotion by health visitor, and oral health related competitions. **Control/Comparator description:** The comparator area did not receive the programme initially. It did receive the programme two years after implementation in the pilot area. **Total sample** Baseline (1995/96) n=387; Two years (1997/98): n=536; Four years: n=630 **Intervention** n=201 (1995/96), n=278 (1997/98), n=346 (1999/00) **Comparator** n=186 (1995/96), n=258 (1997/98), n=284 (1999/00) **Baseline comparisons:** NA	**Oral Health outcomes:** Mean dmft Proportion caries-free (dmft=0) Frequency distribution of dmft scores Proportion with decayed teeth (dt>0) or missing teeth (mt>0) **Modifiable risk factor outcomes:** Care index (ft/dmft x 100) **Determinant outcomes:** NA **Follow-up periods:** 4 years	**Oral Health:** No statistical between group comparisons reported for any outcome. Within group comparisons looking for changes over time adjusted for deprivation (DEPCAT). Programme 36-47 month old group 1995/96 (baseline): n=66 1997/98: n=164 1999/00: n=169 48-59 month old group 1995/96: n=135 1997/98: n=114 1999/00: n=177 Comparator area: 36-47 month old group 1995/96 (baseline): n=56 1997/98: n=105 1999/00: n=139 48-59 month old group 1995/96: n=130 1997/98: n=153 1999/00: n=145 Mean dmft (95% CI) 36-47 month group Programme 1995/96 (baseline): 3.9 (2.8 to 5.1) 1997/98: displayed graphically, about 3 1999/00: 2.1 (1.6 to 2.6) Mean difference: 46% reduction from baseline Comparator area: 1995/96 (baseline): 2.4 (1.5 to 3.3) 1997/98 (just before programme implemented): displayed graphically, about 3.4 1999/00 (after programme implemented): 2.1 (1.6 to 2.6) Mean difference: 14% reduction from baseline Mean dmft (95% CI) 48-59 month group Programme pilot area 1995/96 (baseline): 5.9 (5.1 to 6.8) 1997/98: displayed graphically, about 3.7 1999/00: 3.7 (3.1 to 4.3) Mean difference: 37% reduction from baseline Comparator area: 1995/96 (baseline): 4.3 (3.6 to 5.1) 1997/98: displayed graphically, about 4.7 1999/00: 3.0 (2.3 to 3.6)	**Limitations identified by author:** The ecological nature of the study precludes claims regarding causality. The interventions introduced to the comparator area were similar but not identical to those introduced in the pilot area, as the nature of intervention development respected each community's cultural autonomy. **Limitations identified by review team:** Outcome assessments were performed at nurseries, and therefore non-nursery enrolled chilren or non-attenders would be missed. These individuals may be of a particularly deprived SES. Over the study period the proportion of eligible children resident in the area but not assessed was high but reduced from 60% to 31% in the pilot area, and from 82% to 73% in the comparator area. As an ecological study, individual level confounders could not be adjusted for. The areas selected were similarly deprived. Deprivation in the areas was taken into account. A power calculation was not reported. As an ecological study, individual level confounders could not be adjusted for. Deprivation in the areas was taken into account in analyses. Deprivation in the areas was the only potential confounder taken into account in analyses. As an ecological study, individual level confounders could not be adjusted for. **Evidence gaps:** NR **Source of funding:** The Greater Glasgow Health Board.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Mean difference: 30% reduction from baseline Percentage caries-free (dmft=0) at age 36-47 months Programme pilot area 1995/96 (baseline): 38% 1997/98: displayed graphically, about 42.5% 1999/00: 51% Significance of change (1995/96 to 1999/00): p=0.078 Comparator area: 1995/96 (baseline): displayed graphically, about 42.5% 1997/98: displayed graphically, about 30% 1999/00 (after programme introduced): displayed graphically, about 55% Significance of change (1997/98 to 1999/00): p<0.0001 Percentage caries-free (dmft=0) at age 48-59 months Programme pilot area 1995/96 (baseline): 17% 1997/98: displayed graphically, about 32.5% 1999/00: 40% Significance of change: p<0.0001 Comparator area: 1995/96 (baseline): displayed graphically, about 26.3% 1997/98: displayed graphically, about 26.3% 1999/00 (after programme introduced): displayed graphically, about 42.5% Significance of change 1997/98 to 1999/00: p=0.03 Frequency distribution of dmft scores Programme pilot area After 4 years of the programme the proportions with dmft greater than or equal to 4 reduced significantly in the 36-47 month age group (p=0.006) and the 48-59 month age group (p=0.001). Comparator area In the pre-intervention phase (1995/96 to 1997/98) the proportion of children with dmft greater than or equal to 4 increased in the 36-47 month (significance and p value NR) and 48-59 month age groups (reported as non-significant, p value NR). After implementation of the intervention (1997/98 to 1999/2000), there was a reduction in the proportion of children with dmft greater than or equal to 4 in the 37-49 month age group (p=0.002) and the 48-59 month age group (p=0.003).	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Proportion of children with dt>0 at age 36-47 months Programme pilot area 1995/96 (baseline): 62.1% 1997/98: 57.9% 1999/00: 47.9% Significance of change 1995/96 to 1999/00: NR Comparator area: 1995/96 (baseline): 55.4% 1997/98: 68.6% 1999/00 (after programme introduced): 43.9% Significance of change 1995/96 to 1999/00: NR Proportion of children with dt>0 at age 48-59 months Programme pilot area 1995/96 (baseline): 81.5% 1997/98: 64.0% 1999/00: 55.9% Significance of change 1995/96 to 1999/00: NR Comparator area: 1995/96 (baseline): 70.0% 1997/98: 70.6% 1999/00 (after programme introduced): 52.4% Significance of change 1995/96 to 1999/00: NR Proportion of children with mt>0 at age 36-47 months Programme pilot area 1995/96 (baseline): 13.6% 1997/98: 9.2% 1999/00: 4.1% Significance of change 1995/96 to 1999/00: p=0.025 (CI not reported) Comparator area: 1995/96 (baseline): 5.4% 1997/98: 10.5% 1999/00 (after programme introduced): 3.6% Significance of change 1995/96 to 1997/98: NR Significance of change 1997/98 to 1999/00: NR Proportion of children with mt>0 at age 48-59 months Programme pilot area 1995/96 (baseline): 34.1% 1997/98: 17.5% 1999/00: 14.7%	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Significance of change 1995/96 to 1999/00: p<0.001 (CI not reported) Comparator area: 1995/96 (baseline): 21.5% 1997/98: 22.2% 1999/00 (after programme introduced): 11.7% Significance of change 1995/96 to 1997/98: NR Significance of change 1997/98 to 1999/00: p=0.033 (CI not reported) **Modifiable risk factor:** Care index Programme pilot area 36-47 month old group 1995/96 (baseline): 1.5% 1997/98: 3.0% 1999/00: 1.9% Comparator area 36-47 month old group 1995/96 (baseline): 0.8% 1997/98: 2.4% 1999/00: 0.5% Programme pilot area 48-59 month old group 1995/96 (baseline): 3.2% 1997/98: 2.6% 1999/00: 3.8% Comparator area 48-59 month old group 1995/96 (baseline): 4.7% 1997/98: 2.4% 1999/00: 5.3% Reported to be "no relationship between [Care Index] values and the existence and duration of community development oral health-promotion activity". **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Blair et al. **Year:** 2006 **Country of study:** UK (Scotland) **Aim of study:** To assess dental health outcomes following a community-based programme of oral health promotion in Glasgow, UK. **Study Design:** Interrupted time series **Quality Score:** + **External validity:** ++	**Source Population/s:** Children aged up to 5 years in Glasgow. The initial programme pilot areas were two severely socioeconomically deprived areas in Glasgow (described in Blair et al. 2004). The second pilot area had been a control area not receiving the programme prior to 1997/1998, but received the programme after this. The programme then extended to all of Glasgow's most deprived communities (DepCat 7). Glasgow's less deprived areas (DepCat 1-6) which were not targeted by the programmes were used as comparator areas. **Participant characteristics:** Age Up to 5 years old Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Programme areas had the highest levels of socioeconomic deprivation (DepCat 7). Comparator areas were less deprived but had a range of SES (DepCat 1-6) Fluoridation NR **Inclusion criteria:** Children aged under 5 residing in Glasgow. **Exclusion criteria:** NR	**Programme/Intervention description:** A community-based oral health promotion programme targeting under 5s in the most deprived regions (see study extraction for Blair et al. 2004 for more detailed description of programme provided to pilot areas). The first pilot area implemented the programme from 1996, and the second pilot area from 1998. After the pilot, oral health action teams (OHATs) were recommended to be established to implement the programme in other severely deprived communities in Glasgow. These teams ideally include an oral health promoter, lead general dental practitioner, community dental officer, community pharmacist, liaison health visitor, public health practitioner, education sector staff, and community workers or volunteers. From 2000 the programme was delivered by OHATs as the became established, and by 2001 almost all remaining severely deprived communities were reported to have active OHAT programmes. The activities were delivered in settings outside the dental surgery environment to gain access to the most 'at risk' children. Non-jargon literature was developed to reflect caries-risk behaviours and what can be done to modify these in the community. The activities in one OHAT were described, and included consultation groups, programme information leaflets, nursery staff education and training of volunteers from playgroups, healthy snack policies for nurseries, community oral health promotion events, parent workshops, free toothpaste and toothbrush distribution by health visitors as well as dentists and pharmacy outlets, a 'change to cup' scheme, dental registration promotion schemes, 'Get cooking' classes, perinatal oral health sessions, a weaning fair with subsidised utensils and food blenders, and a playbox resource. **Control/Comparator description:** Most deprived areas (DepCat 7) before implementation of the OHATs (1995/96 to1999/00) Less deprived areas (DepCat 1-6) where there was no implementation of the community-based oral health promotion programme during the study period (1995 to 2004).	**Oral Health outcomes:** Mean d3mft scores at age 5 Frequency distribution of d3mft scores at age 5 Evidence of caries (d3mft>0) at age 5 Proportion with no obvious caries (d3mft=0) at age 5 Proportion of 5 year olds with filled teeth (ft>0) Proportion of 5 year olds with extracted (missing) teeth (mt>0) Mean number of filled teeth in 5 year olds **Modifiable risk factor outcomes:** Proportion of 5 year olds with untreated decay Proportion of children receiving restorative dental care **Determinant outcomes:** NA **Follow-up periods:** 9 years (1995 to 2004)	**Oral Health:** Mean d3mft score at age 5 (95% CI) DepCat 7 districts before OHATs: 1995/96: 4.9 (4.6 to 5.3) 1997/98: displayed graphically, about 5.5 1999/00: displayed graphically, about 5 Change in this period not significant (p value or CI for difference not reported) DepCat 7 districts before OHATs: 2002/03: displayed graphically, about 4.5 2003/04: 4.1 (3.7 to 4.4) Whole of Glasgow (DepCats 1-7) before OHATs: 1995/96: displayed graphically, about 3.5 1997/98: 3.7 (3.5 to 3.9) 1999/00: displayed graphically, about 3.5 Change in this period not significant (p value or CI for difference not reported) Whole of Glasgow (DepCats 1-7) after OHATs: 2002/03: displayed graphically, about 3.3 2003/04: 3.1 (2.9 to 3.2) Frequency distribution of d3mft score 2003/04 vs. 1997/98 All Glasgow p<0.001 DepCat 7 p<0.001 DepCat 6 p=1 DepCat 5 p=0.49 DepCat 4 p=0.86 DepCat 3 p=0.26 DepCat 2 p=0.1 DepCat 1 p=0.48 Odds ratio (95% CI) for 5 years olds having evidence of caries (d3mft>0) after OHATs (2003/04) vs. before OHATs (1997/98) (adjusted for age, and 'all Glasgow' results adjusted for DepCat also) All Glasgow (n=3,506) OR 0.66 (0.57 to 0.77); p<0.0001 DepCat 7 (n=1,115) OR 0.35 (0.26 to 0.47); p<0.001 DepCat 6 (n=677) OR 1.03 (0.74 to 1.43); p=0.88 DepCat 5 (n=236) OR 0.65 (0.37 to 1.13); p=0.125 DepCat 4 (n=474) OR 0.98 (0.67 to 1.45); p=0.94 DepCat 3 (n=354) OR 0.62 (0.39 to 0.98); p=0.040 DepCat 2 (n=391) OR 0.66 (0.42 to 1.05); p=0.08 DepCat 1 (n=259) OR 0.70 (0.40 to 1.12); p=0.20	**Limitations identified by author:** NR **Limitations identified by review team:** As an ecological study individual level confounders could not be assessed or adjusted for. Age and DepCat were adjusted for in some analyses. A power calculation was not reported. Only age was taken into account in most analyses, with DepCat also adjusted for in 'all Glasgow' analyses. As an ecological study individual level confounders could not be assessed or adjusted for. Age and DepCat were adjusted for in some analyses. **Evidence gaps:** Research investigating the effect of combining community-based OHATs with a clinical prevention package. Research investigating individual components from the OHAT approach and suitable programmes for more affluent districts' infants who have unacceptable caries burdens. **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
		Total sample The whole of Glasgow: 1995/96 n=1,666; 1997/98 n=1,535; 1999/00 n=1,097; 2002/03 n=2,359; 2003/04 n=1,971 **Intervention** Glasgow DepCat 7 areas before OHATs: 1995/96 n=518; 1997/98 n=513; 1999/00 n=358 Whole of Glasgow before OHATs: 1995/96 n=1,666; 1997/98 n=1,535; 1999/00 n=1,097 **Comparator** Glasgow DepCat 7 areas after OHATs: 2002/03 n=712; 2003/04 n=602 Whole of Glasgow after OHATs: 2002/03 n=2,359; 2003/04 n=1,971 **Baseline comparisons:** NR (Programme districts DepCat 7, control districts Depcats 1-6)		Proportion with no obvious caries (d3mft=0) DepCat 7 districts: increased from 20% in 1995/96 to 32% in 2003/04 (p<0.001) OR (d3mft>0 before vs. after OHATs) = 3.2 All of Glasgow: increased from 34% in 1997/98 to 42% in 2003/04 (p<0.001) Proportion of 5 year olds with extracted (missing) teeth (mt>0) DepCat 7 districts: decreased from 35% in 1995/96 to 22% in 2003/04 (p<0.0001) All of Glasgow: decreased from 21% in 1997/98 to 16% in 2003/04 (p<0.001) Proportion of 5 year olds with filled teeth (ft>0) DepCat 7 districts: NR All of Glasgow: remained at 12% over the study period Mean number of filled teeth in 5 year olds DepCat 7 districts: NR All of Glasgow: remained at 0.2 over the study period **Modifiable risk factor:** Proportion of children receiving restorative dental care DepCat 7 districts showed no increase in the period 1995/96 to 2003/04 (p value or CI not reported) All of Glasgow: NR Proportion of 5 year olds with untreated decay DepCat 7 districts: decreased from 75% in 1995/96 to 58% in 2003/04 (p<0.0001) All of Glasgow: NR **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Bodner and Pulos **Year:** 2010 **Country of study:** USA **Aim of study:** To evaluate the effect of a school-based oral health promotion programme on the caries prevalence among primary school children. **Study Design:** Before and after **Quality Score:** + **External validity:** ++	**Source Population/s:** Second and fourth grade students attending public elementary schools in Pierce County, Washington, USA. **Participant characteristics:** Age 8 and 10 years (means for each grade) Sex 49.7-53.0% male Sexual orientation NA Disability NR Ethnicity White 59.2-61.2%, Black 12.9-15.3%, Hispanic 14.1-16.9%, Asian 7.7-8.1%, Other 1.2-1.4% Religion NR Occupation NA Education NA SES 18.0% to 93.1% of students in selected schools considered low-income, based on receipt of Free or Reduced Price Meals (185% of the Federal Poverty Line) Fluoridation Non-fluoridated **Inclusion criteria:** Second or fourth grade students in 2006/07 and 2008/09 **Exclusion criteria:** NR	**Programme/Intervention description:** Dental hygienists and assistants provided oral health screenings for students in the second and fourth grades. Screenings for caries and sealant status were conducted with a penlight and dental mirror. Based on screening outcome, children were referred to local dentists and community clinics for further examination or treatment. Second grade students with one or fully erupted first molars without a sealant, decay or filling were eligible school-based preventive treatment (fluoride releasing pit and fissure sealants). All second grade students were eligible for fluoride varnish application. **Control/Comparator description:** Second and fourth grade students in 2006/07 prior to programme implementation. **Total sample** n=5,808 **Intervention** n=2,891 **Comparator** n=2,917 **Baseline comparisons:** NR	**Oral Health outcomes:** DMFT of first permanent molars (calculated as % of fully erupted first permanent molars with decay) History of decay (primary and permanent teeth) Untreated caries Treated caries **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 2 years (NA)	**Oral Health:** DMFT of permanent molars, average % Second grade Before (n=1,471): 7.9% After (1,527): 10.81% Adjusted difference: 3.02 (1.24 to 4.80), p<0.05 Fourth grade Before (n=1,446): 12.80% After (1,364): 14.80% Adjusted difference: 2.46 (0.21 to 4.72), p<0.05 Subgroup analysis - average DMFT first permanent molars by sealant status, % Received sealants (n=351): 3.2% Eligible, didn't receive (n=1,629): 6.7% Difference: -4.6% 95% CI -7.9% to -1.3%; p<0.05 History of decay primary teeth, % Second grade Before (n=1,471): 56.96% After (1,527): 59.48% Adjusted prevalence ratio: 1.04 (0.98 to 1.10), p=NR Fourth grade Before (n=1,446): 50.9% After (1,364): 50.3% Adjusted difference: 0.96 (0.90 to 1.04), p=NR History of decay permanent teeth, % Second grade Before (n=1,471): 11.94% After (1,527): 16.20% Adjusted prevalence ratio: 1.37 (1.14 to 1.63), p<0.05 Fourth grade Before (n=1,446): 22.3% After (1,364): 27.4% Adjusted difference: 1.23 (1.08 to 1.40), p<0.05 Untreated caries, % Second grade Before (n=1,471): 22.10% After (1,527): 26.10% Adjusted prevalence ratio: 1.18 (1.04 to 1.34), p<0.05 Fourth grade Before (n=1,446): 18.10% After (1,364): 20.31% Adjusted difference: 1.12 (0.96 to 1.30), p=NR	**Limitations identified by author:** Limited effectiveness of school-based programme likely due to low uptake of sealants (only 18% of those eligible for sealants received them). Issue with data quality, tracking of follow-up referrals and lack of individual level data regarding SES prevented successful evaluation of effectiveness at improving access to dentists and equity impacts of the programme. **Limitations identified by review team:** Power calculations and estimated effect size not reported. Assessments were brief and did not include radiographs; may underestimate caries prevalence and untreated decay. Analyses adjusted for age, gender, ethnicity and clustering by school using General Estimating Equation (GEE). **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Treated caries, % Second grade Before (n=1,471): 46.93% After (1,527): 49.38% Adjusted prevalence ratio: 1.04 (0.97 to 1.12), p=NR Fourth grade Before (n=1,446): 50.7% After (1,364): 49.3% Adjusted difference: 0.96 (0.89 to 1.03), p=NR **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Burnett et al. **Year:** 2004 **Country of study:** Australia **Aim of study:** To evaluate the effect of a school-based, daily tooth brushing programme on dental caries among primary school children. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** +	**Source Population/s:** Year 1 children attending schools in the Bayside District, Queensland, Australia. **Participant characteristics:** Age NR Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES 29.7% completers considered disadvantaged (based on families with health care card (HCC) access) Fluoridation Non-fluoridated area **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** School-based, teacher supervised daily tooth brushing with low dose fluoride toothpaste for three years. **Control/Comparator description:** NR **Total sample** n=NR schools, 803 participants **Intervention** n=NR schools, NR participants **Comparator** n=NR schools, NR participants **Baseline comparisons:** Intervention group had non-significantly higher burden of disease (d3mfs or D3MFS) versus comparator group (OR 1.24; 95% CI 0.91 to 1.69)	**Oral Health outcomes:** Caries prevalence categorised as 0 d3mfs/D3MFS (caries free), 1 to 4 d3mfs/D3MFS, >5 d3mfs/D3MFS. Methods of assessment not reported. Caries prevalence, categorised as the number of new caries (sound surface to caries). Methods of assessment not reported. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 3 years	**Oral Health:** Caries Prevalence 0 d3mfs/D3MFS, % Before (n=803) Intervention: 53% Control: 54% After Intervention (n=285): 32% Control (n=309): 34% 1 to 4 d3mfs/D3MFS, % Before (n=803) Intervention: 19% Control: 21% After (n=594) Intervention (n=285): 30% Control (n=309): 29% >5 d3mfs/D3MFS, % Before (n=803) Intervention: 28% Control: 25% After Intervention (n=285): 38% Control (n=309): 36% d3mfs/D3MFS, OR (95% CI) Intervention vs. Control: OR 1.05 (0.82 to 1.35); p=0.687 Intervention 2002 vs. 2001: 0.99 (0.88 to 1.11) Intervention 2003 vs. 2001: 1.17 (1.02 to 1.34) Caries Incidence D3MSF, n (%) Intervention (n=253): 18 (7%) Comparator (n=267): 27 (10%) 95% CI NR; p=0.256 Subgroup analysis - Disadvantaged population >5 d3mfs/D3MFS, % (95% CI) total n=148 Intervention: 40% (30% to 50%) Comparator: 34% (23% to 45%) 95% CI NR; p=0.293 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** Radomisation methods not reported. Allocation methods not reported; unclear if allocation was concealed. No power calculation or expected effect size reported. Caries assessment methods not reported; reliability unclear. Intervention group had significantly higher levels of dental disease at baseline; not adjusted for in prevalence analysis (investigator calculated Ors) Intention to treat analysis not conducted; attrition >25% and no reporting of differences between completers and non-completers. ORs adjusted for fathers education and frequency of adult brushing. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Ciaranello et al. **Year:** 2006 **Country of study:** USA **Aim of study:** To assess the effects of a focused health care intervention delivered in transitional housing facilities (THFs). **Study Design:** Non-randomised controlled trial **Quality Score:** + **External validity:** +	**Source Population/s:** Formerly homeless single adults living in THFs in the Sacramento area, California. **Participant characteristics:** Age Mean 41.6 at intervention sites, 41.3 at comparator sites Sex 38% female at intervention sites, 22% female at comparator sites Sexual orientation NR Disability NR Ethnicity 40% non-white race at intervention sites, 28% at comparator sites Religion NR Occupation 33% currently employed at intervention sites, 44% at comparator sites Education 57% high school education or less at intervention sites, 72% at comparator sites SES NR Fluoridation NR **Inclusion criteria:** All formerly homeless single adults (age 18 or over) living in THFs who could speak English were recruited. The exception was the largest intervention site where only a random sample selected from those residents who were likely to stay for at least 6 months was recruited. At another site with geographically dispersed housing units only the 5 largest units were included. **Exclusion criteria:** NR	**Programme/Intervention description:** Four THFs participating in the Healthcare Empowerment Alliance for people Living in Transitional Housing (HEALTH) project. This project was hosted by the Community Services Planning Council, and project members included the University, THFs, County Department of Health, and Human Services and Department of Human Assistance, health care professional schools and other community groups. The interventions were targeted towards previously identified barriers to accessing healthcare for homeless people. The Health Integrated Service Team (IST) included a medical director, a nurse practitioner, a medical clerk, and a social worker. The IST made weekly visits to the sites and provided comprehensive health assessments, follow up care, social work services including counselling, health education and referrals to dental and other services. An advice nurse was available by telephone 24 hours a day. Additional clinics were provided for specific services (e.g. HIV and TB testing). The HEALTH project aimed to provide direct dental, medical, and social services; referral for diagnostic testing and specialty care; and health education. **Control/Comparator description:** Two non-equivalent THFs not taking part in the HEALTH project. One of these was a male only site. **Total sample** n=6 sites (609 residents) **Intervention** n=4 sites (about 450 residents at any time point) **Comparator** n=2 sites (about 50 residents at any time point) **Baseline comparisons:** At baseline there was a higher proportion of females at the intervention sites than comparator sires (38% vs. 22%, p=0.032). The length of stay at the THF was longer in the intervention group (8.8 months vs. 6.5 months, p=0.022). The intervention group had lower mean SF-36 mental health scores (61.4 vs. 70.0, p=0.009). There were no differences in non-white race, age, education, employment, health insurance in past 6 months, or SF-36 physical health scores.	**Oral Health outcomes:** Number of teeth with obvious decay **Modifiable risk factor outcomes:** Ability to see necessary dental specialist sometimes/always **Determinant outcomes:** NA **Follow-up periods:** 18 months (% follow-up varied, see results column)	**Oral Health:** Intervention sites (4 sites) Baseline n=202 6 month FU n=209 18 month FU n=219 Comparison sites (2 sites) Baseline n=50 6 month FU n=50 18 month FU n=43 Mean number of teeth with obvious decay (SD) Intervention sites Baseline: 2.9 (4.7) 6 month FU: 2.7 (5.1) 18 month FU: 1.8 (3.6) Comparison sites Baseline: 2.0 (2.5) 6 month FU: 1.9 (2.9) 18 month FU: 1.7 (2.2) Regression using baseline adjustment for gender-stratified main effects of THF site found that the intervention did not have a significant effect on mean number of teeth with obvious decay at 6 months (n=241, intervention effect 0.734 (SE 0.800) p=0.36) or 18 months (n=260, 0.248 (SE 0.741), p=0.75). **Modifiable risk factor:** % reporting ability to see necessary dental specialist sometimes/always Intervention sites Baseline: 32% 6 month FU: 29% 18 month FU: 46% Comparison sites Baseline: 46% 6 month FU: 45% 18 month FU: 51% Regression using baseline adjustment for main effects of THF site found that the intervention did not have a significant effect on outcome at 6 months (n=182, adjusted OR 0.541, 95% CI 0.265 to 1.105; p=0.092) or 18 months (n=190, adjusted OR 0.882, 95% CI 0.435 to 1.788, p=0.727) **Determinant:** NA	**Limitations identified by author:** Results are limited to a small number of sites in a single geographical region. Randomisation was no possible, therefore baseline differences and changes over time could affect the results. Unmeasured interventions outside of the project may reduce estimates of its effect. As use of services was based on self-report, there may be some mis-reporting. **Limitations identified by review team:** Non-randomised, but comparisons at baseline given and analyses adjusted. Power calculation not reported. Analysis not by intention to treat. Authors report that the intervention was most successful at affecting endpoints which the IST had direct control of (such as provision of cervical smears) but less over more distal outcomes such as health behaviours. Due to short THF stays, less than 4% of the total sample had observations at all three assessment points. **Evidence gaps:** NR **Source of funding:** California Health Care Foundation (through a grant to the Sacramento Community Services Planning Council).

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Cruz et al. **Year:** 2012 **Country of study:** USA **Aim of study:** To assess the impact of a postal programme on dental care utilisation among low-income children. **Study Design:** RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Children aged 12 to 36 months in 2002 residing in Yakima County, WA and enrolled in the state's Medicaid or Basic Health Plus programmes (low income insurance plans). Children in this population are entitled to comprehensive oral health coverage. **Participant characteristics:** Age 2.9 years (mean) Sex 49% male/51% female Sexual orientation NA Disability NR Ethnicity 67% Hispanic, 17% Caucasian, 2% Native American Religion NR Occupation NA Education NA SES Low income (household income at or below 200% of FPL) Fluoridation NR **Inclusion criteria:** Aged 12 to 36 months; resident of Yakima County as of September 30, 2002; enrolled in the state/federal Medicaid or Basic Health Plus programmes. **Exclusion criteria:** NR	**Programme/Intervention description:** Group 1 received mailed postcards (in both English and Spanish) with information on how to enrol in the Mom and Me programme. Six enrolment postcards were sent over the course of a year (July 2003 and July 2004). Group 2 received mailed postcards (in both English and Spanish) with the Mom and Me logo and two other postcards with information on the fluoride varnish benefit and early dental appointments for infants. Six enrolment postcards were sent over the course of a year (July 2003 and July 2004): the first contained enrolment information, the second contained information on the fluoride varnish benefit, the third contained information on early dental visits for infants, the fourth through sixth set of postcards repeated this cycle. **Control/Comparator description:** Group 3 received no postal mailings. **Total sample** n=6,041 **Intervention** n=2,014 (Group 1) n=2,014 (Group 2) **Comparator** n=2,013 (Group 3) **Baseline comparisons:** No significant differences at baseline.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Topical fluoride use Use of dental services (all services, diagnostic services, preventive services, restorative services) assessed using claims data from the State of Washington Medicaid Management Information System. **Determinant outcomes:** NA **Follow-up periods:** 18 months from programme start (96.1% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Group 3 n=1,779 for all comparisons Topical fluoride use, n (%) Group 1: 1,197 (59%) Group 2: 1,206 (60%) Group 3: 1,026 (58%) Group 1 vs. Group 3: 95% CI= NR; p=0.27 Group 2 vs. Group 3: 95% CI= NR; p=0.16 Utilisation of any dental service, n (%) Group 1: 1,258 (62%) Group 2: 1,274 (63%) Group 3: 1,085 (61%) Group 1 vs. Group 3: 95% CI= NR; p=0.35 Group 2 vs. Group 3: 95% CI= NR; p=0.15 Utilisation of diagnostic services, n (%) Group 1: 1,235 (61%) Group 2: 1,241 (62%) Group 3: 1,072 (60%) Group 1 vs. Group 3: 95% CI= NR; p=0.50 Group 2 vs. Group 3: 95% CI= NR; p=0.39 Utilisation of preventive services, n (%) Group 1: 1,226 (61%) Group 2: 1,245 (62%) Group 3: 1,061 (60%) Group 1 vs. Group 3: 95% CI= NR; p=0.44 Group 2 vs. Group 3: 95% CI= NR; p=0.17 Utilisation of restorative services, n (%) Group 1: 539 (27%) Group 2: 547 (27%) Group 3: 438 (25%) Group 1 vs. Group 3: 95% CI= NR; p=0.13 Group 2 vs. Group 3: 95% CI= NR; p=0.08 **Determinant:** NA	**Limitations identified by author:** Between group contamination possible due to randomisation at child level and delivery at household level. **Limitations identified by review team:** No ITT analysis; unlikely to bias results due to low attrition For analysis, 234 children were removed from Group 3 (comparator) as they lived at the same address as a child from either Intervention Group 1 or Group 2. Study assessed utilisation of Medicaid dental services only, may not represent total dental services utilisation by study participants. Children were selected regardless of previous use of dental services; unable to determine whether postcard intervention would have differential effects depending on previous dental enrolment. **Evidence gaps:** NR **Source of funding:** Public funding.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Dental Health Foundation **Year:** 2007 **Country of study:** Ireland and UK (Northern Ireland) **Aim of study:** To evaluate a school-based health promotion programme among primary school students. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Children in their fourth year of primary school in areas of socioeconomic deprivation in Dublin and Belfast. **Participant characteristics:** Age 7 to 8 years Sex 57.8% male (Dublin), 46.5% male (Belfast) Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES All schools in areas of socioeconomic deprivation Fluoridation Belfast, no water fluoridation; Dublin water fluoridation **Inclusion criteria:** Parental informed consent; child willingness to participate in evaluations **Exclusion criteria:** No informed content; unwilling to be evaluated.	**Programme/Intervention description:** As part of the Winning Smiles programme is conducted over the course of three school visits by community dental staff, over six weeks, and includes classroom visits, homework and classroom worksheets to be completed between visits, and awards for participating children. During the oral health promotion programme, children are taught to brush their teeth with fluoride toothpaste, to remove plaque. The programme includes a degree of competition, with scoring of plaque levels at baseline and 4 weeks. Children received awards at the end of the programme, and classes and schools compete against each other for awards/recognition. In Dublin, children received an oral health promotion programme at the beginning of the study and fluoridated toothpaste and a toothbrush every three months by post. In Belfast, children received the oral health promotion programme only. **Control/Comparator description:** Dublin and Belfast control groups received no intervention. **Total sample** n=7 schools, 308 participants **Intervention** n=1 school, 80 participants (Dublin Intervention) n=2 schools, 111 participants (Belfast Intervention) **Comparator** n=1 school, 58 participants (Dublin Intervention) n=3 schools, 59 participants (Belfast Intervention) **Baseline comparisons:** NR	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Toothbrushing compliance, assessed as Equilibrium Salivary Fluoride levels approximately 14 and 18 hours post brushing. **Determinant outcomes:** Oral health related knowledge, assessed via a yes/no questionnaire; and measured as total snack knowledge (scored 0 to 13); safer snack knowledge (scored 0 to 8); total toothbrush knowledge (scored 0 to 3) and total prevention knowledge (scored 0 to 5); higher scores indicate better knowledge. Oral health related attitudes, assessed satisfaction and importance of caring for the teeth and mouth via questionnaire on a 4 point Likert scale (higher scores indicate greater importance/satisfaction. **Follow-up periods:** 12 months (64.3% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Equilibrium Salivary Fluoride (mg/L), mean Dublin Baseline Intervention (n=67): 0.019 Comparator (n=50): 0.020 95% CI NR; p=0.0704 Dublin 6 months Intervention (n=62): 0.023 Comparator (n=48): 0.025 95% CI NR; p=0.1218 Dublin 12 months Intervention (n=55): 0.024 Comparator(n=48): 0.019 95% CI NR; p<0.0001 Dublin Intervention over time (n=52) Baseline to 6 months: significant increase; values and 95% CI NR; p<0.0001 6 months to 12 months: non-significant increase; values and 95% CI NR; p=0.5034 baseline to 12 months: significant increase; values and 95% CI NR; p<0.0001 Dublin Comparator over time - baseline to 12 months (n=46) Baseline to 6 months: significant increase; values and 95% CI NR; p=0.0003 6 months to 12 months: significant decrease; values and 95% CI NR; p<0.0001 baseline to 12 months: non-significant decrease; values and 95% CI NR; p=0.0667 Belfast Baseline Intervention (n=58): 0.017 Comparator (n=53): 0.016 95% CI NR; p=0.2952 Belfast 6 months Intervention (n=54): 0.020 Comparator (n=51): 0.018 95% CI NR; p=0.0047 Belfast 12 months Intervention (n=58): 0.014 Comparator (n=50): 0.014 95% CI NR; p=0.8859 Belfast Intervention over time (n=53) Baseline to 6 months: significant increase; values and 95% CI NR; p<0.0001 6 months to 12 months: significant decrease; values and 95% CI NR; p<0.0001 baseline to 12 months: significant decrease; values and 95% CI NR; p=0.0001	**Limitations identified by author:** NR **Limitations identified by review team:** Overall response rate 75%; no information on differences between respondes and non-responders. Randomisation methods not reported. Allocation methods not reported; unclear if concealed. No information on validity of health knowledge and attitude questionnaires. Baseline comparisons between groups not reported. No ITT analysis; combined with high attrition, this may introduce bias. **Evidence gaps:** NR **Source of funding:** Dental Health Foundation, Ireland

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Belfast Comparator over time - baseline to 12 months (n=47) Baseline to 6 months: significant increase; values and 95% CI NR; p<0.0001 6 months to 12 months: significant decrease; values and 95% CI NR; p<0.0001 baseline to 12 months: significant decrease; values and 95% CI NR; p=0.0012 **Determinant:** Toothbrushing and toothpaste knowledge at 12 months All Intervention (n=103): values NR All Comparator (n=148): values NR 95% CI NR; p=0.02 (favouring intervention) Total snack knowledge at 12 months All Intervention (n=103): values NR All Comparator (n=148): values NR 95% CI NR; p=0.009 (favouring intervention) Safer snack knowledge at 12 months All Intervention (n=103): values NR All Comparator (n=148): values NR 95% CI NR; p=0.004 (favouring intervention) Attitude towards importance of oral care at 12 months All Intervention (n=103): values NR All Comparator (n=148): values NR 95% CI NR; p=0.04 (favouring intervention)	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: DiMarco et al. **Year:** 2010 **Country of study:** USA **Aim of study:** To assess the effectiveness of a shelter-based programme at improving access to dental care among homeless mothers and their children. **Study Design:** Before and after **Quality Score:** - **External validity:** -	**Source Population/s:** Mothers and their children living in homeless shelters in the Midwestern United States. **Participant characteristics:** Age Child: 6.38 (baseline mean); Mother: 30.04 (baseline mean) Sex NR Sexual orientation NR Disability NR Ethnicity Black 67.5%; White 21.5%; Biracial 8.3%; Hispanic 4.2%; Native American 2.5% Religion NR Occupation NR Education Mother: 11.82 years (mean) SES NR Fluoridation NR **Inclusion criteria:** Mothers: English speaking, aged 18 or older, resident in the shelter, not under the influence of drugs or alcohol during shelter stay, no victims of domestic violence at time of shelter intake, not directly released from a mental facility. **Exclusion criteria:** NR	**Programme/Intervention description:** Nurse-managed shelter-based dental care (oral exam of children), referrals to local dental providers who agreed to see children and accepted Medicaid) and access to a telephone in order to make an appointment. **Control/Comparator description:** NA **Total sample** n=120 mothers/families, 236 children **Intervention** NA **Comparator** NA **Baseline comparisons:** NA	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Access to oral health care, assessed as the ability of the client to make an appointment and get to the appointment, measured via the Access Barriers to care Index (ABC); scores range from 25 to 125, with lower scores indicating better access to care. **Determinant outcomes:** NA **Follow-up periods:** 1 month (74.1% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Access Barriers to Care Index, mean (SD) n=89 families Baseline: 45.00 (15.98) Follow-up: 37.95 (12.60) 95% CI NR; p<0.001 **Determinant:** NA	**Limitations identified by author:** Attrition, convenience sampling, short follow-up reduces strength of outcomes, but as there was a one-month limit of shelter stays longer term follow-up could not be used due to high attrition risk. **Limitations identified by review team:** Convenience sample of homeless women and their children; no information provided of selection methods or differences between women selected for No potential confounders reported as included in the analysis No power calculation or expected effect size reported. No explanatory variables included in analysis of access outcomes. **Evidence gaps:** Assessment of variety of shelter-based interventions, including mobile vans with dental services, to determine the most effective shelter-based care. **Source of funding:** Government and University grants

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Dohnke-Hohrmann and Zimmer **Year:** 2004 **Country of study:** Germany **Aim of study:** To assess the impact of a fluoride varnish and health education programme on caries prevalence among school children. **Study Design:** Interrupted time series **Quality Score:** - **External validity:** -	**Source Population/s:** Primary school children in the Neukoln district of Berlin, a multicultural under-privileged area of the city. **Participant characteristics:** Age 5 to 12 (range) Sex NR Sexual orientation NA Disability NR Ethnicity German, Turkish, Arabic, Polish and other nationalities. Religion NR Occupation NA Education NA SES 13.5% of source population received social welfare in 1996. Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Existing prevention programme plus biannual application of fluoride varnish; the oral cavity was dried using cotton and fluoride was applied using syringes with blunt needles. Product (Duraphat varnish, 22,600ppm F) application occurred after the health education lectures and toothbrush training. **Control/Comparator description:** Pre-autumn 1996, existing prevention programme consisted of an annual examination, and 3 to 4 times yearly oral health education (tooth brushing training and nutritional advice) **Total sample** n=80,589 (examinations) **Intervention** n=72,841 (examinations) **Comparator** n=7,748 (examinations) **Baseline comparisons:** NR	**Oral Health outcomes:** DMFT of 5-12 year olds, assessed annually by four calibrated dentists in schools or Public Health Dental Service consulting rooms using surface coated dental mirrors and probes in bright natural light. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 5 years (NA)	**Oral Health:** DMFT by age, mean (SD) 1995/96 before programme (n=7,748) 5yo: 0.03 (NR) 6yo: 0.18 (NR) 7yo: 0.41 (NR) 8yo: 0.75 (NR) 9yo: 1.09 (NR) 10yo: 1.52 (NR) 11yo: 1.93 (NR) 12yo: 2.77 (NR) 1996/1997 after programme (n=15,673) 5yo: 0.03 (NR) 6yo: 0.11 (NR) 7yo: 0.35 (NR) 8yo: 0.65 (NR) 9yo: 1.00 (NR) 10yo: 1.32 (NR) 11yo: 1.76 (NR) 12yo: 2.49 (NR) 95% CI and p-value NR for all comparisons 1997/1998 after programme (n=19,362) 5yo: 0.02 (NR) 6yo: 0.12 (NR) 7yo: 0.32 (NR) 8yo: 0.60 (NR) 9yo: 0.97 (NR) 10yo: 1.36 (NR) 11yo: 1.68 (NR) 12yo: 2.22 (NR) 95% CI and p-value NR for all comparisons 1998/1999 after programme (n=19,822) 5yo: 0.01 (NR) 6yo: 0.10 (NR) 7yo: 0.24 (NR) 8yo: 0.45 (NR) 9yo: 0.77 (NR) 10yo: 1.16 (NR) 11yo: 1.55 (NR) 12yo: 2.04 (NR) 95% CI and p-value NR for all comparisons 1999/2000 after programme (n=17,984) 5yo: 0.02 (NR) 6yo: 0.08 (NR) 7yo: 0.23 (NR) 8yo: 0.40 (NR) 9yo: 0.63 (NR); 42% reduction from 1995/96 10yo: 0.89 (NR) 11yo: 1.33 (NR) 12yo: 1.64 (NR); 40.7% reduction from 1995/96 95% CI and p-value NR for all comparisons	**Limitations identified by author:** Lack of a control groups means the contributory effect of the school based programme cannot be definitively established. **Limitations identified by review team:** Additional oral health programmes introduced during the same period by health insurance companies, which may have contributed to the caries decline seen in the study. No power calculation or expected effect size reported; no statistical analysis conducted. Descriptive statistics collected only; no statistical analysis conducted. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Ellwood et al. **Year:** 2004 **Country of study:** UK (England) **Aim of study:** To assess the effectiveness of a free fluoridated toothpaste programme on the proportion of five year olds with dental caries across deprivation levels. **Study Design:** RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Children from 3-month birth cohorts residing in one of nine health districts in north-west England with high levels of dental caries. Children were 5 to 6 years old in October 1999 to April 2000. **Participant characteristics:** Age 1 to 5.5 years (range) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Mean Townsend score per quartile: -2.2, 0.47, 3.1, 7.4 (higher scores indicate higher material deprivation) Fluoridation Non-fluoridated districts (<0.1ppm in drinking water); participants advised not to use supplemental fluoride tablets during the study **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Postal provision (delivered to the children's' families) of health education literature (advising the use of a pea size amount of toothpaste to be used twice daily, and to be spit out after brushing), free toothpaste containing either 440ppm or 1450ppm fluoride every three months, and a toothbrush provided each year from age of 1 to 5.5 years. **Control/Comparator description:** No intervention. **Total sample** n=7,422 **Intervention** n= 2,488 (high fluoride, 1450ppm) n=2,472 (low fluoride, 440ppm) **Comparator** n=2,462 **Baseline comparisons:**	**Oral Health outcomes:** Outcomes per deprivation quartile dmft, mean % participants >0 dmft % participants ≥4 dmft % participants >0 dmft % participants ≥1 extracted teeth due to caries **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** (46.7% follow-up)	**Oral Health:** dmft, mean (SD) Quartile 1 - Least deprived high fluoride (n=280): 1.4 (2.5) low fluoride (n=251): 2.2 (3.0) comparator (n=328): 1.9 (2.9) reported as significant differences between groups; 95% CI NR; p-value NR Quartile 2 high fluoride (n=281): 2.0 (2.9) low fluoride (n=302): 2.3 (3.0) comparator (n=283): 2.3 (2.9) No significant differences between groups; 95% CI NR; p-value NR Quartile 3 high fluoride (n=268): 2.6 (3.3) low fluoride (n=276): 2.6 (3.1) comparator (n=332): 2.8 (3.1) No significant differences between groups; 95% CI NR; p-value NR Quartile 4 - Most deprived high fluoride (n=264): 2.7 (3.0) low fluoride (n=267): 2.9 (3.6) comparator (n=335): 3.2 (3.4) No significant differences between groups; 95% CI NR; p-value NR Participants >0 dmft, n (%) Quartile 1 - Least deprived high fluoride (n=280): 112 (40%) low fluoride (n=251): 129 (51%) comparator (n=328): 145 (44%) reported as significant differences between groups; 95% CI NR; p-value NR Quartile 2 high fluoride (n=281): 129 (46%) low fluoride (n=302): 175 (58%) comparator (n=283): 159 (56%) reported as significant differences between groups; 95% CI NR; p-value NR Quartile 3 high fluoride (n=268): 151 (56%) low fluoride (n=276): 168 (61%) comparator (n=332): 209 (63%) No significant differences between groups; 95% CI NR; p-value NR Quartile 4 - Most deprived high fluoride (n=264): 161 (61%) low fluoride (n=267): 157 (59%) comparator (n=335): 228 (68%)	**Limitations identified by author:** Using the Townsend index by post code to identify populations at high risk of caries may have grouped individuals with low risk into high risk groups, and visa versa. Unable to disaggregate the effect of encouraged twice daily brushing and increased fluoride exposure on caries outcomes. **Limitations identified by review team:** No information on comparative baseline participant characteristics was provided. As the analysis was stratified by deprivation level, risk of bias due to dissimilarity between exposure and comparison gropus is reduced. No ITT analysis and high attrition rate. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				reported as significant differences between groups; 95% CI NR; p-value NR Participants ≥4 dmft, n (%) Quartile 1 - Least deprived high fluoride (n=280): 46 (16%) low fluoride (n=251): 68 (27%) comparator (n=328): 73 (22%) reported as significant differences between groups; 95% CI NR; p-value NR Quartile 2 high fluoride (n=281): 67 (24%) low fluoride (n=302): 83 (28%) comparator (n=283): 82 (29%) No significant differences between groups; 95% CI NR; p-value NR Quartile 3 high fluoride (n=268): 86 (32%) low fluoride (n=276): 85 (31%) comparator (n=332): 119 (36%) No significant differences between groups; 95% CI NR; p-value NR Quartile 4 - Most deprived high fluoride (n=264): 92 (35%) low fluoride (n=267): 94 (35%) comparator (n=335): 130 (39%) No significant differences between groups; 95% CI NR; p-value NR Caries deciduous upper incisors, n (%) Quartile 1 - Least deprived high fluoride (n=280): 16 (6%) low fluoride (n=251): 24 (10%) comparator (n=328): 30 (9%) No significant differences between groups; 95% CI NR; p-value NR Quartile 2 high fluoride (n=281): 28 (10%) low fluoride (n=302): 28 (9%) comparator (n=283): 26 (9%) No significant differences between groups; 95% CI NR; p-value NR Quartile 3 high fluoride (n=268): 29 (11%) low fluoride (n=276): 27 (10%) comparator (n=332): 39 (12%) No significant differences between groups; 95% CI NR; p-value NR Quartile 4 - Most deprived high fluoride (n=264): 45 (17%) low fluoride (n=267): 44 (17%)	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				comparator (n=335): 61 (18%) No significant differences between groups; 95% CI NR; p-value NR Participants ≥1 extracted teeth due to caries, n (%) Quartile 1 - Least deprived high fluoride (n=280): 25 (9%) low fluoride (n=251): 25 (10%) comparator (n=328): 34 (10%) No significant differences between groups; 95% CI NR; p-value NR Quartile 2 high fluoride (n=281): 31 (11%) low fluoride (n=302): 42 (14%) comparator (n=283): 45 (16%) No significant differences between groups; 95% CI NR; p-value NR Quartile 3 high fluoride (n=268): 39 (15%) low fluoride (n=276): 46 (17%) comparator (n=332): 69 (21%) No significant differences between groups; 95% CI NR; p-value NR Quartile 4 - Most deprived high fluoride (n=264): 37 (14%) low fluoride (n=267): 38 (14%) comparator (n=335): 70 (21%) reported as significant differences between groups; 95% CI NR; p-value NR **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Freeman and Bunting **Year:** 2003 **Country of study:** UK (Northern Ireland) **Aim of study:** To assess the effectiveness of a child-to-child healthy snacking programme among primary school students. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** +	**Source Population/s:** 5 and 11 year old children attending primary schools in North and West Belfast. **Participant characteristics:** Age 5 and 11 Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Area of high social deprivation Fluoridation NR **Inclusion criteria:** Two schools from each deprivation quintile were selected for the study; participants were included if there were in the first year of school (five years old) or the last year of school (eleven years old), representing the youngest and oldest children in the schools. **Exclusion criteria:** NR	**Programme/Intervention description:** 3 stage child-to-child oral health education intervention: Stage 1 - healthy snacking education programme delivered to older children over four weeks; addresses importance of healthy teeth, effect of different snacks on tooth health, oral hygiene practices. Stage 2 - over the course of a week, the older children design a healthy snacking educational programme for their younger peers. Stage 3 - a one-hour child-to-child oral health education session, delivered by the 11 year olds to the 5 year olds. **Control/Comparator description:** No child-to-child oral health education programme; no other information reported. **Total sample** n=10 schools, 482 participants **Intervention** n=5 schools, 240 participants **Comparator** n=5 schools, 242 participants **Baseline comparisons:** NR	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Dietary behaviour at school break time, evaluated as cariogenic snacking score (range 0-25, higher scores indicate consumption of more cariogenic/sugar containing snacks); calculated using 'rubbish bag' collection, whereby the children collected wrappers, packets, cans and food waste (e.g. apple cores) associated with break time snacks. Teachers add notes regarding the consumption of any unwrapped snacks. **Determinant outcomes:** Dental health knowledge of older children, evaluated on a 4 point scale (0 to 3; higher scores reflect better dental health knowledge. Scores were assessed using a 4 item questionnaire regarding the content, timing a frequency of snacking behaviour for healthy teeth. Dental health knowledge of younger children was assessed using an activity sheet with pictures of different foods; children placed a happy face next to the three snacks they thought were healthy, and to check three foods/drinks they ate most. **Follow-up periods:** 6 weeks (95% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Change in cariogenic snacking score - older children, mean (95% CI) Intervention: -0.93 (-1.40 to -0.46) Comparator: -0.19 (-0.53 to -0.16) Regression analysis, β (SE) Intervention school attendance: 0.88 (0.44) 95% CI -0.11 to 1.86; p=0.07 Change in cariogenic snacking score - younger children, mean (95% CI) Intervention: -0.26 (-0.67 to 0.14) Comparator: 0.07 (-0.33 to 0.45) Regression analysis, β (SE) Intervention school attendance: 0.61 (0.31) 95% CI -0.75 to 0.68; p=0.08 **Determinant:** Dental health knowledge - older children, mean (95% CI) Intervention Before: 0.84 (0.71 to 0.98) After: 1.04 (0.93 to 1.26) Comparator Before: 0.96 (0.81 to 1.13) After: 0.83 (0.66 to 0.88)	**Limitations identified by author:** Programme delivery varied between schools; not accounted for in analyses. **Limitations identified by review team:** Allocation methods not reported; unclear if allocation was concealed. No reporting of dental knowledge questionnaire or 'rubbish bag' measure validity. Differences between intervention and comparator groups at baseline not reported. Children lost to follow-up excluded from analysis; unlikely to bias results due to low attrition. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Freeman and Oliver **Year:** 2009 **Country of study:** UK (Northern Ireland) **Aim of study:** To assess the effectiveness of a school based dietary programme on the caries experience and dietary behaviours of primary school children. **Study Design:** Cluster non-randomised controlled trial **Quality Score:** - **External validity:** +	**Source Population/s:** Children attending primary schools in Northern Ireland. **Participant characteristics:** Age 9 (baseline) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Varied Fluoridation NR **Inclusion criteria:** Schools: consistent and current implementation of the 'Boosting Better Breaks' (BBB) programme; Students: year 5 at baseline. **Exclusion criteria:** NR	**Programme/Intervention description:** 'Boosting Better Breaks' (BBB) dietary health promotion programme includes the introduction of school milk, water and fruit during school breaks; the closing of tuck shops; removal of confectionary, cakes , biscuits or soft-drinks as teacher provided rewards or prizes. **Control/Comparator description:** No previous participation in BBB programme. **Total sample** n=schools NR, 345 participants **Intervention** n=schools NR, 170 participants **Comparator** n=schools NR, 175 participants **Baseline comparisons:** NR	**Oral Health outcomes:** Obvious decay experience, D3cvMT and D3cv, assessed according to BASCD guidelines. **Modifiable risk factor outcomes:** Consumption of sugary snacks, assessed using the rubbish bag method, and evaluated using a summary score (higher score indicates higher daily consumptions of sugary snacks). **Determinant outcomes:** NA **Follow-up periods:** 2 years (42.6% follow-up)	**Oral Health:** Intervention n=74 Comparator n=73 Caries experience - D3cvMFT, mean (95% CI) All participants Baseline: 0.78 (0.58 to 0.98) Follow-up: 1.49 (1.20 to 1.78) Difference: 95% CI NR; p<0.001 Regression analysis, β (SE) Intervention school attendance: NR (NR) 95% CI NR; p=NS (value not reported) Decay into dentine - D3cv, mean (95% CI) All participants Baseline: 0.25 (0.13 to 0.37) Follow-up: 0.39 (0.22 to 0.55) Difference: 95% CI and p-value NR Regression analysis, β (SE) Comparator school attendance: -0.31 (0.15) 95% CI NR; p<0.05 **Modifiable risk factor:** Intervention n=74 Comparator n=73 Sugar snack score at school, mean (95% CI) Intervention Baseline: 0.006 (-0.12 to 0.13) Follow-up: 0.24 (0.11 to 0.38) Comparator Baseline: 0.57 (0.44 to 0.70) Follow-up: 0.29 (0.15 to 0.43) Sugar snack score at home, mean Intervention Baseline: 0.81 (0.56 to 1.11) Follow-up: 6.03 (5.80 to 6.25) Comparator Baseline: 0.83 (0.59 to 1.07) Follow-up: 5.99 (5.76 to 6.21) **Determinant:** NA	**Limitations identified by author:** Reliability and validity of outcome measures (use of obvious decay in lieu of more thorough oral health outcomes) **Limitations identified by review team:** Not randomised; schools matched on SES, location, co-educational status. High attrition lead to sample sizes below those required per the reported power calculation. Reliability of rubbish bag method not reported; use of D3CV as outcome measure unlikely to capture important other important caries experiences. Baseline differences between intervention and comparator groups not reported; unlikely to bias results due to balance potential confounders (SES, location, etc.) No ITT analysis; high attrition rate (57.4%) and no information provided on differences between drop-outs and completers. Regression analysis controlled for SES and baseline caries experience. Authors note that restriction of snack options at BBB schools may have exacerbated dental decay, as children increased their purchasing of sugar snacks at corner shops. Suggest that choice restriction without simultaneous oral health education and provision of fluoride toothpaste may be detrimental to oral health. **Evidence gaps:** NR **Source of funding:** Government funded

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Grant et al. **Year:** 2010 **Country of study:** USA **Aim of study:** To assess the impact of a oral health and nutrition intervention on the knowledge, attitudes and oral health behaviours of children enrolled in Head Start programmes in North Carolina. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** +	**Source Population/s:** Low-income children aged 3 to 5 enrolled in Head Start programmes in Chapel Hill, NC USA. **Participant characteristics:** Age 3-5 (range) Sex NR Sexual orientation NA Disability NR Ethnicity 29.8% to 34.9% black; 44.2% to 44.7% Hispanic; 18.6% to 23.4% non-Hispanic white; 2.1% to 2.3% other Religion NR Occupation NA Education NA SES Low-income Fluoridation NR **Inclusion criteria:** Enrolled in Head Start; fluent in English or Spanish; assessed by the teacher has having age-appropriate decision making skills. **Exclusion criteria:** NR	**Programme/Intervention description:** Oral health and nutrition educational intervention lasting 8 to 10 minutes, including use of puzzles, colouring sheets, a Tooth brushing and Hand washing song, a Magic Brush Bag and a healthy food education module. **Control/Comparator description:** No intervention. **Total sample** n=105 **Intervention** n=NR **Comparator** n=NR **Baseline comparisons:** NR	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Oral health behaviour (toothbrush, toothpaste and floss use) assessed via child completed questionnaire at baseline, end of intervention and 2 weeks post intervention. **Determinant outcomes:** Oral health knowledge (benefits of brushing teeth) and oral health attitudes (towards tooth brushing and dentists) assessed via child completed questionnaire at baseline, end of intervention and 2 weeks post intervention. Nutrition Attitudes (feelings towards various foods), assessed via child completed questionnaire at baseline, end of intervention and 2 weeks post intervention **Follow-up periods:** Two weeks post intervention (85.7% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Intervention n=47 Comparator n=43 Intervention vs. Comparator Oral Health Behaviour: No significant difference, F=2.16; p=0.15 **Determinant:** Intervention n=47 Comparator n=43 Intervention vs. Comparator Oral Health Knowledge: No significant difference, F=3.36; p=0.07 Intervention vs. Comparator Oral Health Attitudes: No significant difference, F=1.86; p=0.18 Intervention vs. Comparator Nutrition Attitude: No significant difference, F=0.97; p=0.33	**Limitations identified by author:** Brief intervention; small sample size; no assessment of classroom or teacher influences on outcomes. **Limitations identified by review team:** Number of eligible children participating in the study was not reported; unclear if differences existed between total eligible and participants. Randomisation methods not reported. Allocation methods not reported; unclear if allocation was concealed. A power analysis was conducted; no information on whether the number of participants included in the analysis were sufficient. Outcomes assessed via interview with 3 to 5 year old children only; reported behavoiurs not corroborated by parent or teacher report. No intention to treat analysis; 15 participants lost to follow-up; no information of differences between completers and drop-outs reported. Difference between groups assessed using a mixed effect model adjusting for pre-score on the variable, race, language of interview, and group allocation. **Evidence gaps:** NR **Source of funding:** National Children's Oral Health Foundation

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Hardman et al. **Year:** 2007 **Country of study:** UK (England) **Aim of study:** To assess the effect of a school based fluoride varnish programme on dental caries in children. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** -	**Source Population/s:** Children attending state primary schools in a relatively deprived communities. **Participant characteristics:** Age 6.9 (baseline mean) Sex 51% male/49% female Sexual orientation NA Disability NR Ethnicity Caucasian 87-88%, non-white 12-13% Religion NR Occupation NA Education NA SES Townsend scores -0.53 to 10.77 (range) [England and Wales range: -6.78 to 15.54] Fluoridation Non-fluoridated area **Inclusion criteria:** Children aged 6-7 (year 2) or 7-8 (year 3) attending eligible state primary schools in Manchester. **Exclusion criteria:** No parental consent.	**Programme/Intervention description:** Colgate Duraphat varnish (22,600ppm F) was applied twice a year for two years by a dental therapist; teeth were dried and fluoride applied to the primary and primary molars and first permanent molars using a small brush. Children also received a toothbrush and fluoride toothpaste (1,450ppm F) prior to baseline and final examinations. **Control/Comparator description:** No fluoride varnish, children in comparator classes received a toothbrush and fluoride toothpaste (1,450ppm F) prior to baseline and final examinations. **Total sample** n=48 classes (914 participants) **Intervention** n=24 classes (457 participants) **Comparator** n=24 classes (457 participants) **Baseline comparisons:** None reported	**Oral Health outcomes:** Caries (dmf/DMF) of the primary molars and first permanent molars according to severity (d1 small enamel lesions; d2 large enamel lesions; d3 dentine lesions). Assessed using a combined fibre optic transsillumination (FOTI)/visual exam method. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 2 years (76 to 79% follow-up)	**Oral Health:** Intervention n=334 for all outcomes Comparator n=330 for all outcomes Increment d3fs, mean Intervention: 1.52 Comparator: 1.49 Difference (SE): 0.01 (0.18) 95% CI -0.34 to 0.37; p=0.94 d3fs increment >0, n (%) Intervention: 176 (53%) Comparator: 165 (50%) Difference (SE): -0.11 (0.15) 95% CI -0.41 to 0.20; p=0.49 Increment d2fs, mean Intervention: 0.72 Comparator: 0.97 Difference (SE): 0.28 (0.20) 95% CI -0.12 to 0.67; p=0.17 d2fs increment >0, n (%) Intervention: 142 (43%) Comparator: 136 (41%) Difference (SE): -0.06 (0.15) 95% CI -0.36 to 0.24; p=0.70 Increment d1fs, mean Intervention: 0.71 Comparator: 1.12 Difference (SE): 0.48 (0.22) 95% CI 0.048 to 0.91; p=0.03 d1fs increment >0, n (%) Intervention: 151 (45%) Comparator: 157 (48%) Difference (SE): 0.13 (0.15) 95% CI -0.16 to 0.43; p=0.38 D3FS increment >0, n (%) Intervention: 51 (16%) Comparator: 63 (19%) Difference (SE): 0.25 (0.21) 95% CI -0.15 to 0.65; p=0.22 D2FS increment >0, n (%) Intervention: 89 (27%) Comparator: 102 (31%) Difference (SE): 0.22 (0.17) 95% CI -0.11 to 0.55; p=0.20 D1FS increment >0, n (%) Intervention: 150 (45%) Comparator: 151 (46%) Difference (SE): 0.05 (0.15) 95% CI -0.24 to 0.35; p=0.36	**Limitations identified by author:** Poor response and consent may have contributed to lack of observed effect. Comparator group caries increment was lower than that observed in the source population; low caries level in the sample may have arisen due to selection bias and account for lack of significant effect. **Limitations identified by review team:** Low participation (43.7%), no information provided on differences between participating and non-participanting students. ITT analysis not conducted; only those children present at the follow-up examination were analysed. Classes were randomised within each school; in half the schools year 2 children received the fluoride varnish programme and year 3 children served as controls, in the other half of schools year 2 children served as controls and year 3 children received the fluoride varnish. Differences (SE), 95% CIs and p-values from Generalised Estimating Equation (GEE) taking clustering into account, and including age as a covariate. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Harrison et al. **Year:** 2003 **Country of study:** Canada **Aim of study:** To assess the effect of a community dental facilitator programme on dental service utilisation among low income children. **Study Design:** Before and after **Quality Score:** - **External validity:** -	**Source Population/s:** Children grade 2 and up living in an urban, low-income neighbourhood in Vancouver, BC Canada. **Participant characteristics:** Age NR Sex NR Sexual orientation NA Disability NR Ethnicity Language spoken at home: Chinese 60%, Vietnamese 13%, English 12% Religion NR Occupation NR Education NR SES 68% of families in area considered low-income Fluoridation NR **Inclusion criteria:** Identified as in need of treatment during needs assessment screening **Exclusion criteria:** NR	**Programme/Intervention description:** Three trained, community-based facilitators sent letters to parents (in their language spoken at home) and attended community events in order to inform families of their role in facilitating access to publicly funded dental services (the Healthy Kids programme). Facilitators assessed individual family eligibility to publicly funded programmes, worked with financial assistance workers, assisted parents in completing application forms, and worked with the Ministry of Health to expedite the process. Once Healthy Kids funding was obtained, facilitators recommended several dentists to each family (taking into consideration language spoken, transportation issues and office hours) and advised parents on booking an appointment. Facilitators occasionally escorted the child to the appointment (if parents signed a release form) and managed cases if children had special treatment needs. **Control/Comparator description:** Prior to start of facilitator programme. **Total sample** n=128 **Intervention** n=128 **Comparator** n=128 **Baseline comparisons:** NA	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Receipt of Healthy Kids benefits, methods of assessment NR **Determinant outcomes:** NA **Follow-up periods:** 1 year (% follow-up NR)	**Oral Health:** NA **Modifiable risk factor:** Receipt of Healthy Kids benefits, n (%) Before: 23 (17.2%) After: 71 (55.5%) Difference (received benefits as result of project): 48 (32.8%) **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** 20% of originally screened individuals were lost to follow-up and did not participate in the programme. Programme included 30 children who self-referred by contacting the facilitators directly, and was not restricted to those children identified through needs assesment and screening. No analysis conducted, no confounders adjusted for. No power calculation or expected effect size reported. Enrollment in Healthy Kids programme as an outcome does not assess whether children acessed care. 123 were identified by screening as requiring treatment and 98 (79.7%) participated in the programme; and additional 30 children 'self-referred' into the programme after hearing about it. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Hedman et al. **Year:** 2010 **Country of study:** Sweden **Aim of study:** To evaluate the effect of a school-based lecture on the attitudes towards and use of tobacco among secondary school students at risk for poor oral health. **Study Design:** Cluster non-randomised controlled trial **Quality Score:** - **External validity:** -	**Source Population/s:** Students between the aged 12 and 15 years, born in Uppsala County in 1989 and 1992 who were assessed as being at high risk for oral diseases. **Participant characteristics:** Age 12 and 15 Sex 51% male/49% female Sexual orientation NR Disability NR Ethnicity 9% born abroad; no ethnicity reported Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** A dental hygienist and a dental nurse delivered a 40 minute interactive lecture at the schools addressing oral health and tobacco use. The lecture addressed the content of tobacco, its effect on the body, addiction, cost of use, risks of passive smoking and environmental consequences. Attitude and value training addressed reasons to use or not use tobacco, peer pressure, legislation and attitudes towards users. **Control/Comparator description:** No intervention. **Total sample** n=198 **Intervention** n=91 **Comparator** n=107 **Baseline comparisons:** Fewer individuals in the intervention group stated they had good oral health at baseline versus the comparator group.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Use of tobacco, assessed via student completed questionnaire **Determinant outcomes:** Attitudes towards tobacco, assessed via student completed questionnaire **Follow-up periods:** 8 to 10 months (100% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Participants that smoke tobacco, % Before Intervention: 4% Comparator: 8% 95% CI and p-value NR After Intervention: 5% Comparator: 7% 95% CI and p-value NR Participants that use snuff, % Before Intervention: 6% Comparator: 5% 95% CI and p-value NR After Intervention: 5% Comparator: 7% 95% CI and p-value NR **Determinant:** Attitudes towards tobacco use, % Before No significant differences in questionnaire responses between the lecture and comparator groups regarding attitudes towards tobacco use. After, Intervention %/Control % Tobacco is expensive: 53%/49%; p-value NR Tobacco smells bad: 58%/65%; p-value NR Tobacco is harmful: 74%/76%; p-value NR Parents don't want me to use: 49%/43%; p-value NR Use is not popular: 22%/16%; p-value NR Friends do not use: 29%/21% Boy/girlfriend don't want me to use: 57%/35%; p-value NR In favour of: bans in discotheques: 73%/71%; p-value NR bans in schoolyard: 80%/83%; p-value NR bans in the media: 60%/62%; p-value NR more education at school: 38%/43%; p-value NR Not in favour of cheaper tobacco: 80%/70%; p-value NR As an adult I will: not have tried smoking: 45%/41%; p-value NR have tried smoking: 25%/32%; p-value NR smoke sometime: 8%/10%; p-value NR smoke everyday: 2%/2%; p-value NR	**Limitations identified by author:** Proportion of participants reporting tobacco use was lower than the population based prevalence in the age group, suggesting that among the 33% of eligible individuals who refused to participate, current tobacco use may have been a motivating factor. Low reported rates could also reflect unwillingness to admit to use among participants. **Limitations identified by review team:** Eligibility depended upon registration and screening at a dental clinic; may have missed key at risk groups of adolescents who do not utilise dental services. 33% of invited students refused to participate; no information on differences between enrolees and refusers was provided. Allocation was not randomised; groups were clustered according to dental clinic in order to balance group size. Power calculation reportedly conducted; no information on sample size required. Outcomes assessed via questionnaire; questionnaires reported to have been used in other studies, however, no information was reported on validity of the measure. **Evidence gaps:** NR **Source of funding:** Government funding.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Jackson et al. **Year:** 2005 **Country of study:** UK (England) **Aim of study:** To assess the effect of a school based supervised tooth brushing (with fluoridated toothpaste) programme on dental caries in primary school children. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Children in their first year of primary school in Kensington, Chelsea and Westminster, London, UK. **Participant characteristics:** Age 5.61 (mean) Sex 52.8% male/47.2% female Sexual orientation NA Disability NR Ethnicity School catchment area served a high ethnic populations; specific ethnicities NR Religion NR Occupation NA Education NA SES School catchment area served neighbourhoods of social deprivation; no measures reported Fluoridation No fluoridated drinking water (<0.3ppm) **Inclusion criteria:** Children in the first term of their first year of primary school. **Exclusion criteria:** NR	**Programme/Intervention description:** Children in intervention schools brushed daily with fluoride toothpaste (1,450ppm) with a junior toothbrush (both provided by Crest). Trained teachers supervised the brushing, after lunch but before afternoon school. No additional oral health education or toothpaste for home use were provided. **Control/Comparator description:** No supervised tooth brushing. **Total sample** n=NR schools, 517 participants **Intervention** n=NR schools, 259 participants **Comparator** n=NR schools, 258 participants **Baseline comparisons:** Schools randomised to balance number of participants in intervention and comparator groups; no other factors were balanced during randomisation, including baseline caries. Adjusted analyses controlled for baseline caries.	**Oral Health outcomes:** dmfs, DMFS, measured by visual assessment only using BASCD criteria and a portable lamp for illumination. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 21 months (72% follow-up)	**Oral Health:** Completer analysis Intervention n=181 Comparator n=189 Adjusted caries increment total - DMFS + dmfs, mean (95% CI) Intervention: 2.60 (1.84 to 3.36) Comparator: 2.92 (2.18 to 3.66) Difference: 0.32 (10.9% difference) 95% CI NR; p<0.001 Adjusted caries increment permanent - DMFS, mean (95% CI) Intervention: 0.16 (0.04 to 0.27) Comparator: 0.15 (0.04 to 0.26) Difference: NS (95% CI and p-value NR) Adjusted caries increment primary, dmfs (95% CI) Intervention: 2.43 (1.67 to 3.20) Comparator: 2.76 (2.02 to 3.51) Difference: 0.33 95% CI NR, p<0.001 Adjusted caries increment proximal surfaces - DMFS + dmfs, mean (95% CI) Intervention: 0.78 (0.45 to 1.11) Comparator: 1.03 (0.71 to 1.34) Difference: 95% CI NR; p<0.01 Adjusted caries increment occlusal surfaces - DMFS + dmfs, mean (95% CI) Intervention: 1.11 (0.91 to 1.31) Comparator: 1.03 (0.83 to 1.23) Difference: NS (95% CI and p-value NR) Adjusted caries increment smooth surfaces - DMFS + dmfs, mean (95% CI) Intervention: 0.73 (0.37 to 1.09) Comparator: 0.83 (0.48 to 1.18) Difference: NS (95% CI and p-value NR) Subgroup analysis excluding caries free at baseline Intervention n=113 Comparator n=96 Adjusted caries increment total - DMFS + dmfs, mean (95% CI) Intervention: 3.30 (2.17 to 4.44) Comparator: 4.58 (3.35 to 5.82) Difference: 1.39 (30.0% difference) 95% CI NR; p<0.001 Adjusted caries increment proximal surfaces - DMFS + dmfs, mean (95% CI) Intervention: 0.99 (0.49 to 1.48) Comparator: 1.59 (1.05 to 2.12)	**Limitations identified by author:** NR **Limitations identified by review team:** Selection methods not defined; proportion of eligible schools that agreed to participate not reported. Randomisation methods not reported. Allocation methods not reported; unclear if allocation was concealed. Intention to treat analysis not conducted; completers and total cohorts had similar baseline DMFS + dmfs. Clustering not reported as accounted for in analyses. **Evidence gaps:** NR **Source of funding:** Toothpaste and toothbrushes supplied by Proctor & Gamble; Research funded from the Biscuit, Cake, Chocolate and Confectionery Association, the British Soft Drinks Associate and the Sugar Bureau.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Difference: 0.60 (37.7%) 95% CI NR; p<0.01 Adjusted caries increment occlusal surfaces - DMFS + dmfs, mean (95% CI) Intervention: 1.37 (1.11 to 1.62) Comparator: 1.49 (1.22 to 1.76) Difference: NS (95% CI and p-value NR) Adjusted caries increment smooth surfaces - DMFS + dmfs, mean (95% CI) Intervention: 0.98 (0.42 to 1.55) Comparator: 1.47 (0.86 to 2.08) Difference: 0.49 (33.3%) 95% CI NR; p=0.001 **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Kaneko et al. **Year:** 2006 **Country of study:** Japan **Aim of study:** To assess the long-term effectiveness of a school based fluoride mouth rinse programme on caries risk in children. **Study Design:** Prospective cohort study **Quality Score:** + **External validity:** +	**Source Population/s:** Children attending two primary schools in Japan. **Participant characteristics:** Age 9-10 (range) Sex 48.3% male (intervention), 40.9% male (comparator) Sexual orientation NA Disability NR Ethnicity 100% Japanese Religion NR Occupation NA Education NA SES NR Fluoridation low water fluoridation (<0.2ppm) **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Teacher supervised daily FMR (500ppm NaF) after lunch at nursery school for two years (aged 5-6) and teacher supervised weekly FMR (2,000ppm NaF) at 10 a.m. at elementary school from age 7. Plus standard care (yearly dental health education from a dental hygienist, routine education regarding tooth brushing instructions and advice to limit sweets consumption from the school nurse, teachers and school dentist). **Control/Comparator description:** No FMR programme (standard care comprised of yearly dental health education from a dental hygienist, routine education regarding tooth brushing instructions and advice to limit sweets consumption from the school nurse, teachers and school dentist). **Total sample** n=215 **Intervention** n=149 **Comparator** n=66 **Baseline comparisons:** None reported.	**Oral Health outcomes:** DFT, assessed during clinical exam using dental mirrors and explores. No bite-wing radiographs used. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 1 year (100%)	**Oral Health:** DFT at age 9 to 10, mean (SD) Intervention: 0.12 (0.43) Comparator: 1.67 (1.69) 95% CI NR; p<0.001 1 year increment DFT, mean (SD) Intervention: 0.05 (0.36) Comparator: 0.59 (1.21) 95% CI NR; p<0.001 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** Method for selecting schools/participants not described; % agreeing to participate not reported. No power calculation or expected effect size was reported. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Ketley et al. **Year:** 2003 **Country of study:** UK (England) **Aim of study:** To evaluate the effectiveness of a fluoridated school milk programme on dental caries in the primary and first permanent molars and incisors of children. **Study Design:** Prospective cohort study **Quality Score:** + **External validity:** +	**Source Population/s:** Nursery and primary school in Knowsley and Skelmersdale. **Participant characteristics:** Age 4.8-4.9 (mean baseline age) Sex 52.3% male Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES 'areas of substantial deprivation' Fluoridation NR **Inclusion criteria:** Schools were included if they exhibited high fluoridated milk programme uptake (80-100%). Of these, the five with the highest mean dmft at age 5 were selected. Comparator schools had similar mean dmft at age 5, and similar Townsend Deprivation scores. **Exclusion criteria:** NR	**Programme/Intervention description:** Beginning in 1997, children attending nursery or primary school in Knowsley received fluoridated milk (0.5mg per 189ml; 2.65ppm) five days per week. Milk is consumed through drinking straws mid-morning. **Control/Comparator description:** Daily consumption of non-fluoridated milk. **Total sample** n=11 schools, 874 participants **Intervention** n=5 schools, 478 participants **Comparator** n=6 schools, 396 participants **Baseline comparisons:** Of participants who completed the 4 year follow-up examination, those in the intervention group had significantly higher mean d3mft of the primary molars at baseline; 4 year increment and differences between intervention and comparator group adjusted for baseline d3mft and d3fs.	**Oral Health outcomes:** d3mft (primary molars), d3fs (primary molars), D3MFT and D3FS, assessed using fibre-optic transillumination and categorised according to the caries diagnostic criteria of the British Association for the Study of Community Dentistry. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 4 years (63.0% follow-up)	**Oral Health:** Intervention n=318 for all analyses. Comparator n=233 for all analyses. Adjusted 4 year increment dmft primary molars, mean (SE) Intervention: 2.31 (0.12) Comparator: 1.91 (0.14) Difference: 0.40 95% CI 0.04 to 0.75; p-value NR Adjusted 4 year increment of dfs primary molars, mean (SD) Intervention: 4.50 (0.27) Comparator: 4.11 (0.32) Difference: 0.38 95% CI -0.45 to 1.21; p-value NR DMFT at age 7 to 9, mean (SD) Intervention: 0.40 (0.85) Comparator: 0.40 (0.87) Difference: 0.00 95% CI -0.15 to 0.14; p-value NR DFS at age 7 to 9, mean (SD) Intervention: 0.45 (1.12) Comparator: 0.55 (1.35) Difference: -0.10 95% CI -0.30 to 0.11; p-value NR **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Participating communities had low average DMFT prevalence, which makes detecting an effect on permanent dentition difficult. Methodological limitations include high drop out rates (comparison of mean baseline dmft between completers and non-completers suggests that those who dropped out of the intervention had lower dmft than those who left the comparator schools), imbalances in baseline dmft. **Limitations identified by review team:** Eligible schools included those with high uptake of fluoridated milk programme (6/36 area schools); results not generalisable to all schools participating in fluoridated milk programmes. Study likely underpowered due to higher than expected drop out rate (37%) and lower than expected effect size. Analysis did not account for clustering. Both fluoridated milk drinkers and non-drinkers were included from the intervention schools. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Komiyama et al. **Year:** 2012 **Country of study:** Japan **Aim of study:** To assess the effect of a school-based fluoride mouth rinsing programme (s-FMR) among elementary school children in Japan. **Study Design:** Cross sectional **Quality Score:** + **External validity:** +	**Source Population/s:** First year students from seven municipal junior high schools in Japan. **Participant characteristics:** Age 12 years Sex s Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education 100% in first year of junior high school SES NR Fluoridation No systemic fluoridation in the municipality **Inclusion criteria:** **Exclusion criteria:**	**Programme/Intervention description:** Ten elementary schools had participated in a school-based fluoride mouth rinse (s-FMR) programme. Children who had attended these schools made up the exposure group, and had participated in the programme for six years and used 10mL of 0.2% sodium fluoride solution (900ppm) for 60 seconds each week. **Control/Comparator description:** Nine elementary schools introduced the s-FMR programme during the 2005 school year. Children who had attended these schools made up the comparator group as they were exposed to FMR for less than one year (the last year of elementary school). **Total sample** n=881 **Intervention** n=599 **Comparator** n=282 **Baseline comparisons:** NR	**Oral Health outcomes:** DMFT prevalence (mean and proportion of children) DMFS prevalence (mean and proportion of children) **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** Proportion of children with DMFT s-FMR exposed: 46.1% comparator: 64.9% p<0.05 DMFT, mean (SD) s-FMR exposed: 1.28 (NR) comparator: 2.02 (NR) 95% CI NR; p<0.05 Proportion of children with DMFS s-FMR exposed: 46.1% comparator: 64.9% 95% CI NR; p<0.05 DMFS, mean (SD) s-FMR exposed: 2.05 (NR) comparator: 3.69 (NR) 95% CI NR; p<0.05 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** Confounding variables were not controlled for in the analysis and no information was provided on differences between exposure and comparison schools. No power calculation or expected effect size were reported. Gender was the only additional explanatory variable reported to have been included in the analysis. During the data analysis, the authors assumed that children in the exposed and comparator groups had not differences in dental caries at the time of entering elementary school. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Levin et al. **Year:** 2009 **Country of study:** UK (Scotland) **Aim of study:** To evaluate the effects of an existing school based fluoride mouth rinsing programme on dental caries in populations stratified by socioeconomic status. **Study Design:** Cross sectional **Quality Score:** + **External validity:** ++	**Source Population/s:** Children aged 11 years taking part in the annual dental survey for the National Dental Inspection Programme in Edinburgh, Scotland. **Participant characteristics:** Age Mean 11.39 years (range 10.70 to 12.65) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education Primary and secondary school. SES Children were from the full range of Carstairs Deprivation Categories, DepCat 1 (most affluent) to 7 (most deprived). DepCat 1 n= 80; DepCat 2 n=206; DepCat 3 n=248; DepCat 4 n=443; DepCat 5 n=156; DepCat 6 n=138; DepCat 7 n=62 Fluoridation No artificial water fluoridation. **Inclusion criteria:** Children aged 11 taking part in the detailed examination for the annual dental survey for the National Dental Inspection Programme in Edinburgh, Scotland. **Exclusion criteria:** NR	**Programme/Intervention description:** An existing school based fluoride mouth rinsing programme in state run primary schools. Children aged 11 taking part in this programme were identified as those with recorded parental consent to take part. In the programme children aged 6 to 11 rinse fortnightly for 2 minutes with 0.2% NaF solution at school under supervision. Programmes were targeted at schools with higher prevalence of D3MFT, and started in 1967. **Control/Comparator description:** Children aged 11 who did not have recorded parental consent to take part in the fluoridation programme. **Total sample** n=1,333 **Intervention** n=661 (rinsers) **Comparator** n=672 (non-rinsers) **Baseline comparisons:** Children from schools that took part in fluoride rinsing schemes had greater mean deprivation levels (mean Carstairs score 0.78, SD 2.61) than those from schools not taking part in fluoride rinsing schemes (mean Carstairs score -1.52, SD 2.78).	**Oral Health outcomes:** D3MFT status (D3MFT=0 or D3MFT>0) Mean D3MFT2 **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** Children who used fluoride rinse (% total children per DepCat) DepCat 1 n=21 (26%) DepCat 2 n=21 (10%) DepCat 3 n=85 (34%) DepCat 4 n=311 (70%) DepCat 5 n=84 (54%) DepCat 6 n=107 (78%) DepCat 7 n=32 (52%) Children who did not use fluoride rinse DepCat 1 n=59 DepCat 2 n=185 DepCat 3 n=163 DepCat 4 n=132 DepCat 5 n=72 DepCat 6 n=31 DepCat 7 n=30 Proportion with D3MFT= 0 among rinsers vs. non-rinsers DepCat 1: 81% vs. 59%; p=0.048 (CI not reported) DepCat 2: 76% vs. 70%; p=0.530 (CI not reported) DepCat 3: 60% vs. 49%; p=0.070 (CI not reported) DepCat 4: 49% vs. 55%; p=0.192 (CI not reported) DepCat 5: 49% vs. 49%; p=0.978 (CI not reported) DepCat 6: 53% vs. 55%; p=0.864 (CI not reported) DepCat 7: 31% vs. 33%; p=0.846 (CI not reported) Total: 52% vs. 57%; p=0.077 (CI not reported) Mean D3MFT (95% CI) among rinsers vs. non-rinsers DepCat 1: 0.33 (-0.02 to 0.69) vs. 0.83 (0.55 to 1.11); p=0.036 (CI for difference not reported) DepCat 2: 0.43 (0.05 to 0.81) vs. 0.66 (0.50 to 0.83); p=0.269 (CI for difference not reported) DepCat 3: 0.69 (0.49 to 0.90) vs. 1.38 (1.11 to 1.65); p=0.000 (CI for difference not reported) DepCat 4: 1.32 (1.15 to 1.49) vs. 1.42 (1.02 to 1.82); p=0.633 (CI for difference not reported) DepCat 5: 1.14 (0.87 to 1.42) vs. 1.31 (0.98 to 1.63); p=0.458 (CI for difference not reported) DepCat 6: 1.13 (0.84 to 1.42) vs. 1.00 (0.52 to 1.48); p=0.648 (CI for difference not	**Limitations identified by author:** The study was observational rather than experimental, with children and schools not randomly assigned to rinsing or not rinsing. This introduces the possibility of selection bias, with those who participate in the rinse scheme potentially being more motivated to pursue good oral health. Potential confounding factors including individuals' use of fluoride toothpaste, other sources of fluoride, or consumption of sugary snacks, was not known. Some children may have had less exposure to fluoride than others if they moved into the fluoride-rinsing school more recently, and some who initially received fluoride may have been counted as not receiving it if they moved to a non-fluoride rinsing school. Children from more deprived families attending fluoride rinsing schools may have less exposure due to higher levels of absenteeism. Use of an area based deprivation measure may not give a true indication of the individual's deprivation level. **Limitations identified by review team:** Receipt or non-receipt of fluoride rinse was not randomised therefore there may be selction bias. Fluoride rinse was targetted at schools with poor dental health so rinsers may have had poorer oral health to begin with. No power calculation was reported. **Evidence gaps:** Research to investigate how to encourage children at high risk of caries to take part in the fluoride rinse programme. Future research on the effects of the fluoride rinse programme should take into account oral hygiene practices in the children as well as diet and in- and out migration from the fluoride rinse schools. **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				reported) DepCat 7: 2.16 (1.50 to 2.81) vs. 2.47 (1.45 to 3.49); p=0.618 (CI for difference not reported) Total: 1.17 (1.06 to 1.28) vs. 1.17 (1.04 to 1.30); p=0.997 (CI for difference not reported) A multivariable logistic regression found that the following were significantly associated with the odds of having D3MFT>0: Rinsing: OR 0.79, 95% CI 0.65 to 0.96 (i.e. odds of having D3MFT is reduced with rinsing) Age: OR 1.31, 95% CI 1.04 to 1.65 DepCat 3 (vs. DepCat 1): OR 1.58, 95% CI 1.03 to 2.40 DepCat 4 (vs. DepCat 1): OR 2.08, 95% CI 1.39 to 3.11 DepCat 5 (vs. DepCat 1): OR 1.68, 95% CI 1.08 to 2.60 DepCat 7 (vs. DepCat 1): OR 3.11, 95% CI 1.84 to 5.26 The other factors included in the model did not have a significant impact (gender, DepCat 2 and 6). There was no interaction between the effects of rinsing and deprivation i.e. its effects do not vary in individuals of different DepCat levels. **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Livny et al. **Year:** 2008 **Country of study:** Israel **Aim of study:** The assess the effect of an educational programme on teeth brushing skills of school children. **Study Design:** Before and after **Quality Score:** + **External validity:** +	**Source Population/s:** First grade school children in Jerusalem from five primary schools in Jerusalem participating in a municipal health education programme. **Participant characteristics:** Age NR Sex NR Sexual orientation NR Disability NR Ethnicity NR Religion Religious and secular Jewish Occupation NA Education First grade students SES Medium-low socioeconomic levels Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** All children were given a toothbrush and toothpaste as part of the standard health education programme followed by three weekly dental health education sessions provided by a dental hygienist, with an emphasis on manual tooth brushing skills and technique. Programme included individual training, supervised brushing and verification of proper brushing technique. Health education regarding the use of fluoridated toothpaste and healthy dietary habits was also provided. **Control/Comparator description:** NR. **Total sample** n=227 **Intervention** n=227 **Comparator** n=227 **Baseline comparisons:** None reported.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Oral Hygiene behaviours: Proportion of children brushing once a day. Proportion of children brushing twice a day. Mean number of sections brushed (out of eight: buccal surfaces of maxillary and mandibular front teeth, buccal surfaces of maxillary posterior, buccal mandibular posterior, occlusal posterior, lingual maxillary front, lingual mandibular front, lingual maxillary posterior, lingual mandibular posterior). Dietary behaviours: Proportion of children bringing sandwiches with sweetened spreads to school (e.g. chocolate, jelly). Proportion of children bringing sweetened soft drinks to school. **Determinant outcomes:** NA **Follow-up periods:** Four months (87% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Children brushing once a day, n (%) n=189 Before: 127 (67.2%) After: 24 (12.6%) 95% CI NR; p<0.0001 Children brushing twice a day, n (%) n=189 Before: 62 (32.8%) After: 165 (97.4%) 95% CI NR; p<0.0001 Mean number of sections brushed, mean (SD) Before: 2.86 (1.82) After: 5.76 (2.21) Difference: 2.90 (95% CI 2.59 to 3.20) 95% CI NR; p<0.0001 Children bringing sandwiches with sweetened spreads to school, n (%) n=NR Before: NR (37.7%) After: NR (33.2%) 95% CI NR; p=NS Children bringing sweetened soft drinks to school, n (%) n=NR Before: NR (22.4%) After: NR (13.3%) 95% CI NR; p=0.01 **Determinant:** NA	**Limitations identified by author:** Study population not representative of the whole of Jerusalem; Same examiner used for before and after evaluations and was aware that students were participating in the programme; daily brushing habits assessed by child self-report; children were aware their brushing technique was being examined and after measures may not align with daily practice. **Limitations identified by review team:** Recruitment methods not reported; all eligible schools were in neighborhoods where municipal dental hygienists were currently working. Selection method not well described ('purposively chosen' was the only descriptor). No inclusion or exclusion criteria, or information on the proportion of eligible schools that were selected was provided. Dietary outcomes assessed via child self-report. **Evidence gaps:** Unknown whether effect is maintained over the longer term. **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Macnab et al. **Year:** 2007 **Country of study:** Canada **Aim of study:** To assess the oral health of Aboriginal school children in Canada before and after the introduction of a school based oral health education and promotion programme. **Study Design:** Before and after **Quality Score:** - **External validity:** -	**Source Population/s:** School-aged children (kindergarten through grade 10) in a remote First Nations community. **Participant characteristics:** Age 10 years (mean baseline), 11.5 years (mean 3-year follow-up) Sex NR Sexual orientation NA Disability NR Ethnicity 100% Aboriginal (Canadian) Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** Attending the community school. **Exclusion criteria:** NR	**Programme/Intervention description:** Three year school based oral health education and promotion programme consisting on daily brush-ins supervised by teachers and/or a community health director, weekly fluoride mouth rinse, fluoride varnish application three times in ten days every four months (for children under the age of nine years), education presentations in the classroom by paediatric residents, and dental health guidance during well-baby and well-child visits. **Control/Comparator description:** NA (before intervention) **Total sample** n=98 **Intervention** n=40 (post intervention) **Comparator** n=58 (pre intervention) **Baseline comparisons:** None reported	**Oral Health outcomes:** dmfs/DMFS*, method of assessment not reported cavity free status decay free status **Modifiable risk factor outcomes:** oral health habits, assessed via questionnaire **Determinant outcomes:** NA **Follow-up periods:** 3 years (data available for 67% of children)	**Oral Health:** before n=26 (44.8%), after n=40 (100%) for all oral health analyses dmft*, mean (SD) before: 20.1 (18.2) after: 20.4 (19.2) reported as NS; 95% CI and p-value NR ds, mean (SD) before: 4.1 (5.4) after: 3.6 (3.5) reported as NS; 95% CI and p-value NR ms, mean (SD) before: 5.9 (12.9) after: 4.3 (9.6) reported as NS; 95% CI and p-value NR fs, mean (SD) before: 10.1 (9.9) after: 12.5 (10.6) reported as NS; 95% CI and p-value NR DMFT*, mean (SD) before: 5.5 (6.2) after: 6.1 (8.5) 95% CI NR, p<0.05 DS, mean (SD) before: 3.4 (0.8) after: 1.6 (0.5) 95% CI NR, p<0.0001 MS, mean (SD) before: 0.7 (2.1) after: 0 (0) 95% CI NR, p=0.000 FS, mean (SD) before: 1.5 (2.3) after: 4.5 (6.2) 95% CI NR, p=0.001 Total dmft/DMFT* before: 18.7 (18.2) after: 14.9 (14.1) reported as NS; 95% CI and p-value NR Total caries free, n (%) before: 2 (8%) after: 12 (30%) reported as NS; 95% CI and p-value NR **Modifiable risk factor:** before n=58 (100%), after n=40 (100%) for all oral hygiene and diet analyses	**Limitations identified by author:** NR **Limitations identified by review team:** 44.8% of before intervention group selected for dental examination; methods of selecting this sample were not reported, nor were differences between selected and not selected children. Confounding variables not reported, no discussion of additional variables controlled for in analysis. No power calculation nor expected effect size reported; unclear if sample size was sufficient to detect an effect. Methods of assessing dental caries not reported; inconsistencies in reporting of assessment level (surface vs. tooth) inhibits interpretation of results. No confounders or additional explanatory variables were reported as accounted for in the analyses. Lack of adjustment for potential confounders and inclusion of less than half of the pre-intervention group undermines statistical analyses. *primary outcomes reported as dmfs/DMFS in methods section, but dmft/DMFT in results. Twenty-six children (45% of children in the community) assessed prior to the intervention. All 40 children in the community were assessed at follow-up. 13 children had data both pre- and post-intervention. Oral examinations of 26 before group children based on a convenience sample due to restrictions in dentist's time; methods of selecting sample NR. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Oral hygiene Toothbrushing daily at home, n (%) before: 55 (95%) after: 30 (75%) 95% CI NR, p=0.01 Toothbrushing daily at school, n (%) before: 0 (0%) after: 40 (100%) 95% CI NR, p<0.0001 Annual dental visit, n (%) before: 44 (76%) after: 40 (100%) 95% CI NR, p=0.002 Diet Eat confectionary <three times/week, n (%) before: 5 (9%) after: 25 (63%) 95% CI NR, p<0.0001 Sugar sweetened drinks <three times/week, n (%) before: 11 (19%) after: 23 (58%) 95% CI NR, p=0.0002 **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Macpherson et al. **Year:** 2013 **Country of study:** UK (Scotland) **Aim of study:** To assess the association between a national nursery-based tooth brushing programme (Childsmile) and dental decay in five year old children, and to evaluate the effect on oral health inequalities in Scotland. **Study Design:** Interrupted time series **Quality Score:** ++ **External validity:** ++	**Source Population/s:** Five year old children in Scotland between 1987 and 2009. **Participant characteristics:** Age 3-4 (range) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation No water fluoridation; fluoride supplement use not recommended; fluoride varnish programmes did not begin until 2009. **Inclusion criteria:** Five year old children for whom cross-sectional data was available from the 1987 to 2009 dental epidemiology surveys. **Exclusion criteria:** NA	**Programme/Intervention description:** Childsmile involved daily supervised tooth brushing in nurseries, and distribution by nurseries of fluoride toothpaste for use at home. **Control/Comparator description:** Pre-intervention, no standard daily supervised tooth brushing. **Total sample** n=99,071 **Intervention** NR **Comparator** NR **Baseline comparisons:** NR	**Oral Health outcomes:** d3mft at five years old, collected as part of national dental epidemiological surveys. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 15 years (7% to 25% of 5 year old children inspected)	**Oral Health:** d3mft, national 3 year mean (SD) Pre-programme (years -2 to 0): 3.06 (3.76) Post-programme (years 10 to 12): 2.07 (3.16) Difference: -0.99 (95% CI -1.08 to -0.90) p<0.001 Subgroup analysis (deprivation) Deprivation Categories 6-7 (most deprived) Pre-programme (years -2 to 0): 4.48 (4.12) Post-programme (years 10 to 12): 2.77 (3.59) Difference: -1.71 (95% CI -1.93 to -1.49) p=NR Deprivation Categories 1-2 (least deprived) Pre-programme (years -2 to 0): 1.52 (2.63) Post-programme (years 10 to 12): 1.10 (2.29) Difference: -0.43 (95% CI -0.60 to -0.25) p=NR **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Lack of individual school and child level data on programme participation. **Limitations identified by review team:** No additional limitations. **Evidence gaps:** NR **Source of funding:** Government funding.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Marino et al. **Year:** 2004 **Country of study:** Australia **Aim of study:** To assess the effectiveness of an oral health promotion programme on the use of oral health services, oral health knowledge, attitudes and behaviours of older adults attending community centres. **Study Design:** Non-randomised controlled trial **Quality Score:** - **External validity:** +	**Source Population/s:** Ambulant adults over the age of 55 years attending Greek and Italian community social clubs in Melbourne, Australia. **Participant characteristics:** Age Greek: 68 years (mean); Italian: 70 years (mean) Sex NR Sexual orientation NR Disability NR Ethnicity 49% Greek, 51% Italian Religion NR Occupation NR Education NR SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** An six-month oral health promotion programme called Oral Health Information Seminars (ORHIS) included three main components: nine oral health group-based seminars, offered fortnightly at the social clubs by bilingual research assistants. The sessions lasted 20-25 minutes, and addressed nine topics: expected oral changes associated with growing older; oral disease, dental caries periodontal disease; what to do with remaining teeth; oral cancer; dentures care; dry mouth; receiving oral care; oral health and diet; the relationship between oral and general health. The second component was provision of oral care products, related to the content of each seminar session, and the third included the provision of oral health information sheets to reinforce seminar topic content. Additionally, intervention participants received the minimal intervention following baseline assessment that the comparator group also received (oral health advice and education, referral to a dentist if needed, brochures with public dental clinic addresses, and a written statement regarding oral health treatment needs). **Control/Comparator description:** Comparator groups received minimal intervention following an oral exam for data collection; this included oral health advice and education, referral to a dentist if needed, brochures with public dental clinic addresses, and a written statement regarding oral health treatment needs. **Total sample** n=38 clubs, 734 participants **Intervention** Greek: n=9 clubs, 192 participants Italian: n=10 clubs, 179 participants **Comparator** Greek: n=8 clubs, 182 participants Italian: n=11 clubs, 181 participants **Baseline comparisons:** NR	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Oral hygiene behaviours (flossing and tooth brushing), assessed via questionnaire Use of health services, assessed via questionnaire **Determinant outcomes:** Oral health knowledge, assessed via a 38 item questionnaire regarding symptoms, risk factors and causes of oral diseases; higher scores indicate better knowledge. Oral health attitudes, assessed via seven item questionnaire about the inevitability of oral disease in older adults, desirability of keeping natural teeth and efficacy of preventive behaviours; high scores indicate better attitudes towards oral health **Follow-up periods:** 2 to 4 months post intervention (67.4% follow-up)	**Oral Health:** NA **Modifiable risk factor:** Self-reported Oral Hygiene Behaviours, OR (95% CI) Flossing, OR (95% CI) Greek: 13.33 (5.64 to 31.58) Italian: 5.16 (2.32 to 11.51) Tooth brushing, OR (95% CI) Greek: NR, NS (95% CI and p-value NR) Italian: NR , NS (95% CI and p-value NR) Use of dental services, OR (95% CI) Greek: 0.77, NS (95% CI and p-value NR) Italian: 1.82 (1.01 to 3.35), p<0.05 **Determinant:** Oral Health Knowledge Subscales Dental Caries Knowledge, mean (SE) Greek Intervention Baseline: 5.79 (0.15) Follow-up: 6.26 (0.12) Greek Comparator Baseline: 5.64 (0.19) Follow-up: 5.51 (0.12) Multivariate analysis: ORHIS participation, β (SE) 1.32 (0.46), p<0.01 Italian Intervention Baseline: 4.40 (0.19) Follow-up: 6.15 (0.17) Italian Comparator Baseline: 4.72 (0.18) Follow-up: 6.63 (0.15) Multivariate analysis: ORHIS participation, β (SE) -0.44 (0.38), NS p-value NR Periodontal Health Knowledge, mean (SE) Greek Intervention Baseline: 5.68 (0.17) Follow-up: 6.64 (0.12) Greek Comparator Baseline: 4.66 (0.19) Follow-up: 4.59 (0.12) Multivariate analysis: ORHIS participation, β (SE) 2.07 (0.36), p<0.001	**Limitations identified by author:** Non-random sampling of clubs; participants self-selected volunteers. Study excluded participants from rural, more isolated settings and those with health impediments. Reliability of self-report data is a limitation. No assessment of direct impact on oral health. **Limitations identified by review team:** Selected participants volunteered (non-random convenience sample) to participate in the study, as it was not possible to obtain lists of all club members. Non-randomised; allocation methods not reported. All outcomes assessed via self-report; no information on reliability of validity of questionnaires reported. No intention to treat analysis; completers and those attending >50% of OHRIS sessions were included in analyses. Non-adherents (individuals who completed less than half of the health promotion sessions) were excluded from the analysis. There were more non-adherents in the Italian clubs (31.8%) compared to the Greek clubs (15.6%) Multivariate analyses adjusted for clustering (club level), age, sex, education and pre-test score for relevant variable. **Evidence gaps:** NR **Source of funding:** Victoria Health Promotion Foundation

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Italian Intervention Baseline: 4.55 (0.18) Follow-up: 6.41 (0.11) Italian Comparator Baseline: 5.01 (0.17) Follow-up: 5.93 (0.12) Multivariate analysis: ORHIS participation, β (SE) 0.49 (0.25), p<0.05 Oral Cancer Knowledge, mean (SE) Greek Intervention Baseline: 0.68 (0.18) Follow-up: 8.61 (0.18) Greek Comparator Baseline: 0.62 (0.18) Follow-up: 2.62 (0.30) Multivariate analysis: ORHIS participation, β (SE) 5.47 (0.69), p<0.001 Italian Intervention Baseline: 3.33 (2.74) Follow-up: 6.41 (0.26) Italian Comparator Baseline: 3.82 (2.74) Follow-up: 5.25 (0.23) Multivariate analysis: ORHIS participation, β (SE) 0.96 (0.45), p<0.05 Oral Health Attitudes, mean (SE) Greek Intervention Baseline: 3.05 (0.07) Follow-up: 5.50 (0.09) Greek Comparator Baseline: 3.00 (0.06) Follow-up: 3.62 (0.11) Multivariate analysis: ORHIS participation, β (SE) 1.74 (0.32), p<0.001 Italian Intervention Baseline: 3.14 (0.12) Follow-up: 3.99 (0.12) Italian Comparator Baseline: 2.90 (0.09) Follow-up: 3.52 (0.09) Multivariate analysis:	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				ORHIS participation, β (SE) 0.42 (0.15), p<0.001	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Marino et al. **Year:** 2013 **Country of study:** Australia **Aim of study:** To assess the effectiveness of a theory-based oral health promotion program on oral hygiene and gingival health of independent living older Italians living in the community of one Australian state. The intervention was delivered by a non-dental peer educator. **Study Design:** Cluster non-randomised controlled trial **Quality Score:** - **External validity:** +	**Source Population/s:** Elderly people aged living independently in the community recruited from 10 Italian social clubs by a research assistant who spoke Italian. **Participant characteristics:** Age 72.4 (SD 6.8) Sex 44.4% male/55.6% female Sexual orientation NR Disability NR Ethnicity 100% Italian migrant population Religion NR Occupation NR Education 67.4% completed primary education; 20.6% with at least some secondary education SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Oral Health Information Seminars/Sheets (ORHIS) lasting 16 weeks consisting of four components: 10 oral health seminars of 20 minutes each on oral hygiene and oral health education; oral health information sheets; 4 one-to-one oral hygiene sessions (including review of brushing technique, use of disclosing tablets, instructions on dental flossing techniques and dental cleaning); and provision of relevant oral health products (toothbrushes, toothpaste, dental floss, prosthesis brushes - one aid introduced each session). Seminar sessions were delivered by a trained research assistant who had no professional oral health background. No direct professional oral health input or periodontal treatment was provided during the intervention period. Sessions were held at social clubs in groups of 6 to 8 single sex participants. The intervention was based on social cognitive theory. **Control/Comparator description:** No oral health program. No special information was provided on oral health during the course of the study. **Total sample** Figures only reported for participants who completed the intervention program or comparator group n=10 clubs (n=144 participants) **Intervention** n=4 clubs (n=74 participants) **Comparator** n=6 clubs (n=70 participants) **Baseline comparisons:** NR	**Oral Health outcomes:** Dental plaque levels assessed using Plaque Index score (range 0 to 3, with higher scores indicating more plaque). Gingival inflammation assessed using Gingival Index (range 0 to 3, with higher scores indicating more inflammation); **Modifiable risk factor outcomes:** Oral hygiene behaviours (tooth brushing and flossing) **Determinant outcomes:** NA **Follow-up periods:** 16 weeks (end of intervention; % follow-up NR)	**Oral Health:** Intervention n=74 Comparator n=70 Plaque Index Score before, mean (SD) Intervention: 1.04 (0.73) Comparator: 1.21 (0.88) p=0.20 Score after, mean (SD) Intervention: 1.31 (0.65) Comparator: 1.47 (0.80) p=0.38 intervention before vs. after: NS, p NR comparator before vs. after: NR, p NR change score intervention vs. comparator: NR, p NR Gingival Index Score before, mean (SD) Intervention: 0.44 (0.50) Comparator: 0.55 (0.62) p=0.55 Score after, mean (SD) Intervention: 0.11 (0.25) Comparator: 0.31 (0.48) p=0.01 intervention before vs. after: p<0.001 comparator before vs. after: NR, p NR change score intervention vs. comparator: NR, p NR **Modifiable risk factor:** Tooth brushing, frequency NR (%) Proportion before Intervention: 100% Comparator: 99.3% 95 % CI and p-value NR Proportion after Intervention: NR Comparator: NR 95 % CI and p-value NR intervention before vs. after: NS, 95 % CI and p-value NR comparator before vs. after: NS, 95 % CI and p-value NR between group comparison NR Use of dental floss, frequency NR (%) Proportion before Intervention: 35.7% Comparator: 29.7%	**Limitations identified by author:** Because the whole oral health intervention was given to all of the intervention group, it is not possible to determine which component of the program was effective at improving oral health. **Limitations identified by review team:** Club selection methods and inclusion/exclusion criteria not reported. Non-randomised allocation; no further information on allocation methods was reported. Allocation methods not reported; concealment status unknown. No information on baseline characteristics reported; data on completers (included in the analysis) only. Completers analysis only; risk of bias unknown due to lack of information on baseline sample size and attrition. Analysis only included intervention participants who attended at least one of two seminars on each of the five topics. Analyses initially accounted for clustering at the club level. **Evidence gaps:** The authors report the need for longer term studies. **Source of funding:** William Backland Foundation (Australia)

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				95 % CI and p-value NR Proportion after Intervention: Unclear Comparator: Unclear 95% CI NR, p<0.001 Flossing at least once per day (%) Proportion before Intervention: NR Comparator: NR 95 % CI and p-value NR Proportion after Intervention: 65.7% Comparator: 15.6% 95 % CI and p-value NR **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Maupome et al. **Year:** 2012 **Country of study:** USA **Aim of study:** To assess a community level dietary programme targeting breastfeeding and the consumption of sugary beverages amongst toddlers in an American Indian community in the Pacific Northwest. **Study Design:** Non-randomised controlled trial **Quality Score:** - **External validity:** -	**Source Population/s:** Young children residing in four geographically separated American Indian communities in Oregon, USA. **Participant characteristics:** Age 21.8 to 26.5 months (range of means at follow-up) Sex 47.6% male Sexual orientation NA Disability NR Ethnicity 100% American Indian Religion NR Occupation NA Education NA SES NR Fluoridation 1 of the four communities reported to have fluoridated water; no further details provided **Inclusion criteria:** Communities: Greater than 64 births per year, availability of health services (Women Infants and Children (WIC) centres, Maternal Child Health (MCH) centres and dental services), tribal interest in and readiness for programme participation (not defined). Participants: Born to a mother in a selected community after an uncomplicated pregnancy. **Exclusion criteria:** NR	**Programme/Intervention description:** Groups A, B and C participated in the 12 month programme. The programme was delivered from birth, was intended to encourage breastfeeding and reducing the consumption of sweetened beverages, and used both community-wide as well as family level interventions. The community-wide interventions were delivered on six-month cycles, and were mainly media based, using brochures, videos, newspaper articles, flyers and other media in order to raise awareness, provide health education, facilitate individual behaviour change, augment public health practice. Additional efforts focused on modifying environments or policies related to breastfeeding, sugar-sweetened beverages, and water consumption. Family level interventions consisted of home-visits by community health workers (CHWs). Over the 12 month period 24 contacts were made, in 8 clusters (with at least one contact per cluster delivered face-to-face). During Clusters 1-3, CHWs created client-specific plans in order to facilitate the initiation and maintenance of breastfeeding along with water as well as interventions targeting sugar-sweetened beverage consumption. Cluster 1 was delivered prenatally, Clusters 2–3 when the baby was aged between 0–3 months. Clusters 4–7 consisted of intervention implementation, and data was collected during Cluster 8 visits. **Control/Comparator description:** Group D did not participate in the programme, and served as the comparator group. **Total sample** n=252 (all groups, before and after programme) **Intervention** Group A: n=29 before, n=46 after Group B: n=34 before, n=57 after Group C: n=32 before, n=50 after **Comparator** Group D: n=18 before, n=42 after **Baseline comparisons:** Age at outcome assessment varied across the groups; was controlled for in analyses.	**Oral Health outcomes:** Incipient (d1t or cavitated (d2t) carious lesions, assessed visually by calibrated dentists or dental hygienists against ICDASII criteria at the surface level; outcomes reported as proportion of children with any d1t or d2t. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 2 years (end of intervention; % follow-up NR)	**Oral Health:** Mean (SD) proportion of children with any d1t Pre-intervention Group A: 0.448 (0.506) Group B: 0.128 (0.339) Group C: 0.656 (0.483) Group D: 0.444 (0.511) Post-intervention Group A: 0.340 (0.479) Group B: 0.297 (0.463) Group C: 0.420 (0.499) Group D: 0.595 (0.497) Intervention effects on mean proportion of children with any d1t, compared to Group D, adjusted for age and secular trends in Group D Post-intervention, effect (SDE**); p-value Group A: -0.574 (0.159); 95% CI NR, p=0.000) Group B: -0.300 (0.140); 95% CI NR, p=0.032) Group C: -0.631 (0.157); 95% CI NR, p=0.000) Mean (SD) proportion of children with any d2t Pre-intervention Group A: 0.414 (0.501) Group B: 0.128 (0.339)* Group C: 0.531 (0.507) Group D: 0.278 (0.461) Post-intervention Group A: 0.234 (0.428) Group B: 0.000 (0.000) Group C: 0.340 (0.479) Group D: 0.429 (0.501) Intervention effects on mean proportion of children with any d2t, compared to Group D, adjusted for age and secular trends in Group D Post-intervention, effect (SDE**); p-value Group A: -0.449 (0.180); 95% CI NR, p=0.013) Group B: -0.430 (0.153); 95% CI NR, p=0.005) Group C: -0.342 (0.181); 95% CI NR, p=0.059) **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Originally designed as a cluster randomised trial; design changed due to community drop out prior to implementation. Unable to assess the impact of individual programme components on caries. **Limitations identified by review team:** Method of selection of participating communities not reported; reason for originally enrolled community deciding not to participate not discussed; use of annual births cut off and requirement of established local health services (WIC, MCH and dental services) excludes smaller, more isolated communities that may be at higher risk of poor oral health. 75% of eligible children in the programme communities initially enrolled in the study and 65% completed the study; no discussion of differences between participating and non-participating children. Similar figures not provided for Group D (comparator community). Method of selection of exposure and comparison groups not reported. Age at assessment differed across communities and was accounted for in analyses. Power calculation and expected effect size not reported. Programme effects estimated using a Generalised Linear Model, adjusting for child age and secular trends in caries (pre-post results from Group D) Natural water fluoridation differed across the communities and was not included in the statistical model. Community with fluoridated water not specified. *pre-intervention d1t and d2t data reported as identical for Group B. ** SDE - standard deviation of the estimate **Evidence gaps:** NR **Source of funding:** US National Institutes of Health

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Milgrom et al. **Year:** 2010 **Country of study:** USA **Aim of study:** To assess the effect of a community-based public health programme targeting low income women on childhood caries. **Study Design:** Cohort study **Quality Score:** + **External validity:** +	**Source Population/s:** Children of low-income women in rural Oregon covered by the state's Medicaid programme. **Participant characteristics:** Age mean: 24 months (intervention), 28 months (comparator) Sex 50% male (intervention), 55% male (comparator) Sexual orientation NR Disability NR Ethnicity Hispanic 16% (intervention), 56% (comparator) Religion NR Occupation NA Education NA SES 100% low income Fluoridation No artificial fluoridation and little naturally occurring fluoride **Inclusion criteria:** Children between the ages of 24 to 35 months born to women eligible for the state's Medicaid programme **Exclusion criteria:**	**Programme/Intervention description:** A community based public health programme that provided a dental home to low-income pregnant women. The women received educational materials promoting dental visits for offspring in the second year of life. Home visits or counselling sessions at the local Women, Infant and Children (WIC) programme, and were assigned to a dental managed care programme. **Control/Comparator description:** The comparator group consisted of children of women from neighbouring rural counties who were eligible for dental care as part of the standard Oregon Health Plan. **Total sample** n=169 **Intervention** n=113 **Comparator** n=56 **Baseline comparisons:** Children in the intervention group were significantly younger than the comparator group (difference 4 months, p<0.003). Higher percentage of the children in the comparator groups were Hispanic (p=0.001).	**Oral Health outcomes:** Proportion of children caries free Mean number of teeth with any decay **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NR	**Oral Health:** Children caries free, n (%) Intervention: 96 (85%) Comparator: 33 (58.9%) p<0.0004 RR 1.48 (1.13 to 1.93) Teeth with any decay, mean (SD) Intervention: 0.75 (2.5) Comparator: 1.6 (2.5) 95% CI NR; p=0.04 **Modifiable risk factor:** NR **Determinant:** NR	**Limitations identified by author:** "Participants could not be assigned to conditions randomly and the comparison population is not identical to the program county. Thus, statistical methods were used to adjust for differences in the populations that are a threat to the validity of the conclusions."p4. "The number of children examined was relatively small and examiners were not blinded to treatment condition. We do not know anything about the treatments actually provided by dentists." p4. **Limitations identified by review team:** Recruitment methods not reported, unclear if eligible participants are representative of source population or if all important subgroups were represented. Children of 235 women who were eligible for the intervention were randomly invited to participate in the evaluation; 48% were examined. Reasons for exclusion were not reported. Methods of selection bias minimisation not reported; 48% of eligible intervention participants were selected, 43% of eligible comparator children were selected (reasons for non-selection not reported). No power calculations were reported. **Evidence gaps:** NR **Source of funding:** Robert Wood Johnson Foundation and public funding

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Mitton et al. **Year:** 2012 **Country of study:** UK (England) **Aim of study:** To report on a year long multi-disciplinary project to improve dental health, diet, and physical activity in children with autistic spectrum disorder. The dental aims of the programme included to increase the number of children being screened by a dentist and increase the number of children cleaning their teeth twice a day. **Study Design:** Before and after **Quality Score:** - **External validity:** +	**Source Population/s:** A specialist support primary school in Greater Manchester, England. **Participant characteristics:** Age NR Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education Children were at a specialist support school SES NR Fluoridation NR **Inclusion criteria:** Children with ASD at a specialist support primary school. **Exclusion criteria:** NR	**Programme/Intervention description:** The 'Working Together for Health' Project. A core team of a school nurse, a special education needs teacher, a clinical psychologist, a dental therapist and two parents of children with ASD developed and led the project. The activities were targeted to focus on the individual child's needs, likes, and dislikes. The focus of the dental activities was desensitisation. Children were supported in brushing their teeth on a daily basis in school. The dental therapist assessed children reluctant to brush their teeth and gave advice to parents and staff on techniques and specialist brushes. They also worked with children with specific phobias. The dental therapist gave talks at new parents evenings, sports days, and at a food festival that was part of the programme. The children were also engaged in dental-related play involving pretending to be and dressing up as dentists. There was a drop in dental clinic, and a local policy was developed about treatment of children with ASD in the dental surgery. Links were developed between the school and local specialist dental services to reduce non-attendance, with the school reminding parents of appointments. A whole school approach was taken to getting consent for screening. The diet part of the programme was aimed at raising awareness of the problems that children with ASD face, and techniques to introduce new foods and textures. **Control/Comparator description:** Children before the intervention. **Total sample** n=23 **Intervention** NA **Comparator** NA **Baseline comparisons:** NA	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Tooth brushing Receipt of dental screening Referral to specialist dental services Attendance at dental appointments (Method of assessment NR) **Determinant outcomes:** NA **Follow-up periods:** 1 year (end of intervention, % follow-up NR)	**Oral Health:** NA **Modifiable risk factor:** No statistical comparisons were reported (p values or 95% CI). Tooth brushing 100% of children in school were brushing their teeth on a daily basis, whereas only 10 children were before (denominator not clear). Some parents reported improvement in brushing at home. Dental screening 100% of children with ASD took part, previously only 48% of the whole school had parental consent for screening (figures for ASD before intervention not reported). Referrals to a specialist dental service There were 11 new referrals to a specialist dental service fro children with special needs, for children who had not been able to go to their family's dentist Attendance at dental appointments 7 children who had previously missed two dental appointments were supported by their school nurse to attend their appointments. Four of the children also attended subsequent appointments for treatment. **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** How representative the school was of other specialist support primary schools was not reported. No power calculation reported. Methods of assessment not clear. No confounders etc considered. No statistical comparisons made. **Evidence gaps:** NR **Source of funding:** Queen's Nursing Institute and Burdett Trust.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Moberg et al. **Year:** 2005 **Country of study:** Sweden **Aim of study:** To evaluate the impact of a school-based fluoride varnish programme on approximal caries progression among secondary school students, and to determine whether the effect varies across caries risk areas. **Study Design:** RCT **Quality Score:** ++ **External validity:** ++	**Source Population/s:** Individuals aged 13 years in 1998, from nine secondary schools on the Swedish west coast. Areas varied by socioeconomic status and natural fluoride concentration in the drinking water: Kungsbacka had the highest SES and a fluoride concentration of 1.0 to 1.2ppm and was considered low risk (LR); Molndal with a medium SES and fluoride concentration of 0.1ppm was considered medium risk (MR); and north-eastern Goteborg, an area of high social deprivation, with 80% of the population immigrants and 0.1ppm fluoride concentration was considered at high risk (HR) for caries. **Participant characteristics:** Age 13 (at baseline) Sex 48% male/52% female Sexual orientation NR Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Varied. Fluoridation Varied; low risk populations exposed to fluoridated water (1.0 to 1.2ppm); medium and high risk populations have unfluoridated water (0.1ppm) **Inclusion criteria:** **Exclusion criteria:**	**Programme/Intervention description:** Three dental nurses and one dental hygienist visited the schools, flossed the students' teeth and applied fluoride varnish to the approximal surfaces on varying schedules over three years: Group 1: received varnish applications twice a year at six month intervals, for 6 times in 3 years. Group 2: received varnish applications three times per year within one week, for 9 times in 3 years. Group 3: received varnish applications 8 times per year during the school year at one month intervals, for 24 times in 3 years. After all applications students were told not to eat any hard foods that day or to brush their teeth until the next day. Intervention students continued to receive standard care (attend dental clinics for regular check-ups, and receive prophylactic treatment depending on their individual caries risk. **Control/Comparator description:** Group 4: standard care with no school-based fluoride varnish applications **Total sample** n=854 **Intervention** n=NR (Groups 1-3 baseline) **Comparator** n=NR (Group 4 baseline) **Baseline comparisons:** NR	**Oral Health outcomes:** Permanent dentition approximal caries (DFSa) incidence and approximal caries progression were assessed via four wingbite radiographs Caries were graded on a six point scale: 0 - caries free 1 - caries lesion in outer half of enamel 2 - caries lesion more than halfway through enamel, but not passing the enamel-dentine junction 3 - caries lesion into the dentin but not more than halfway through to the pulp 4 - lesion more than halfway through the dentin to the pulp 5 - restore surface. Caries incidence was considered to occur on any surface that rated 0 at baseline and 1-5 at follow-up. Caries progression was consider to occur on any surface with a baseline score of 1-2 and follow-up score of 3-5. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 3 years, end of intervention (88.8% follow-up)	**Oral Health:** Caries incidence (scores 0 to 1-2), mean SD Total Group 1 (n=190): 0.79 (1.67) Group 2 (n=186): 0.98 (2.16) Group 3 (n=201): 0.45 (1.28) Group 4 (n=181): 1.85 (2.89) All intervention groups vs. comparator: 95% CI NR; p<0.001 Group 3 vs. Group 2: 95% CI NR; p<0.001 Group 1 LR (n=55): 1.09 (1.87) Group 2 LR (n=51): 0.43 (1.22) Group 3 LR (n=59): 0.68 (1.81) Group 4 LR (n=47): 1.36 (2.76) No significant differences (95% CIs and p-values NR) Group 1 MR (n=91): 0.54 (1.51) Group 2 MR (n=92): 1.09 (2.60) Group 3 MR (n=96): 0.27 (0.79) Group 4 MR (n=94): 1.59 (2.61) Groups 1 and 3 vs. comparator: 95% CI NR; p<0.001 Group 3 vs. Group 2: 95% CI NR; p<0.001 Group 1 HR (n=44): 0.95 (1.67) Group 2 HR (n=43): 1.40 (1.89) Group 3 HR (n=46): 0.54 (1.26) Group 4 HR (n=40): 3.05 (3.37) All intervention groups vs. comparator: 95% CI NR; p<0.001 Prevented Fraction of incident enamel lesions or worse, % Group 1 (n=190): 57% Group 2 (n=186): 47% Group 3 (n=201): 76% Group 1 LR (n=55): 20% Group 2 LR (n=51): 68% Group 3 LR (n=59): 50% Group 1 MR (n=91): 66% Group 2 MR (n=92): 31% Group 3 MR (n=96): 83% Group 1 HR (n=44): 69% Group 2 HR (n=43): 54% Group 3 HR (n=46): 82% Caries progression of enamel lesions over 3 years, mean (SD) Total Group 1 (n=190): 0.10 (0.35) Group 2 (n=186): 0.21 (0.79) Group 3 (n=201): 0.22 (0.95) Group 4 (n=181): 0.40 (0.92) All intervention groups vs. comparator: 95%	**Limitations identified by author:** NR **Limitations identified by review team:** Allocation methods not reported; unclear if allocation was concealed Power calculation and expected effect size not reported. Baseline comparisons NR; unlikely to introduce bias due to stratification by major confounders (SES and water fluoridation status) No ITT analysis; risk of bias low due to low attrition. The majority (>90%) of incident caries were detected in as enamel lesions (scored 1-2). Total caries incidence (baseline score of 0, follow-up score 1-5) were reported in graph form only and as prevented fractions only. **Evidence gaps:** NR **Source of funding:** Vastra Gotaland Region, Patent Revenue Fund, Sigge Perssons and Alice Nybergs Foundation

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				CI NR; p<0.003 Group 1 LR (n=55): 0.07 (0.26) Group 2 LR (n=51): 0.08 (0.27) Group 3 LR (n=59): 0.15 (0.74) Group 4 LR (n=47): 0.26 (0.87) No significant differences (95% CIs and p-values NR) Group 1 MR (n=91): 0.08 (0.34) Group 2 MR (n=92): 0.24 (0.88) Group 3 MR (n=96): 0.20 (1.06) Group 4 MR (n=94): 0.27 (0.71) No significant differences (95% CIs and p-values NR) Group 1 HR (n=44): 0.18 (0.45) Group 2 HR (n=43): 0.30 (0.96) Group 3 HR (n=46): 0.37 (0.93) Group 4 HR (n=40): 0.90 (1.24) All intervention groups vs. comparator: 95% CI NR; p<0.003 **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Moberg et al. **Year:** 2005b **Country of study:** Sweden **Aim of study:** To evaluate the impact of a school-based fluoride mouth rinse (FMR) programme on approximal caries development among secondary school students at low to moderate caries risk. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** ++	**Source Population/s:** Individuals aged 13 years in 1999, from five secondary schools on the Swedish west coast. Schools were located in the city of Mondal, which has a mixed SES and fluoride concentration of 0.1ppm. **Participant characteristics:** Age 13 (at baseline) Sex 46% male/54% female (completers) Sexual orientation NR Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation water fluoride concentration0.1ppm **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** A dental nurses supervised 1 minute of FMR in the classroom with 0.2% NaF solution; four different schedules were compared: Group 1: rinsed the first three schooldays of each semester, 6 times per year or 18 rinses in 3 years. Group 2: rinsed the first and last three schooldays per semester, 12 times a year or 36 time in 3 years. Group 3: rinsed on 3 consecutive days once per month during the school year, 27 rinses a year or 81 rinses in 3 years. Group 4: rinsed fortnightly during the school year, 20 rinses per year or 60 rinses in 3 years. Intervention students continued to receive standard care (attend dental clinics for regular check-ups, and receive prophylactic treatment depending on their individual caries risk. **Control/Comparator description:** Group 5: standard care with no school-based fluoride mouth rinse intervention. **Total sample** n=788 **Intervention** n=173 (Group 1) n=162 (Group 2) n=184 (Group 3) n=175 (Group 4) **Comparator** n=94 (Group 5) **Baseline comparisons:** NR	**Oral Health outcomes:** Approximal caries incidence assessed as a caries free surface at baseline assessed as having any enamel or dentin lesion at follow-up. Approximal caries progression were assessed as a change from grade 1 and grade 2 baseline lesions to grade 3, 4 or filling at follow-up Outcomes were assessed via four wingbite radiographs **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 3 years (end of intervention) (79% follow-up)	**Oral Health:** Approximal surface caries incidence, mean SD Group 1 (n=127): 1.12 (2.10) Group 2 (n=133): 0.65 (1.57) Group 3 (n=154): 0.84 (1.62) Group 4 (n=114): 0.94 (1.81) Groups 1-4 pooled (n=528): 0.88 (1.78) Group 5 (n=94): 1.59 (2.61) Group 1 vs. Group 5: no significant difference (95% CI and p-value NR) Group 2, 3 and 4: no significant difference (95% CI and p-value NR) Group 2 vs. Group 5: 95% CI NR; p<0.01 Group 3 vs. Group 5: 95% CI NR; p<0.01 Group 4 vs. Group 5: 95% CI NR; p<0.01 Groups 1-4 vs. Group 5 mean difference: 0.71 95% CI 0.28 to 1.13; p<0.01 Prevented Fraction of incident enamel lesions or worse, % Group 1 (n=127): 30% Group 2 (n=133): 59% Group 3 (n=154): 47% Group 4 (n=114): 41% Mean (SD) enamel and dentin lesion incidence, subgroup analysis by baseline caries status Baseline lesions (>0) Groups 1-4 pooled: 1.47 (2.11) Group 5: 2.46 (2.93) 95% CI NR, p<0.001 Caries free at baseline Groups 1-4 pooled: 0.38 (1.24) Group 5: 0.67 (1.85) Reported as NS; 95% CI and p-value NR Caries progression of enamel lesions over 3 years, mean (SD) Groups 1-4 pooled (n=NR): 0.16 (0.79) Group 5 (n=NR): 0.27 (0.71) No significant difference; 95% CI and p-value NR **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** NR **Limitations identified by review team:** Allocation methods not reported; unclear if allocation was concealed No power calculation. No ITT analysis; potential bias due to differential attrition and exclusion of participants form analysis if they did not complete most rinses. **Evidence gaps:** NR **Source of funding:** Vastra Gotaland Region, Patent Revenue Fund, Sigge Perssons and Alice Nybergs Foundation

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Morishita et al. **Year:** 2003 **Country of study:** Japan **Aim of study:** To evaluate the effectiveness of an oral health promotion programme at the workplace. **Study Design:** Cross sectional **Quality Score:** + **External validity:** +	**Source Population/s:** Workers from 43 companies in Japan participating in an oral health promotion programme in 1995. **Participant characteristics:** Age Males aged 35 to 45 years, females aged 25 to 35 years Sex 66% male/34% female included Sexual orientation NR Disability NR Ethnicity NR Religion NR Occupation NR Education NR SES NR Fluoridation NR **Inclusion criteria:** Workers participating in an oral health promotion programme in 1995 were included. Due to differences in age between those who had taken part in the programme before and those who had not, only men aged 35-45 years, and women aged 25-35 were included in the analysis. **Exclusion criteria:** NR	**Programme/Intervention description:** The workplace programme included a clinical examination and dental health education, and had been being provided on an annual basis in the workplace free of cost to employees. The study analysed those who had attended once, twice, or three times or more. The clinical examinations were carried out by three dental hygienists, and confirmed by a dentist. After the clinical examinations each participant was given oral hygiene instructions by the hygienist. This included using a disclosing solution to show plaque on lower anterior teeth. A tooth brushing method suitable for each participant was demonstrated using a toothbrush and a mirror, with interdental bushes and/or flosses used when necessary. After this oral prophylaxis of the anterior lower teeth was performed (not further described). A written notice of oral health was given, and workers with decayed teeth and or Community Periodontal Index score of 2 or more advise to consult their family dentist. The whole procedure took about 20 minutes per employee. **Control/Comparator description:** Those who had not taken part in the programme previously were used as the control group. **Total sample** n=1,998 included, n=629 assessed **Intervention** n=513 assessed **Comparator** n=116 assessed **Baseline comparisons:** There was reported to be no differences between the subgroups of men and women who had participated in the programme different numbers of times.	**Oral Health outcomes:** Mean DMFT Decayed (D) teeth Missing (M) teeth Filled (F) teeth Community Periodontal Index (CPI) score - these were inspected for six segments (sextants) for each participant (canine to canine, premolars, and molars, for upper and lower jaws). Scores range from 0 (healthy) to 4 (most diseased): Score 0: healthy gingiva Score 1: bleeding after gentle probing of pockets Score 2: sub- or supra-gingival calculus Score 3: presence of 4 to 5mm deep pathologic pockets Score 4: presence of 6mm or deeper pathologic pockets **Modifiable risk factor outcomes:** Dental visits **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** Non-participants n=58 men, n=58 women Participation once n=105 men, n=79 women Participation twice n=81 men, n=54 women Participation three times or more n=114 men, n=80 women Mean DMFT (SD) Mean DMFT was lower in those who attended the programme three or more times than in other subgroups among both men and women (not all statistically significant, p values for individual comparisons shown below, CI not reported). Men Non-participants: 12.66 (5.29)(p<0.05 vs. three times or more) Once: 13.26 (6.01) (p<0.01 vs. three times or more) Twice: 12.30 (5.63) Three times or more: 10.90 (5.14) Women Non-participants: 12.29 (4.87) Once: 12.60 (5.09) (p<0.05 vs. three times or more) Twice: 12.24 (4.57) Three times or more: 11.01 (4.86) Mean DT (SD) Men Non-participants: 1.07 (1.67)(p<0.01 vs. three times or more, p<0.05 vs. once) Once: 0.60 (0.96) (p<0.01 vs. twice) Twice: 1.14 (1.84) (p<0.01 vs. three times or more) Three times or more: 0.44 (0.77) Women Non-participants: 0.60 (0.95) (p<0.05 vs. three times or more) Once: 0.54 (0.78) (p<0.05 vs. three times or more) Twice: 0.41 (0.83) Three times or more: 0.30 (0.07) Mean MT (SD) Men Non-participants: 0.85 (1.27) Once: 1.12 (1.90) (p<0.05 vs. three times or more) Twice: 0.82 (1.22) Three times or more: 0.56 (1.05) Women Non-participants: 0.74 (1.45) (p<0.05 vs. once)	**Limitations identified by author:** NR **Limitations identified by review team:** How the companues were selected for the programme was not reported. Although men and women were analysed separately, and a restricted age group analysed, no other confounders were taken into account in analyses. A power calculation was not reported Only number of programme vists were considered in the analysis. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Once: 0.30 (0.81) Twice: 0.39 (0.96) Three times or more: 0.39 (0.86) Mean FT (SD) Men Non-participants: 10.74 (5.15) Once: 11.53 (5.47) (p<0.05 vs. three times or more) Twice: 10.34 (5.51) Three times or more: 9.90 (5.05) Women Non-participants: 10.95 (4.82) Once: 11.75 (4.93) Twice: 11.44 (4.24) Three times or more: 10.33 (4.74) Percentage of CPI sextants scoring 3 or 4 In men (but not women) those attending twice or more had fewer sextants with CPI scores of 3 or 4 than those with fewer visits, not all statistically significant, p values for individual comparisons shown below where reported, CI not reported). Men Non-participants: 25.3% (p<0.05 vs. three times or more) Once: 25.7% (p<0.01 vs. three times or more) Twice: 20.0% Three times or more: 19.0% Women Non-participants: 5.7% (p<0.05 vs. once) Once: 2.7% Twice: 3.4% Three times or more: 2.9% **Modifiable risk factor:** Frequency of dental visits was reported not to differ among groups (data not shown). **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Muirhead and Lawrence **Year:** 2011 **Country of study:** Canada **Aim of study:** To evaluate the oral health outcomes of Ontario's "Healthy Schools" health promotion programmes, and the influence of neighbourhood socioeconomic factors on these outcomes. **Study Design:** Correlation study **Quality Score:** + **External validity:** +	**Source Population/s:** York Region District and York Region Catholic elementary schools, Ontario, Canada, between 2007 and 2008. **Participant characteristics:** Age NA Sex NA Sexual orientation NA Disability NA Ethnicity NA Religion NA Occupation NA Education NA SES NA Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Schools participating in the voluntary "Healthy Schools" Recognition programme promote health-related activities that target several possible areas including healthy eating, physical activity, bullying prevention, personal safety, injury prevention, substance use and misuse, healthy growth and development and mental health activities. **Control/Comparator description:** Schools not participating in the "Healthy Schools" Recognition programme during 2007/2008. **Total sample** n=242 schools **Intervention** n=129 schools **Comparator** n=113 schools **Baseline comparisons:** NR	**Oral Health outcomes:** Decayed teeth, assessed by a dental hygienist during school dental screenings using a standardised protocol. Deciduous and permanent teeth were considered decayed if it had a visible cavity, a lost temporary filling or a partial filling that required treatment. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** Mean percentage of children with ≥2 dt or DT, % (95% CI) Overall Programme schools: 3.11% (2.6% to 3.6%) Comparator schools: 4.08% (3.7% to 4.5%) 95% CI NR, p=0.004 High-income neighbourhoods Programme schools: 2.53% (1.9% to 3.1%) Comparator schools: 3.39% (2.8% to 3.9%) Low-income neighbourhoods Programme schools: 4.09% (3.3% to 4.3%) Comparator schools: 4.99% (4.9% to 5.6%) Mean percentage of children with ≥1 small dt or DT, % (95% CI) Main effects (General Linear Model) Programme vs. non-programme: p=0.007 School x income interaction: p<0.001 Overall Programme schools: 4.87% (4.3% to 5.4%) Comparator schools: 5.47% (5.0% to 5.9%) 95% CI NR, p=0.10 High-income neighbourhoods Programme schools: 4.32% (3.7% to 5.0%) Comparator schools: 4.77% (4.1% to 5.4%) Low-income neighbourhoods Programme schools: 5.81% (4.9% to 6.7%) Comparator schools: 6.43% (5.7% to 7.1%) Main effects (General Linear Model) Programme vs. non-programme: p=0.14 School x income interaction: p=0.10 Mean proportion of children with ≥1 large dt or DT, % (95% CI) Overall Programme schools: 2.21% (1.9% to 2.6%) Comparator schools: 3.21% (2.9% to 3.5%) 95% CI NR, p<0.001 High-income neighbourhoods Programme schools: 1.86% (1.4% to 2.3%) Comparator schools: 2.65% (2.3% to 3.1%) Low-income neighbourhoods Programme schools: 2.81% (2.2% to 3.4%) Comparator schools: 3.94% (3.5% to 4.4%) Main effects (General Linear Model) Programme vs. non-programme: p<0.001 School x income interaction: p<0.001	**Limitations identified by author:** Use of % of low-income families to define neighbourhood SES may have underestimated neighbourhood effects; Inferences cannot be made beyond the school level due to study design and use of cross-sectional data; No information was available on use of dental services, so this could not be considered in mediator analysis. **Limitations identified by review team:** Participation in the health promotion programme is volunatary; no information was provided on differences between participating and non-participating schools. No power calculation or expected effect size reported. Schools considered low income if they were situated in neighbourhoods with greater than the regional average percentage of low-income families (16.5%) **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Neko-Uwagawa et al. **Year:** 2011 **Country of study:** Japan **Aim of study:** To assess the long-term caries preventive effect of a school-based fluoride mouth rinse (sFMR) programme. **Study Design:** Cross sectional **Quality Score:** - **External validity:** -	**Source Population/s:** Adults aged 20 years or older residing in cities, towns and villages in the Niigata Prefecture, Japan. **Participant characteristics:** Age 20 to 39 (range) Sex 100% female Sexual orientation NR Disability NR Ethnicity 100% Japanese Religion NR Occupation NR Education NR SES NR Fluoridation low water fluoridation (<0.1ppm) **Inclusion criteria:** Mothers aged 20 to 39 years visiting a local health centres in randomly selected municipalities (2 cities, 2 towns, 1 village) in the Niigata Prefecture. All women were attending medical or dental appointments for their children (aged 1.5 to 3 years). **Exclusion criteria:** NR	**Programme/Intervention description:** Group 1 consisted of women who had participated in the sFMR programme from nursery school through junior high school. The programme consisted of supervised (by school teachers) mouth rinsing with 500ppm sodium fluoride solution daily for two years from age 4 to 5 years, then FMR with 2000ppm solution weekly for 9 years (from age 6 to 14). Group 2 consisted of women who had participated in a school-based FMR programme during elementary school only. The dose, frequency and duration of the elementary school only is reported as identical to that of Group 1; unclear whether this is an accurate reflection of the exposure. **Control/Comparator description:** Group 3 consisted of women who had not participate in the school-based FMR programme as children. **Total sample** n=637 **Intervention** n=62 (Group 1) n=22 (Group 2) **Comparator** n=545 **Baseline comparisons:** NR	**Oral Health outcomes:** Mean DMFT among 20 to 29 year olds Mean DMFT among 30 to 39 year olds Prevalence (%) DMFT among 20 to 29 year olds Prevalence (%) DMFT among 30 to 39 year olds **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** DMFT among 20 to 29 year olds, mean (SD) Group 1 (n=13): 3.2 (3.1) Group 2 (n=31): 7.3 (4.9) Group 3 (n=185): 9.3 (5.2) Group 1 vs. Group 3: 95% CI NR; <0.001 Group 2 vs. Group 3: 95% CI NR; p>0.05 DMFT among 30 to 39 year olds, mean (SD) Group 1 (n=9): 4.6 (6.4) Group 2 (n=31): 8.8 (5.5) Group 3 (n=360): 11.4 (5.3) Group 1 vs. Group 3: 95% CI NR; p<0.001 Group 2 vs. Group 3: 95% CI NR; p>0.05 Prevalence DMFT among 20 to 29 year olds, % Group 1 (n=13): 76.9% Group 2 (n=31): 93.5% Group 3 (n=185): 96.8% Group 1 vs. Group 3: 95% CI NR; p<0.05 Group 2 vs. Group 3: 95% CI NR; p>0.05 Prevalence DMFT among 30 to 39 year olds, % Group 1 (n=9): 77.8% Group 2 (n=31): 100% Group 3 (n=360): 98.3% Group 1 vs. Group 3: 95% CI NR; p<0.05 Group 2 vs. Group 3: 95% CI NR; p>0.05 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** "In this study, it was impossible to obtain sociodemographic data on subjects. However, we thought that selection bias might have been limited because we selected subjects who participated in 1.5-year-old or 3-year-old dental and medical health examinations for their children. In addition, there were some subjects who participated in the FMR program in their childhood, but had some caries. The reason is unclear because of lack of any additional information." (p27). **Limitations identified by review team:** Eligible population was 100% female, all mothers attending local health centres for their young childrens' medical or dental checkups (aged 1.5 to 3 in 2004 to 2005); not representative of source population (described as adults aged 20 or older in the Niigata Prefecture). No information was provided on the % of selected individuals who agreed to participate. No exclusion criteria were reported. Participants were selected based on gender, maternal status and age, and access to/attendance at medical centres. The only potential confounders included in the analysis were age and mean DMFT; information on sociodemographic variables was not available. No power calculations or expected effect sizes were reported; sample size in the exposed groups (Groups 1 and 2) were small. Analyses were stratified by age, however, lack of availablility of sociodemographic information reduced the number of explanatory variables included in the ANOVA. Eight subjects were excluded from the analyses as their childhood FMR exposure status could not be determined from prefecture records. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Niederman et al. **Year:** 2008 **Country of study:** USA **Aim of study:** To evaluate the effect of one round of school based preventative dental care treatment among primary school children. **Study Design:** Cohort study **Quality Score:** - **External validity:** -	**Source Population/s:** Students in grades 1 through 3 attending rural, suburban and urban elementary schools in Massachusetts with a high proportion of low-income children. **Participant characteristics:** Age Grade 1: 7.07 years, Grade 2: 8.16 years, Grade 3: 9.18 years (mean) Sex 53.3% male/46.7% female Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES 86.4% low-income (participated in Federal Free and Reduce Cost Meals Programme, eligibility requirements at or below 185% of the Federal Poverty Line) Fluoridation Mixed fluoridation, 4 schools (suburban and urban) in water fluoridation areas, 2 schools (rural) in non-fluoridated area **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Among children who had provided informed consent, dentists conducted examinations at six month intervals. Based on the results of these examinations, dental hygienists provided preventive services twice per year, which included prophylaxis and oral hygiene instruction, provision of toothbrushes and fluoride toothpaste, placement of glass ionomer sealants and temporary restorations in carious teeth, and fluoride varnish. Written reports of the examination and treatment were sent home to parents, and referral letters to local collaborating dentists or community health centres were provided. **Control/Comparator description:** Children who were eligible for but missed the preventive intervention appointment were included in the comparator group. **Total sample** n=6 schools, 635 participants **Intervention** n=6 schools, 436 participants **Comparator** n=6 schools, 199 participants **Baseline comparisons:** Significant differences in age between intervention and comparator groups; adjusted for in analyses.	**Oral Health outcomes:** Incidence of dental caries accounting for reversals, measured as the decayed or filled primary or permanent teeth as a proportion of total primary or permanent teeth. Assessed by a dentist using visual tactile methods (dry field and explorer). **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 6 months (follow-up NR)	**Oral Health:** Dental caries incidence, proportion with new dfs or DFS; OR odds comparator/odds intervention Primary Teeth all surfaces, % Intervention: 30.3% Comparator: 40.6% Reduction: 25.4% (95% CI NR, p=0.001) OR (95% CI): 2.00 (1.31 to 3.06) Primary Teeth occlusal surfaces, % Intervention: 25.3% Comparator: 39.5% Reduction: 35.9% (95% CI NR, p=0.0001) OR (95% CI): 2.46 (1.58 to 3.82) Primary Teeth proximal surfaces, % Intervention: 25.3% Comparator: 32.7% Reduction: 22.6% (95% CI NR, p=0.003) OR (95% CI): 1.96 (1.25 to 3.08) Primary Teeth smooth surfaces, % Intervention: 18.6% Comparator: 24.3% Reduction: 23.5% (95% CI NR, p=0.03) OR (95% CI): 1.71 (1.04 to 2.78) Permanent Teeth all surfaces, % Intervention: 14.4% Comparator: 30.8% Reduction: 53.2% (95% CI NR, p=0.0008) OR (95% CI): 2.20 (1.38 to 3.48) Permanent Teeth occlusal surfaces, % Intervention: 11.3% Comparator: 29.3% Reduction: 61.4% (95% CI NR, p<0.0001) OR (95% CI): 2.78 (1.70 to 4.56) Permanent Teeth proximal surfaces, % Intervention: 2.5% Comparator: 7.7% Reduction: 67.5% (95% CI NR, p=0.08) OR (95% CI): 2.24 (0.92 to 5.48) Permanent Teeth smooth surfaces, % Intervention: 8.8% Comparator: 18.8% Reduction: 53.2% (95% CI NR, p=0.004) OR (95% CI): 2.27 (1.29 to 3.99) **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Intervention and comparator groups imbalanced, adjusted for during logistic regression, however magnitude of effect may not reflect true changes; Assessment methods may overestimate the occurrence of cavitated lesions and underestimate non-cavitated lesions; Comparison group not randomly selected and due to programme design, was older than the intervention group. **Limitations identified by review team:** Study included only those children who completed both the initial and six month follow-up exam (53.1% of those who participated in the overall programme). 50.1% of eligible children enrolled in the programme; no discussion of differences between enrollees and non-enrollees. Programme design provided Grade 1 students with treatment during the first year of the programme, Grade 1 and 2 with treatment during the second year, and Grades 1, 2 and 3 with treatment during the third year. Selection of comparator group as children who did not receive treatment may introduce bias, as older children were not eligible per programme design. No disucssion of differences between intervention and comparator groups (those who participated in the programme and those who didn't) for not design reasons (e.g. absent on treatment day). Analyses adjusted for age, grade and school location. No power calculations or expected effect size reported. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Ojima et al. **Year:** 2003 **Country of study:** Japan **Aim of study:** To evaluate the effects of a Web-based intervention system to improve periodontal health in the workplace. **Study Design:** RCT **Quality Score:** - **External validity:** -	**Source Population/s:** Workers at a company in Japan. **Participant characteristics:** Age NR Sex NR Sexual orientation NR Disability NR Ethnicity NR Religion NR Occupation NR Education NR SES NR Fluoridation NR **Inclusion criteria:** NR (Participants were reported to be familiar with internet access but it was unclear if this was an inclusion criterion). **Exclusion criteria:** NR (Participants were reported not to have severe systemic disease, but it was unclear if this was an exclusion criterion).	**Programme/Intervention description:** The experimental group (Group E) received access to the web-based periodontal health system. The participants had an initial visit from dental hygienists in the workplace for 15-20 minutes. This involved cleaning of teeth and gums with toothbrushes and plaque disclosure. During the face to face visits information, images and video for populating the web-based system was collected. There was a second dental hygienist visit at the workplace three weeks later. They revised and confirmed the tooth brushing instructions given in the first session. Two months after the initial visit the dental hygienist telephone the workers to encourage them. After this the workers were given access to the web-based system which stored and displayed personalised oral health records, including a text files, an image file, and videos. The text file contained patient-specific advice. The image file showed the participant's tooth alignment and indicated areas where they should use greater caution. The video file showed a dental professional illustrating toothbrush use in the participant's own mouth in areas that are difficult to clean during the workplace examination. Participants could log into their records from home and the workplace at any time and review the advice, images, and videos. **Control/Comparator description:** The control group (Group C) received the same dental hygienist visits and follow up as the experimental group, but were not given access to the web-based system. **Total sample** n=13 **Intervention** n=6 **Comparator** n=7 **Baseline comparisons:** There were no differences in mean age or gender between the groups (p value or CI not reported).	**Oral Health outcomes:** Reduction in the following from baseline: Periodontal inflammation Plaque accumulation Gingival inflammation Oral hygiene index (not further defined) **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 3 months (post-intervention, 100% follow-up)	**Oral Health:** There were significant reductions in all outcomes from baseline to 3 months in the experimental group (Group E): Plaque accumulation: p=0.027 (figures displayed graphically, about 82% reduction [RC]) Oral hygiene index: p=0.028 (figures displayed graphically, about 47% [RC]) Periodontal inflammation: p=0.046 (figures displayed graphically, about 29% reduction [RC]) Gingival inflammation: p=0.028 (figures displayed graphically, about 47% [RC]) There were significant reductions in only two outcomes from baseline to 3 months in the control group (Group C) Plaque accumulation: p=0.026 (figures displayed graphically, about 47% reduction [RC]) Oral hygiene index: p=0.018 (figures displayed graphically, about 35% reduction [RC]) Periodontal inflammation: not significant (figures displayed graphically, about 4% reduction, p value not reported) Gingival inflammation: not significant (figures displayed graphically, about 29% reduction, p value not reported) No statistical between group comparisons were reported (p values or CI). **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** The study was carried out in a small company so numbers of participants was small. **Limitations identified by review team:** No description of the participating company or how it was selected was provided. No description of the participating workers or how they were selected was provided. Allocation described as random but no details provided. Not clear if allocation was concealed. Power calculation not reported, but study was very small (n=13) and no between group comparisons made. Exact methods and validity of measurement of outcomes not reported. Inter- or intra-rater reliability not reported. Gender and age were not significantly different, but comparisons of baseline periodontal health not provided and may differ given small size of groups. Not clear if there were any dropouts and whether ITT analysis was used. No between group comparisons privided. **Evidence gaps:** Longer term follow up of a larger group of participants using the personalised web-based periodontal health system. **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Pieper et al. **Year:** 2012 **Country of study:** Germany **Aim of study:** To assess the effect of an intensive prevention programme on the caries experience of school children residing in a deprived area. **Study Design:** Cross sectional **Quality Score:** + **External validity:** +	**Source Population/s:** School children living in Marburg-Biedenkopf or Osnabruck Counties in Germany. **Participant characteristics:** Age 12 years (mean) Sex 51% male/49% female (analysed participants) Sexual orientation NR Disability None Ethnicity NR Religion NR Occupation NA Education NA SES Described as 'deprived areas'; no other information reported Fluoridation Water fluoride concentration 0.25mg F/l or less **Inclusion criteria:** Registration and informed consent by parents **Exclusion criteria:** Mental or physical disabilities	**Programme/Intervention description:** A selective intensified programme was offered at kindergartens and primary schools in underprivileged districts of Marburg County. The programme included enhanced oral health education, oral hygiene instructions (four times per year) and fluoride varnish applications (four times per year). **Control/Comparator description:** Schools in similarly underprivileged communities that did not receive the intervention; participants in comparator schools were offered no school-based preventive measures with fluoride application. **Total sample** n=19 schools and 925 participants **Intervention** n=19 schools and 236 participants **Comparator** n=19 schools and 689 participants **Baseline comparisons:** NR	**Oral Health outcomes:** Established or severe dental caries of the permanent dentition, assessed against ICDAS II criteria using a halogen lamp, compressed air to dry teeth, plane mirrors and CPI probes and FOTI. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** n=210 for both programme and comparator groups; matched on gender, age, mother's education and ethnicity. ICDAS D1, mean (SD NR) Programme: 0.43 Comparator: 0.39 95% CI NR, p=0.043 ICDAS D2, mean (SD NR) Programme: 1.51 Comparator: 1.91 95% CI NR, p=0.019 ICDAS D3, mean (SD NR) Programme: 0.28 Comparator: 0.57 95% CI NR, p<0.001 ICDAS D4, mean (SD NR) Programme: 0.33 Comparator: 0.84 95% CI NR, p<0.001 ICDAS D5, mean (SD NR) Programme: 0.13 Comparator: 0.38 95% CI NR, p<0.001 ICDAS D6, mean (SD NR) Programme: 0.04 Comparator: 0.3 95% CI NR, p<0.001 Filled surfaces (FS), mean (SD NR) Programme: 1.26 Comparator: 1.58 95% CI NR, p<0.05 ICDAS D1-6MFT, mean (SD NR) Programme: 2.44 Comparator: 3.37 95% CI NR, p<0.00 ICDAS D3-6MFT, mean (SD NR) Programme: 0.88 Comparator: 1.73 95% CI NR, p<0.005 ICDAS D5,6MFT, mean (SD NR) Programme: 0.50 Comparator: 0.77 95% CI NR, p=0.043 ICDAS D3-6FS, mean (SD NR) Programme: 0.95 Comparator: 1.94	**Limitations identified by author:** Difficulties comparing results using ICDAS II scores to studies using WHO scores. **Limitations identified by review team:** Of the 1,403 eligible participants, 925 (65.9%) took part in the study; response rate was higher in the intervention schools (76.1%) than the comparator schools (63%). No information on differences between participants and non-participants reported. Neither power calculations nor expected effect size were reported. Comparison of means not reported to adjust for potential confounders. Logistic regression analysis controlled for multiple potential confounders, however, results were not reported for intervention status. Authors report that an ICDAS-II score of D3 corresponds to a dentine lesion, and advise using results for D5,6MFT when comparing to other studies as it is closest to WHO criteria. **Evidence gaps:** NR **Source of funding:** German Federal Government

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				95% CI NR, p<0.005 ICDAS D1,2FS, mean (SD NR) Programme: 1.80 Comparator: 2.14 95% CI NR, p=0.149 Severity of caries index (SiC), mean (SD NR) Programme: 0.96 Comparator: 1.46 95% CI NR, p<0.005 D3-6MFT=0 (%) Programme: 60.0% Comparator: 45.2% 95% CI and p-value NR **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Pieterse et al. **Year:** 2006 **Country of study:** The Netherlands **Aim of study:** To assess the long-term effect of a school based fluoride rinse programme on caries at age 12. **Study Design:** Before and after **Quality Score:** + **External validity:** +	**Source Population/s:** All group 8 students (mainly aged 12 years) from all seven primary schools in the village of Woudenberg, The Netherlands. **Participant characteristics:** Age 11-13 (range) Sex 50% male/50% female Sexual orientation NR Disability NR Ethnicity 97% Dutch Religion NR Occupation NA Education Parents' educational status high 23%, middle 29%, low 15%, unknown 33% SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** School based weekly rinsing with 0.2% fluoride (7ml) for children in group 3 to 8 (aged 6 to 12 years), plus school based teeth brushing lessons in groups 4 to 8 (aged 7 to 12 years), plus availability of an educational packet focusing on oral health. Post programme outcomes were collected for group 8 students in 2004. **Control/Comparator description:** No fluoride rinsing programme, including pre-programme for all local schools (1995/1996), and post-programme (2004) for non-participating schools. **Total sample** n=7 schools, 249 participants **Intervention** n=3 schools, 48 participants (participating schools post programme) **Comparator** n=7 schools, 201 (3 schools, 45 participants pre-programme, 4 non-programme schools, 156 participants) **Baseline comparisons:** No significant difference in fluoride application from the dentist (either before and after or between rinsing and non-rinsing schools)	**Oral Health outcomes:** DMFS, assessed by a dental hygienist and assistant at school using a mirror, probe and hobby lamp. **Modifiable risk factor outcomes:** Teeth brushing at least twice per day, assessed via student self-report **Determinant outcomes:** NA **Follow-up periods:** 9 years (NA)	**Oral Health:** DMFS, mean (SD) Rinsing schools 1995/96 - before (n=45): 2.5 (NR) 2004 - after (n=48): 0.5 (NR) before vs. after: significant, 95% CI and p NR Non-rinsing schools 1995/96 - before (n=80): 2.9 (NR) 2004 - after (n=76): 2.0 (NR) before vs. after: non-significant, 95% CI and p NR 2004 rinsing vs. 2004 non-rinsing: significant, 95% CI and p NR All schools 1995/96 - before (n=125): 2.8 (NR) 2004 - after (n=124): 1.4 (NR) before vs. after: significant, 95% CI and p NR 2004 rinsing vs. 2004 non-rinsing: significant, 95% CI and p NR Sound teeth, % Rinsing schools 1995/96 - before (n=45): 40% 2004 - after (n=48): 73% before vs. after: significant, 95% CI and p NR Non-rinsing schools 1995/96 - before (n=80): 34% 2004 - after (n=76): 41% before vs. after: non-significant, 95% CI and p NR 2004 rinsing vs. 2004 non-rinsing: significant, 95% CI and p NR All schools 1995/96 - before (n=125): 36% 2004 - after (n=124): 53% before vs. after: non-significant, 95% CI and p NR 2004 rinsing vs. 2004 all schools: non-significant, 95% CI and p NR **Modifiable risk factor:** Brushing twice per day or more, % Rinsing schools 1995/96 - before (n=45): 62% 2004 - after (n=48): 79% before vs. after: non-significant, 95% CI and p NR Non-rinsing schools 1995/96 - before (n=80): 66% 2004 - after (n=76): 84%	**Limitations identified by author:** NR **Limitations identified by review team:** Unclear why non-programme schools declined participation; may introduce selection bias into 2004 rinsing vs. non-rinsing comparisons. No power calculation or expected effect size reported. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				before vs. after: non-significant, 95% CI and p NR 2004 rinsing vs. 2004 non-rinsing: non-significant, 95% CI and p NR All schools 1995/96 - before (n=125): 65% 2004 - after (n=124): 82% before vs. after: significant, 95% CI and p NR 2004 rinsing vs. 2004 non-rinsing: non-significant, 95% CI and p NR **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Pine et al. **Year:** 2007 **Country of study:** UK (England) **Aim of study:** To assess the long term impact of a school based supervised brushing programme on dental caries in children. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** ++	**Source Population/s:** Children in their first year of primary school in Tayside. **Participant characteristics:** Age 5.5 (baseline) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES "Relatively deprived area", no additional information Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Daily supervised tooth brushing with 1,000ppm fluoridated toothpaste and a home support programme provided at the start of each school holiday, advising parents on twice daily tooth brushing, and including a toothbrush, toothpaste and a brushing chart to track twice daily brushing. The programme lasted for 30 months. **Control/Comparator description:** No supervised tooth brushing or home support programme. **Total sample** n=24 classes (12 schools), 595 participants **Intervention** n= 12 classes (12 schools), 298 participants **Comparator** n=12 classes (12 schools), 297 participants **Baseline comparisons:** None reported.	**Oral Health outcomes:** D1FS and D3FS of first permanent molars, assessed visually during a school based clinical examination (including use of a portable clinical light and compressed air to dry teeth). Approximal and occlusal surfaces were examined with fibre optic transillumination as well. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 4.5 years post-intervention (77% follow-up)	**Oral Health:** Intervention n=175 Comparator n=154 Clinical and FOTI D1FS increment first permanent molars (baseline to 84 months), mean (SD) Intervention: 2.75 (2.80) Comparator: 3.95 (3.78) Difference: 30% 95% CI NR; p=0.001 Clinical and FOTI D3FS increment first permanent molars (baseline to 84 months), mean (SD) Intervention: 1.62 (2.51) Comparator: 2.65 (3.62) Difference: 39% 95% CI NR; p=0.002 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Unable to determine whether differences in caries increment is due solely to school based supervised brushing, or if the programme lead to behavioural change and indirectly influenced caries increment. **Limitations identified by review team:** Representativeness of eligible schools not clear; recruitment methods not reported. Representativeness of selected schools not clear; selection methods and proportion of eligible agreeing to participate not reported. Allocation methods not reported; concealment status unclear. No power calculation or expected effect size reported. Analysis not reported to be adjusted for clustering **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Plutzer and Spencer **Year:** 2007 **Country of study:** Australia **Aim of study:** To assess the effect of a pre- and post-natal oral health promotion programme delivered to mothers on the oral health of the children at age 20 months (Plutzer and Spencer 2007) and 6-7 years (Plutzer et al. 2012) **Study Design:** RCT **Quality Score:** - **External validity:** -	**Source Population/s:** Nulliparous pregnant women residing in Adelaide, Australia. **Participant characteristics:** Age 20 months (mean age Plutzer and Spencer 2007), 82.5 months (mean age Plutzer et al. 2011) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** Nulliparous pregnant women, **Exclusion criteria:** High risk and/or multiple pregnancies, improperly completed baseline questionnaires, mother's inability to understand written English.	**Programme/Intervention description:** Women in the programme groups (Group A and Group B) received three rounds of oral health education over 12 months consisting of anticipatory guidance in order to support the establishment of healthy habits early (as opposed to changing behaviour after unhealthy habits were established). Round 1 (prenatal) - consisted of provision of printed anticipatory guidance (provided at enrolment during an antenatal visit) regarding oral health, hygiene and nutrition during pregnancy. Additional information on the importance of primary teeth, use of pacifiers and infant sleeping patterns was provided. Round 2 (6 months old infants) - consisted of provision of printed anticipatory guidance (delivered via post) regarding oral health for infants; information provided on erupting teeth, oral hygiene and nutrition. A finger toothbrush for children or toothbrush for mothers was included with the guidance. Round 3 (12 month old infants) - consisted of provision of printed anticipatory guidance (delivered via post) regarding oral health of 12 month old children; information provided on erupting teeth, oral hygiene and nutrition. A finger toothbrush for children or toothbrush for mothers was included with the guidance. In addition, a random sample of programme women (Group A) received a structured telephone consultation on oral health of infants and any issues the women were facing. This was provided between the second and third rounds of education. **Control/Comparator description:** Assessment only, no oral health education intervention. **Total sample** n=649 **Intervention** n=327 (Groups A and B) **Comparator** n=322 (Group C) **Baseline comparisons:** 31.6% of intervention group women reported use of dental floss, vs. 22.6% of comparator group women; p<0.05). Use of alcohol during pregnancy higher in intervention vs. comparator groups (12.4% vs. 7.4%; p<0.05).	**Oral Health outcomes:** Severe early childhood caries (S-ECC) of the labial surface of upper incisors. Assessed visually, and categorised as non-cavitated (demineralization without loss of surface continuity) or cavitated (loss of enamel continuity). Results from Plutzer et al. 2012: d3mft/d3mfs at age 6 to 7, assessed by South Australia School Dental Service practitioners. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 18 months (six months post-intervention, 70.6% follow-up; intervention groups follow-up 74.4%, comparator group 66.8%) 6 to 7 years (28.8% follow-up; results reported in Plutzer et al. 2012)	**Oral Health:** Group A n=123 Group B n=109 Group C n=209 Children aged 20 months with incident S-EEC on maxillary incisors, n (%) [results from Plutzer and Spencer 2007] Intervention (Groups A and B): 4 (1.7%) Comparator (Group C): 20 (9.6%) 95% CI NR, p<0.05 Adjusted OR (Comparator vs. intervention): 6.8 (2.1 to 21.9) Group A vs. Group B differences reported as non-significant. Long term follow-up (age 6 to 7) reported in Plutzer et al. 2012: Intervention n=96 Comparator n=91 Dentine caries prevalence (d3mft>0), n (%) Intervention: 31 (32.3%) Comparator: 30 (33.0%) reported as NS; 95% CI and p-value NR d3mft, mean (SD) Intervention: 0.99 (1.81) Comparator: 1.29 (2.66) reported as NS; 95% CI and p-value NR d3mfs, mean (SD) Intervention: 1.46 (2.59) Comparator: 2.45 (6.65) reported as NS; 95% CI and p-value NR d3mft in children with caries, mean (SD) Intervention (n=95): 3.06 (1.95) Comparator (n=117): 3.90 (3.38) reported as NS; 95% CI and p-value NR d3mfs in children with caries, mean (SD) Intervention (n=140): 4.52 (2.63) Comparator (n=223): 7.43 (9.95) reported as NS; 95% CI and p-value NR SiC, mean (SD) Intervention (n=140): 2.97 (1.99) Comparator (n=223): 3.90 (3.38) reported as NS; 95% CI and p-value NR **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Use of Zelen design for group allocation (randomisation occurs before invitation/consent; potential participants are informed of the study aims and their group allocation and then accept or refuse participation. This is associated with lack of blinding and potential loss of statistical power. All mothers were recruited and assessed by the same researcher, who also delivered the intervention. This lack of blinding could introduce bias. **Limitations identified by review team:** Women recruited at regular antenatal visits from the waiting rooms of public teaching hospitals; in South Australia, the majority of antenatal care is provided by General Practitioners or private obstetrician. Eligibility biased towards women electing to received antenatal care at teaching hospitals. Women randomised, prior to eligibility assessment and disclosure of study aims; were given the opportunity to decline participation following disclosure of group allocation. Risk of bias due to randomisation method. Allocation initially concealed; women could elect to switch groups (0.8% did) following disclosure of group allocation. Long term follow-up study (Plutzer et al. 2012) may have lacked sufficient power to detect intervention effect. Baseline differences not adjusted for in regression analyses. No ITT analysis; risk of bias due to high attrition rates. Multivariate analysis (Ors) adjusted for common confounders, including mother's age, childs age at examination, one-parent family structure, mother's employment, overseas birth and education level. Five women (0.8%) elected to change groups after being notified of allocation (all switched from comparator to intervention group). Study retention differed on social variables

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
					between the groups: retention in the intervention group was higher amongst women with lowest levels of education, while retention in the comparator group was higher amongst women with highest levels of education. **Evidence gaps:** NR **Source of funding:** Channel 7 Children's Research Foundation of South Australia, Colgate Oral Care, Johnson & Johnson Pacific Company and the University of Adelaide.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Reinhardt et al. **Year:** 2009 **Country of study:** Germany **Aim of study:** To assess whether a tutoring programme can improve oral health behaviour in underprivileged and/or immigrant children. **Study Design:** Before and after **Quality Score:** + **External validity:** +	**Source Population/s:** Fourth graders from one class in a primary school in a deprived area of Cologne, Germany. **Participant characteristics:** Age Mean 9.6 (SD 0.6) Sex NR Sexual orientation NA Disability NR Ethnicity 56% came from immigrant families (Turkey, Italy, United States, India, Poland, and Portugal). Religion NR Occupation NA Education Participants were in primary school. SES The school was reported to be in a "deprived area". Fluoridation NR **Inclusion criteria:** Fourth graders from one class in a primary school. The class was selected at random from the three fourth grade classes. **Exclusion criteria:** Impaired mobility of the arm or hand (e.g. arm in plaster or psychomotor disorder). Current correct practice of the Fones tooth brushing technique.	**Programme/Intervention description:** The intervention involved first training the fourth graders about caries and tooth brushing, and then supporting them to train first graders. The fourth graders were taught about diet and nutrition relating to caries, as well as caries pathogenesis and prevention, and the Fones tooth brushing technique in theory and practice over 5 school hours. This took a project-like format, and included experiments on the effects of acid on the enamel, and calculation of the amount of sugar in different foods and drinks. The Fones method was taught on denture models by a trained teacher in groups of four. The fourth graders then brushed their teeth in class each day after breakfast for a week supervised by a teacher. Errors were corrected mainly by classmates and if needed by a teacher. An animal sticker chart was used to incentivise morning and evening brushing over the week, and a completed sticker chart could be exchanged for a small reward at the end of the week (a balloon, sticker, or poster). The fourth graders then planned over 4 hours how they would teach the Fones tooth brushing method to first graders first in pairs, then in groups of four and then as a class. A pilot manual was developed based on these discussions and then improved on in groups by videoing a simulation of the teaching, watching and correcting, and then repeating the simulation. The pilot manuals were re-evaluated and finalised, before practising in groups of three. Fourth graders who could use the manual correctly were given a 'dental teacher sticker' to reward them and to identify them to first graders. The first graders were trained in tooth brushing for 2 hours. The introductory part was done by the teacher, followed by fourth graders instructing the first graders one-on-one in theory and practice. The fourth graders used the denture models to demonstrate the Fones tooth brushing method, and then asked the first graders to practise themselves. The fourth graders then demonstrated Fones tooth brushing on themselves and asked the first graders to follow their example and corrected when necessary.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Time spent on tooth brushing Tooth brushing technique **Determinant outcomes:** Motivation for tooth brushing **Follow-up periods:** 1 week	**Oral Health:** NA **Modifiable risk factor:** Time spent on tooth brushing The time taken by fourth graders to brush their teeth increased from before to after the intervention (before 80.5s [SD 46.4] vs. after 117.0 [SD 50.3]; p=0.004). More of the fourth graders used a clock to check their tooth brushing time after the intervention (before 13/30 [43.3%] vs. after 22/30 [73.3%]; p=0.004). Tooth brushing technique More of the fourth graders used a circular tooth brushing technique after the intervention (before 0/30 [0%] vs. after 22/30 [73.3%]; p<0.001). More of the fourth graders used a systematic approach to brushing their teeth (masticatory, outer and inner) as recommended by German dental organisations after the intervention (before 0/30 [0%] vs. after 26/30 [86.7%]; p<0.001). **Determinant:** More of the fourth graders brushed their teeth for dental health reasons after the intervention (before 12/30 [40%] vs. after 26/30 [86.7%]; p<0.001).	**Limitations identified by author:** Follow-up was short and the study could not assess plaque levels by dental examination due to parental resistance. Time available for the study during school hours was also limited by teaching staff resistance. **Limitations identified by review team:** Method of selection of the participating school was not described. No power calculation reported. No differences in results were reported to be identified between German children and immigrant children, or children who benefited from parental help at home or not. Fourth graders trained in this study went on to train first graders, the results of which are reported by Reinhardt et al 2009 (Ref ID14865). **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
		The fourth graders were videoed brushing their teeth 7 days after teaching the first graders, and interviewed about their oral hygiene habits. **Control/Comparator description:** Before the intervention took place the fourth graders were interviewed about their oral hygiene habits and dental history. They were also videoed brushing their teeth. **Total sample** n=30 **Intervention** NA **Comparator** NA **Baseline comparisons:** NA			

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Reinhardt et al. **Year:** 2009b **Country of study:** Germany **Aim of study:** To evaluate whether a tailored peer teaching approach can improve oral health behaviours of underprivileged and/or multinational migrant first graders. **Study Design:** Before and after **Quality Score:** + **External validity:** -	**Source Population/s:** First and fourth graders from a primary school in a deprived area of Cologne, Germany. Fourth graders were the peer teachers for the first graders. **Participant characteristics:** Age First graders mean 6.6 (SD 0.6); fourth graders mean 9.6 (SD 0.6) Sex NR Sexual orientation NA Disability NR Ethnicity First graders: 36.8% German, 39.5% Turkish, 13.2% Italian, 2.6% (1 child) each Indian, Albanian, Chinese, and Russian Fourth graders: 43.3% German, 33.3% Turkish, 10% Italian, and 3.3% (1 child) each American, Polish, and Portuguese Religion NR Occupation NA Education All attending primary school SES The area where the school was located was described as "deprived". Fluoridation NR **Inclusion criteria:** First and fourth graders attending the participating school. **Exclusion criteria:** Motor deficiencies, current correct practise of the Fones tooth brushing technique.	**Programme/Intervention description:** The fourth graders were taught about basic topics on caries (pathogenesis and prevention) and the Fones tooth brushing technique in theory and practice over 5 school hours. This took a project-like format, and included experiments on the effects of acid on the enamel, and calculation of the amount of sugar in different foods and drinks. The Fones method was taught on denture models by a trained teacher in groups of four. The fourth graders then brushed their teeth in class each day after breakfast for a week supervised by a teacher. Errors were corrected mainly by classmates and if needed by a teacher. An animal sticker chart was used to incentivise morning and evening brushing over the week, and a completed sticker chart could be exchanged for a small reward at the end of the week (a balloon, sticker, or poster). The fourth graders then planned over 4 hours how to teach the Fones tooth brushing method to the first graders. A pilot manual was developed using the 'think' for oneself, 'pair' with your partner, and 'share' with the class technique. It was then improved on in groups by videoing a simulation of the teaching, watching and correcting, and then repeating the simulation. The pilot manuals were re-evaluated and finalised, before practising in groups of three. Fourth graders who could use the manual correctly were given a 'dental teacher sticker' to reward them and identify them to the first graders. The first graders were trained in tooth brushing for 2 hours. Fifteen small groups were formed, including one to three first graders grouped with one or two fourth graders including a peer of the same origins where possible. Training started with a story from the teacher about a bear brushing its teeth illustrated by video projected pictures. This was followed by the first graders being asked to discuss why dental hygiene is vital. After this the fourth graders started to train the first graders in the Fones tooth brushing method with the help of the manual and the denture models. The fourth graders checked off each step they completed on a checklist, and then demonstrated tooth brushing on themselves and asked the first graders to follow their example. The first graders who correctly brushed their teeth were given a	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Tooth brushing time Tooth brushing technique **Determinant outcomes:** NA **Follow-up periods:** 1 week (post-intervention)	**Oral Health:** NA **Modifiable risk factor:** Tooth brushing time Mean recorded tooth brushing time before the intervention was 87.1 seconds (SD 63s; range 11s to 279s). Mean recorded tooth brushing time after the intervention was 86.1 seconds (SD 42s; range 35s to 196s). No statistical comparison of before and after times reported. Tooth brushing technique The proportion of first graders using a circular tooth brushing technique increased significantly from before to after the intervention (before 10/38 [26.3%] vs. after about 30/38 [78.9%]; p=0.0001). The proportion of first graders using a systematic approach to toot brushing (masticatory, outer and inner surface) as recommended by German dental organisations increased significantly from before to after the intervention (before 0/38 [0%] vs. after 26/38 [68.4%]; p=0.0001). **Determinant:** NA	**Limitations identified by author:** The study was short and the researchers were not able to assess plaque levels by dental examination due to parental resistance. Time dedicated to carrying out the study in the school was also limited due to teaching staff resistance. **Limitations identified by review team:** Method of selection of school for participation not reported. Method of selection of children to participate not reported. Study was a before and after study No power calculation was reported. In most groups the children switched to their native language at least once during the training. **Evidence gaps:** Research needed to confirm the findings of this pilot study. **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
		button and a motivation poster in a small ceremony. The groups also took part in 2 hours of caries related games, drawing, and worksheets either before or after their training. The first graders were videoed brushing their teeth 7 days after the training, and interviewed about their oral hygiene habits. **Control/Comparator description:** First graders were videoed brushing their teeth before the intervention, and interviewed about their oral hygiene habits and dental history. **Total sample** First graders n=38; fourth graders n=30 **Intervention** NA (before-and-after study on the same children) **Comparator** NA (before-and-after study on the same children) **Baseline comparisons:** NA			

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Riley et al. **Year:** 2005 **Country of study:** UK (England) **Aim of study:** To assess the impact of a fluoridated milk programme on the caries experience of schoolchildren. **Study Design:** Cross sectional **Quality Score:** ++ **External validity:** +	**Source Population/s:** Children aged 5 in 1997/98 who were attending primary schools in Wirral and Sefton in 2003. **Participant characteristics:** Age 10.8 years (mean) Sex 53% male/47% female Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Considerable deprivation (mean IMD 2000 scores 53 to 54) Fluoridation No water fluoridation **Inclusion criteria:** Programme schools: participating in fluoridated milk scheme for at least six years; at least 50% of children in the schools drinking programme milk. Comparison districts: full population dental healthy survey of 5 year old children in 1997/98; matched to programme districts on key deprivation indicators. **Exclusion criteria:** Comparator districts: water fluoridation, fluoride milk or tablet programmes.	**Programme/Intervention description:** Children attending Wirral nursery and primary schools were provided with 189ml with 0.5mg fluoride. Timing and frequency of provision not reported. **Control/Comparator description:** No fluoride milk provided. **Total sample** n=42 schools, 2,825 participants **Intervention** n=14 schools, 773 participants **Comparator** n=28 schools, 2,052 participants **Baseline comparisons:** No baseline differences in age, gender, or deprivation status.	**Oral Health outcomes:** DMFT, DT, MT, FT and DFS of first permanent molars, assessed using BASCD protocol. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA	**Oral Health:** Intervention group n=690 Comparator group n= 1,835 DMFT first permanent molars, mean (SD); 95% CI Intervention: 1.01 (1.30); 0.91 to 1.10 Comparator: 1.46 (1.48); 1.40 to 1.53 Adjusted mean difference (SE): 0.49 (0.11) 95% CI 0.27 to 0.72; p<0.001 DT first permanent molars, mean (SD) Intervention: 0.59 (0.98); 0.51 to 0.66 Comparator: 1.02 (1.24); 0.96 to 1.08 Adjusted mean difference (SE): 0.43 (0.09) 95% CI 0.26 to 0.61; p<0.001 DFS first permanent molars, mean (SD) Intervention: 1.20 (1.86); 1.06 to 1.34 Comparator: 1.89 (2.41); 1.78 to 2.00 Adjusted mean difference (SE): 0.74 (0.13) 95% CI 0.48 to 1.00; p<0.001 DMFT >0, n (%); 95% CI Intervention: 332 (48%); 44% to 52% Comparator: 1119 (61%); 59% to 63% Adjusted OR (SE): 1.71 (0.23) 95% CI 1.32 to 2.23; p<0.001 DT >0, n (%); 95% CI Intervention: 239 (35%); 32% to 39% Comparator: 931 (51%); 49% to 53% Adjusted OR (SE): 1.99 (0.27) 95% CI 1.52 to 2.60; p<0.001 DFS >0, n (%); 95% CI Intervention: 316 (46%); 42% to 50% Comparator: 1081 (59%); 58% to 62% Adjusted OR (SE): 1.73 (0.21) 95% CI 1.36 to 2.20; p<0.001 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Examiners not blinded to fluoride exposure status; included schools had few problems implementing milk fluoridation programmes (high uptake), results may not be generalisable to other schools. **Limitations identified by review team:** Eligible intervention schools had high uptake of milk fluoridation programme amongst students. IMD 2000 scores range from 4 (least deprived) to 61 (most deprived). Mean difference reflects comparator - intervention; OR reflects comparator/intervention (positive differences and OR>1.00 indicate programme benefit). Adjusted analyses account for age, gender, IMD 2000 scores and clustering. **Evidence gaps:** RCT needed to provide conclusive evidence of milk fluoridation scheme effectiveness. **Source of funding:** Foundation support.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Shute and Judge **Year:** 2005 **Country of study:** UK (Scotland) **Aim of study:** To assess the effect of 'Starting Well', an intensive home visiting programme intended to improve the health of disadvantaged preschoolers. **Study Design:** Prospective cohort **Quality Score:** - **External validity:** -	**Source Population/s:** Newborns in disadvantaged areas of Glasgow, Scotland, January through June, 2002. **Participant characteristics:** Age 0 to 6 months Sex 49.8-54.1% male Sexual orientation NA Disability NR Ethnicity Minority Ethnic mother 16% Intervention, 0% Comparator (mainly Pakistani and Indian Muslim) Religion NR Occupation NA Education NA SES Disadvantaged area Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Intervention families of newborn children received a home visit by Start Well health visitors. The programme involves a team of health professionals and lay health workers who provide an intensive home-based service (in addition to routine services) addressing home safety, encouragement of playing, and a parenting skills programme. **Control/Comparator description:** Communities where Start Well had not been implemented. **Total sample** n=627 **Intervention** n=367 **Comparator** n=260 **Baseline comparisons:** Participants in intervention groups were more likely to have a Minority Ethnic mother (16% vs. 0%) and less likely to come from a higher income household (27.7% vs. 49.3%)	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Dental registration at six months, assessed via mother-report. **Determinant outcomes:** NA **Follow-up periods:** 6 months (57.3%)	**Oral Health:** NA **Modifiable risk factor:** Dental registration at six months (n=359 total) Intervention: 45.1% Comparator: 26% Difference: 19.1% (9% to 28.3%); p<0.001 Logistic Regression: OR 2.60, 95% CI NR; p<0.001 **Determinant:** NA	**Limitations identified by author:** Small sample size; Low opt-in rates; completion bias due to follow-up difficulties and frequent relocation. Unvalidated self-report measure for dental registration status may have biased results due to social desirability of an affirmative answer. **Limitations identified by review team:** Approximately 50% of eligible families participated, significantly more from the intervention versus comparator populations. Main reasons for non-participation included being 'too busy' or 'too tired'. Selection bias risk high due to low and differential opt-in rate (61% of eligible families participated in the intervention group; 39% of eligible families participated in the comparator group). No power calculation or expected effect size reported Dental registration assessed via mothers report; measure not validated and registration records would provide a more objective indication of registration status. Regression analysis (ORs) adjusted for a variety of sociodemographic and potential confounding variables. **Evidence gaps:** NR **Source of funding:** Government

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Slade et al. **Year:** 2011 **Country of study:** Australia **Aim of study:** To assess the effect of a dental health promotion programme amongst remote Aboriginal communities in Australia. **Study Design:** Cluster RCT **Quality Score:** ++ **External validity:** +	**Source Population/s:** Children aged two to four years resident in remote Aboriginal communities in Australia's Northern Territory. **Participant characteristics:** Age 33 months (baseline mean) Sex 50-52% male/48-50% female Sexual orientation NA Disability NR Ethnicity 100% Aboriginal Australian Religion NR Occupation NA Education NA SES NR (generally considered low SES) Fluoridation 26% of the communities had natural water fluoride concentrations of 0.6ppm or greater. **Inclusion criteria:** Community: remote location (more than 100km from Darwin, Australia), Aboriginal communities (management by an Indigenous council of community members), at least five births per annum, informed consent from community council. Participant: Aboriginal identity (declared by parent or family member), permanent resident in the community, aged 18 to 47 months, no history of asthma, parental/familial informed consent. **Exclusion criteria:** NR	**Programme/Intervention description:** Twice a year for two to five days, study personnel visited intervention communities and delivered a multi-component oral health promotion intervention for all eligible children (five visits total, including baseline). The programme included: Fluoride varnish application (priority given to maxillary anterior teeth, maxillary molars, mandibular molars then mandibular incisors). Oral health education/caries prevention advice (including information on limiting sugar consumption, use of fluoride toothpaste and proper toothbrushing) provided to parents/family members during fluoride varnish application and in playgroup/preschool settings. This included toothbrushing demonstrations and provision of a toothbrush and low-concentration fluoride toothpaste. Community health promotion, engaging store owners, parents, community leaders and health centre workers. Provided information on community wide steps to promote good oral health (which included information on water fluoridation), encouraging store owners to stock toothbrushes and fluoride toothpaste. Training of primary health care staff in oral assessment, risk factors and fluoride varnish application. **Control/Comparator description:** Standard care with no additional dental health promotion programme (dental examination at baseline and two year follow-up only). **Total sample** n=30 communities and 666 participants **Intervention** n=15 communities and 344 participants **Comparator** n=15 communities and 322 participants **Baseline comparisons:** Comparison communities smaller in size (48% of control group participants were from communities of less than 450 people, vs. 30% of intervention participants, p<0.01); Comparator group participants less likely to be exposed to low water fluoridation levels (81% of control group participants exposed to natural fluoride concentration <0.6ppm vs. 92% of intervention participants, p<0.01). Neither factor was significantly different at the community level.	**Oral Health outcomes:** 2 year net caries increment in primary teeth (d3mfs), assessed by dental therapists using a battery illuminated dental mirror but no explorer; reported by Slade et al. 2011. Surface specific results reported in Divaris et al. 2013 Gingival health (reported in Roberts et al. 2010), assessed visually. **Modifiable risk factor outcomes:** Oral health behaviours (reported in Roberts et al. 2010) including drinking sugary beverages and cleaning teeth, assessed via questionnaire/interview. Oral hygiene (reported in Roberts et al. 2010), assessed visually during a clinical examination using the Oral Hygiene Index. **Determinant outcomes:** NA **Follow-up periods:** 2 years (100% community follow-up, 81.5% participant follow-up)	**Oral Health:** intervention n=15 communities and 281 participants comparator n=15 communities and 262 participants adjusted 2 year d3mfs increment, mean (95% CI)* intervention: 6.2 (5.0 to 7.4) comparator: 9.7 (8.5 to 10.9) difference: -3.5 (-5.1 to -1.9) prevented fraction: 36% Divaris et al. 2013 reported results Net 2 year surface level cavitation risk (cumulative incidence, 95% CI), adjusting for community water fluoridation Overall Intervention: 0.082 (0.074 to 0.090) Comparator: 0.107 (0.096 to 0.118) RR: 0.75 (0.71 to 0.80) Baseline sound surfaces Intervention: 0.070 (0.063 to 0.078) Comparator: 0.094 (0.084 to 0.105) RR: 0.73 (0.69 to 0.79) Baseline opaque surfaces Intervention: 0.206 (0.173 to 0.239) Comparator: 0.236 (0.203 to 0.269) RR: 0.77 (0.65 to 0.92) Baseline hypoplastic surfaces Intervention: 0.343 (0.280 to 0.406) Comparator: 0.311 (0.217 to 0.405) RR: 0.90 (0.75 to 1.08) Baseline precavitated surfaces Intervention: 0.261 (0.207 to 0.315) Comparator: 0.287 (0.228 to 0.347) RR: 0.92 (0.74 to 1.15) Gingival Index (reported in Roberts et al. 2010), mean change (SD) Intervention (n=249): 0.48 (1.15) Comparator (n=271): 0.54 (1.22) 95% CI NR, p=0.56 **Modifiable risk factor:** Oral hygiene outcomes - proportion of children reported to have cleaned teeth on the previous day, % Baseline Intervention (n=313): 16.6% Comparator (n=238): 15.1% 95% CI NR, p=0.64 2 year follow-up	**Limitations identified by author:** Multi-component intervention renders it impossible to determine whether the fluoride varnish intervention was responsible for the observed reduction in caries increment. Caries increment remained high, even in programme communities. **Limitations identified by review team:** No attempt to conceal allocation; community allocation status was revealed to research staff prior to visiting the communities in order to recruit children. Sample size calculations based on an anticipated 5% loss to follow-up; actual attrition closer to 20%. Significant differences in water fluoridation levels and community size at the participant level; adjusted for in analyses. No ITT analysis; risk of bias considered low due to low (<20%) attrition. Analyses adjusted for clustering Allocation was stratified by 1) timing of community consent, 2) community population size and 3) geographic region; all three factors were accounted for in the analyses. Analyses additional controlled for community water fluoride concentration. **Evidence gaps:** NR **Source of funding:** Funded by the Australian National Health and Medical Research Council. Colgate-Palmolive Pty Limited of Australia provided fluoride varnish and toothpaste free of charge.

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				Intervention (n=220): 40.5% Comparator (n=214): 40.2% 95% CI NR, p=1.00 Dietary outcomes - proportion of children reported to have consumed sugary drinks on the previous day, n (%) Baseline Intervention (n=342): 65.8% Comparator (n=238): 63.0% 95% CI NR, p=0.54 2 year follow-up Intervention (n=278): 61.5% Comparator (n=245): 52.5% 95% CI NR, p=0.03 **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Splieth et al. **Year:** 2011 **Country of study:** Germany **Aim of study:** To assess the effectiveness of twice yearly school-based fluoride application on the caries increment of schoolchildren. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** +	**Source Population/s:** First and second grade schoolchildren (aged 6 to 8 years) in Greifswald, Germany in 2000. **Participant characteristics:** Age 6-8 (baseline range) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Students in intervention schools received a standard prevention programme (biannual 45 minute presentation on health promotion, including caries aetiology and advice regarding oral hygiene, diet and fluoride) as well as twice yearly topical fluoride varnish (elmex fluid [GABA] 10,000ppm amine fluoride); both components were delivered by a dental hygienist. **Control/Comparator description:** Students in comparator schools received the standard prevention programme only. **Total sample** n=NR schools, 776 participants **Intervention** n=NR schools, 334 participants **Comparator** n=NR schools, 442 participants **Baseline comparisons:** None reported.	**Oral Health outcomes:** DMFS in permanent first molars, assessed by a dentist according to WHO criteria. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 2 to 4 years (intervention 68.9%, comparator 79% follow-up)	**Oral Health:** Intervention n=230 Comparator n=349 DMFS incidence, mean (SD) Intervention: 0.81 (1.74) Comparator: 0.78 (1.81) NS; 95% CI and p-value NR No incident caries, % Intervention: 69% Comparator: 72% 95% CI and p-value NR Multivariate model - predicting incident DMFS in permanent first molars, OR (95% CI) Baseline inactive initial lesion: 1.644 (1.308 to 2.065) p<0.001 Baseline active initial lesion: 1.006 (0.759 to 1.332) p=0.9678 Baseline DMFS: 1.307 (1.112 to 1.536) p=0.0011 Baseline caries in primary molars (DS>0): 1.058 (1.030 to 1.087) p<0.001 Baseline sealed permanent first molars: 0.824 (0.521 to 1.301) p=0.4053 Baseline permanent teeth in need of treatment (DS>0): 2.205 (1.355 to 3.586) p<0.0014 **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Both intervention and comparator groups had high fluoride use outside of school (through fluoridated toothpaste, salt, etc.) and the incidence of caries was low in the majority of the groups. **Limitations identified by review team:** Randomisation method not reported. Allocation procedures not reported.. No power calcularion or expected effect size reported. Baseline comparisons between intervention and comparator groups not reported. No ITT analysis; dropouts had higher caries prevalence at baseline. Analyses did not adjust for clustering. Higher dropout in fluoride group (31.1%) than comparator group (21.0%); mean caries prevalence among children who dropped out of the study than those who remained in. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Stecksen-Blicks et al. **Year:** 2009 **Country of study:** Sweden **Aim of study:** To assess the effect a nursery-based programme providing milk supplemented with fluoride and probiotics on the caries development of preschool children. **Study Design:** Cluster RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Preschool age children attending day care centres in northern Sweden. **Participant characteristics:** Age 42 months (mean baseline) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation water fluoride concentration <0.5 mg/l **Inclusion criteria:** Centres: NR Participants: Aged 1-5 years, attending one of 14 day care centres **Exclusion criteria:** Centres: NR Participants: severe chronic diseases, milk intolerance, exposure to fluoridate water >0.5mg/l	**Programme/Intervention description:** Children attending programme day care centres received 150ml milk supplemented with Lactobacillus rhamnosus and 2.5mg F/l each weekday at lunch for 21 months. **Control/Comparator description:** Children at comparator day care centres received 150ml unsupplemented milk each weekday at lunch for 21 months. **Total sample** n=27 centres and 248 participants **Intervention** n=16 centres and 133 participants **Comparator** n=11 centres and 115 participants **Baseline comparisons:** NR	**Oral Health outcomes:** Caries increment (difference between dmfs at baseline and 21 months follow-up) of molars and canines (deciduous incisors expected to be exfoliated during study period) assessed during clinical examination at local dental clinics. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** 21 months (end of intervention, 75% follow-up)	**Oral Health:** Programme n=16 centres and 110 participants Comparator n=10 centres and 76 participants Caries free (dmfs=0), % Baseline Intervention: 88% Comparator: 81% OR: 1.7 (0.7 to 4.1) Follow-up Intervention: 77% Comparator: 56% OR: 2.7 (1.7 to 4.2) ARR: 21% NNT: 4.8 dmfs of molars and canines, mean (SD) Baseline Intervention: 0.5 (1.7) Comparator: 0.6 (1.6) 95% CI NR, p>0.05 Follow-up Intervention: 0.9 (2.2) Comparator: 2.2 (3.7) 95% CI NR, p<0.05 Difference/increment Intervention: 0.3 (1.8) Comparator: 1.6 (3.1) 95% CI NR, p<0.05 Prevented fraction: 75% **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Unable to distinguish effects of fluoride from probiotics due to limited sample size. Natural drop out of older children due to transition to primary school. **Limitations identified by review team:** Participation rate 52.7% Baseline comparisons between groups not reported. No ITT analysis; completers only. Analyses adjusted for age and clustering **Evidence gaps:** NR **Source of funding:** County Council of Vasterbotten and the Borrow Foundation, UK.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Tubert-Jeannin et al. **Year:** 2012 **Country of study:** France **Aim of study:** To assess the impact of a school-based oral health promotion programme on the dental status of disadvantaged five year old primary school students. **Study Design:** Before and after **Quality Score:** + **External validity:** +	**Source Population/s:** All five year old children attending public schools in deprived areas in Clermont-Ferrand, France and six randomly selected schools in non-deprived areas, in 2003 and 2009 (before and after the implementation of the programme). **Participant characteristics:** Age 5 years old Sex Programme cohort: 51% male Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES Programme cohort: 41.2% deprived area, 28.0% semi-deprived, 30.8% non-deprived Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** In 2005 a city-wide oral health promotion programme was implemented that included all children ages of 3 and 5. The programme was designed to promote a supportive school environment for deprived or semi-deprived children with high-to-moderate caries levels, and focused on improving tooth brushing habits and use of fluoridated toothpaste, educational activities directed at carers and school staff (guidelines regarding oral hygiene, nutrition and dental care). From 2006 to 2009 the programme was voluntary for nine targeted schools. The intervention group for the current study includes five-year old children (the oldest preschool children) in 2009. **Control/Comparator description:** The comparator group consists of five year old children attending the same Clermont-Ferrand schools in 2003, prior to the programmes implementation. **Total sample** n=21 schools, 1,073 participants **Intervention** n=21 schools, 620 participants **Comparator** n=21 schools, 453 participants **Baseline comparisons:** NR	**Oral Health outcomes:** Dental caries (dmft or d3mft) assessed visually without the use of radiographs and categorised at the enamel or dentine level using ICDAS criteria. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** NA (77% participation in 2009)	**Oral Health:** n=478 for programme/after/2009 outcomes n=453 for comparator/before/2003 outcomes Number of primary teeth, mean (SD) 2003: 19.34 (1.25) 2009: 19.29 (1.66) d3mft, mean (SD) 2003: 0.93 (2.26) 2009: 1.18 (2.61) d3t, mean (SD) 2003: 0.79 (1.99) 2009: 0.84 (2.06) mt, mean (SD) 2003: 0.01 (0.16) 2009: 0.06 (0.50) ft, mean (SD) 2003: 0.12 (0.64) 2009: 0.28 (0.90) ft/d3mft, mean (SD) 2003 (n=120): 0.29 (0.39) 2009 (n=132): 0.25 (0.35) dmft >0, % 2003: 26.5% 2009: 27.6% dt ≥2, % 2003: 15.4% 2009: 15.8% Subgroup analysis by deprivation Deprived area dmft, mean (SD) 2003 (n=192): 1.42 (2.88) 2009 (n=205): 1.44 (2.73) Comparisons between time periods not reported Semi-deprived area dmft, mean (SD) 2003 (n=115): 0.97 (2.09) 2009 (n=135): 1.52 (2.92) Comparisons between time periods not reported Non-deprived area dmft, mean (SD) 2003 (n=146): 0.26 (0.94) 2009 (n=138): 0.46 (1.90) Comparisons between time periods not reported Trend across deprivation groups 2003: p<0.0001 Trend across deprivation groups 2009: p<0.0001	**Limitations identified by author:** Variation is programme participation across schools (ranged 51% to 100%), use of two cross-sectional surveys and not a randomised controlled trial; no longitudinal follow-up; **Limitations identified by review team:** The oral health programme became volunatry after the first year of implementation; schools self-selected into the programme; there was no disucssion of reasons for opting into the programme, and participating schools may differ from those that elected to not participate. No power calculation or expected effect size reported. Any confounders adjusted for in primary analysis were not reported. Specific data for enamel lesions (d1-2) were excluded due to lack of pre-programme data on this outcome. Missing anterior teeth were not counted towards the d3mft value. Overall 2009 figures represent 9 schools with high caries levels in 2003 (all in deprived or semi-deprived areas) which participated in the OHP programme as well as 12 schools in with low caries levels in 2003 (in deprived, semi-deprived and non-deprived areas) which did not participate in the programme. 2003 caries level definitions: High - mean dmft>1, and >33% children with dmft>0 and >20% children with dt>1 Moderate - mean dmft>1, or >33% children with dmft>0 or >20% children with dt>1 Low - mean dmft<1, and <33% children with dmft>0 and <20% children with dt>1 Deprivation definitions Deprived - schools in deprived areas of the city which receive additional educational resources from the Ministry of Education Semi-deprived - schools in deprived areas of the city which receive municipal assistance **Evidence gaps:** NR **Source of funding:** Government funding

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Subgroup analysis by 2003 caries levels High, mean dmft (SD) 2003 (n=124): 1.81 (3.33) 2009 (n=121): 1.24 (2.53) Comparisons between time periods not reported Moderate, mean dmft (SD) 2003 (n=84): 1.04 (1.85) 2009 (n=90): 1.54 (2.84) Comparisons between time periods not reported Low, mean dmft (SD) 2003 (n=245): 0.46 (1.46) 2009 (n=267): 1.03 (2.56) 95% CI NR; p=0.07 Trend across caries levels 2003: p<0.0001 Trend across caries levels 2009: p=0.005 Subgroup analysis by deprivation and OHP participation Deprived or semi-deprived, OHP, mean dmft (SD) 2003 (n=174): 1.47 (2.75) 2009 (n=179): 1.44 (2.78) NS; 95% CI and p-value NR Deprived or semi-deprived, no OHP, mean dmft (SD) 2003 (n=133): 0.97 (2.42) 2009 (n=161): 1.52 (2.83) 95% CI NR; p=0.04 Non-deprived, no OHP, mean dmft (SD) 2003 (n=146): 0.26 (0.94) 2009 (n=138): 0.46 (1.90) 95% CI and p-value NR Trend across schools by deprivation/OHP status 2003: p<0.0001 Trend across schools by deprivation/OHP status 2009: p<0.0001 **Modifiable risk factor:** NA **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Vanobbergen et al. **Year:** 2004 **Country of study:** Belgium **Aim of study:** To evaluate the effect of a 6-year oral health education programme on dental caries among primary school children. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** +	**Source Population/s:** Children born in 1989 in Flanders, and area with low population wide caries activity, attending private, public and municipal schools. **Participant characteristics:** Age 7.1 years (mean) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** A yearly, one-hour oral health education programme delivered to both students and teachers, which included information on oral hygiene, use of fluorides, dietary habits and dental attendance. Brushing with fluoride toothpaste three times per day was advised. Dietary counselling focused on the cariogenic effect of frequent between-meal sugary snacks and beverages. Material was designed specifically for each age group. The education programme was followed by a oral health exam. Advice and a referral letter regarding the oral health status and treatment needs was provided to parents and School Health Care Centres following the examinations. **Control/Comparator description:** Standard oral health promotion (details not reported). Students in the comparator group received an oral health examination at baseline and six years follow-up; advice and a referral letter regarding the oral health status and treatment needs was provided to parents and School Health Care Centres following the examinations. **Total sample** n=NR schools, 5,268 participants **Intervention** n=NR schools, 4,468 participants **Comparator** n=NR schools, 800 participants **Baseline comparisons:** Despite randomisation, at baseline the intervention group had significantly lower DMFT, DMFS, SBI and buccal plaque index scores, and significantly higher restored deciduous teeth scores compared to the comparator group; inclusion of these variables in the analyses was not reported.	**Oral Health outcomes:** Dental caries (cavitation), DMFT and DMFS, assessed using a mirror and probe (no radiographs) against BASCD criteria. Restoration Index (filled teeth as a proportion of decayed and filled teeth: f/df and F/DF), assessed as above. Plaque accumulation on the buccal surfaces, scored using the Index of Silness and Loe; on the occlusal surfaces of first permanent molars using a simplified version of the Carvalho Index (0: no visible plaque; 1: detectable plaque restricted to fossae and grooves; 2: surface partially or totally covered with heavy plaque accumulation). Gingival health status, assessed using the Sulcus Bleeding Index (SBI). **Modifiable risk factor outcomes:** Oral Hygiene: frequency of brushing and use of topical fluorides, assessed via parent completed questionnaire. Dental attendance, assessed via parent completed questionnaire. Diet: Number of between-meal snacks, assessed via parent completed questionnaire. **Determinant outcomes:** NA **Follow-up periods:** 6 years (75.3% follow-up)	**Oral Health:** Intervention n=3,291 Comparator n=676 DMFT, mean (SEM) Intervention: 0.92 (0.02) Comparator: 1.0 (0.06) 95% CI NR, p=0.49 DMFT prevalence, % (95% CI) Intervention: 40.7% (38.9% to 42.3%) Comparator: 41.3% (37.5% to 44.9%) Difference: 0.61%; 95% CI NR; p=0.76 DMFS, mean (SEM) Intervention: 1.46 (0.04) Comparator: 1.59 (0.10) 95% CI NR, p=0.31 Restoration Index (F/DF), mean (SEM Intervention: 0.80 (0.01) Comparator: 0.73 (0.02) 95% CI NR, p<0.01 Plaque Index buccal, mean (SEM) Intervention: 0.35 (0.008) Comparator: 0.40 (0.02) Difference: -0.05, 95% CI -0.007 to -0.09; p=0.02 Plaque Index occlusal, mean (SEM) Intervention: 0.06 (0.003) Comparator: 0.06 (0.007) 95% CI NR, p=0.30 SBI, mean (SEM) Intervention: 0.21 (0.003) Comparator: 0.29 (0.02) 95% CI NR, p<0.001 **Modifiable risk factor:** Intervention n=3,291 Comparator n=676 Not brushing teeth everyday, % Intervention: 8.4% Comparator: 7.0% 95% CI NR, p=0.27 Use of fluoride toothpaste, % Intervention: 88% Comparator: 86% 95% CI NR, p<0.05 Regular use of floss, % Intervention: 6% Comparator: 7% 95% CI NR, p=0.71	**Limitations identified by author:** NR **Limitations identified by review team:** Allocation methods not reported; unclear if allocation was concealed. No power calculation or expected effect size reported. Differences in baseline scores between intervention and comparator groups were not controlled for in the analyses. No ITT analysis; attrition difference by group: 24% of intervention group and 16% of comparator group lost to follow-up. Analyses did not control for baseline differences between the groups, differences in attrition or clustering **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				Last visit to dentist >6 months ago, % Intervention: 67.0% Comparator: 66.6% 95% CI NR, p=0.11 >2 between-meal snacks, % Intervention: 29.9% Comparator: 36.9% Difference: 7%, 95% CI NR; p<0.001 **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Wennhall et al. **Year:** 2005 **Country of study:** Sweden **Aim of study:** To assess the effect of a caries prevention programme among preschool children. **Study Design:** Before and after **Quality Score:** + **External validity:** +	**Source Population/s:** Children born between July 1998 and June 2000 in the suburban area of Rosengard, In Malmo, Sweden. **Participant characteristics:** Age 24 months at baseline Sex 50.6% male/49.4% female Sexual orientation NA Disability 1% of selected children were disabled (nature of disability not reported) Ethnicity Ethnicity not specified; majority of children were from families with an immigrant origin, and 94% spoke a language other than Swedish at home. Religion NR Occupation NA Education NA SES Low socio-economic area Fluoridation water fluoride content 0.22 ppm **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Five sessions provided over one year by dental assistants in a community-based outreach facility in the in the suburban centre. 24 months of age - parent/guardian given practical tooth brushing instruction; a toothbrush, free fluoride tablets (3 month supply of 0.25mg NaF tablets, with instructions to give one to the child each day after evening tooth brushing) and offered discounted fluoridated toothpaste (1,000-1,100 ppm NaF). Dietary recommendations were given, focusing on avoiding nighttime meals and sugary snacks. Subsequent sessions (at 27, 30, 33 and 36 months of age) reinforced the tooth brushing instruction, and focused on oral hygiene and diet problem solving. **Control/Comparator description:** Historical comparator group comprised of all children in the same suburban area born between July and December 1997. **Total sample** n=1,021 **Intervention** n=804 **Comparator** n=217 **Baseline comparisons:** NR	**Oral Health outcomes:** All oral health outcomes assessed by a dentist during clinical examination with a mirror and blunt explorer. Presence of visible plaque on the labial surfaces of upper incisors Gingival health (bleeding vs. non-bleeding post tooth brushing) Caries (cavitated vs. non-cavitated) deft at age 3 **Modifiable risk factor outcomes:** Assessed via parental questionnaire: Sweet drinks at night No parent-performed daily tooth brushing No fluoride toothpaste use No fluoride tablet use **Determinant outcomes:** NA **Follow-up periods:** 1 year (91.8% follow-up)	**Oral Health:** Intervention group n=804 at baseline and n=738 at follow-up for all outcomes Comparator group n=217 for all outcomes deft at age 3, mean (SD) Intervention: 3.0 (NR) Comparator: 4.4 (NR) 95% CI NR; p<0.01 Caries-free at 3 years old, n (%) Intervention: 268 (37%) Comparator: 32 (15%) p<0.001 RR=2.5 (95% CI 1.8 to 3.4) NNT=4.6 Initial enamel lesions at 3 years old (%) Intervention: 52% Comparator: 45% 95% CI NR; p=NS (value not reported) Cavitated lesions at 3 years old (%) Intervention: 29% Comparator: 55% 95% CI NR; p<0.001 Bleeding gums after brushing at age 3 (%) Intervention: 39.1% Comparator: 49.3% 95% CI NR; p<0.01 Presence of visible plaque (%) Intervention: NR Comparator: NR 95% CI NR; p=NS (value not reported) **Modifiable risk factor:** Intervention group n=804 at baseline and n=738 at follow-up for all outcomes Comparator group n=217 for all outcomes Eating sweets at night (%) Intervention Baseline (24 months): 13.2% Follow-up (36 months): 14.8% 95% CI NR; p=NS (value not reported) Comparator Follow-up (36 months): 23.8% Intervention vs. comparator (36 months) 95% CI NR; p<0.001 No parent perform daily tooth brushing (%) Intervention Baseline (24 months): 13.2% Follow-up (36 months): 5.6%	**Limitations identified by author:** Selection of a historical cohort in lieu of a true control group may have introduced bias; No baseline caries data available for comparator group. **Limitations identified by review team:** Baseline caries data not available for historic comparator group, unknown whether this introduced bias. No power calculations or expected effect sizes reported. **Evidence gaps:** NR **Source of funding:** Public and government funded.

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
				95% CI NR; p<0.001 Comparator Follow-up (36 months): 21.1% Intervention vs. comparator (36 months) 95% CI NR; p<0.01 No fluoride toothpaste use (%) Intervention Baseline (24 months): 7.5% Follow-up (36 months): 2.1% 95% CI NR; p<0.001 Comparator Follow-up (36 months): 1.8% Intervention vs. comparator (36 months) 95% CI NR; p=NS (value not reported) No fluoride tablet use (%) Intervention Baseline (24 months): 94.2% Follow-up (36 months): 8.6% 95% CI NR; p<0.001 Comparator Follow-up (36 months): 88.8% Intervention vs. comparator (36 months) 95% CI NR; p<0.001 **Determinant:** NA	

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Whittle et al. **Year:** 2008 **Country of study:** UK (England) **Aim of study:** To determine the effects of oral health education provided by specially trained health visitors on the dental health of young children. **Study Design:** RCT **Quality Score:** + **External validity:** +	**Source Population/s:** Children attending 8 month distraction hearing test and their parents in the Burnley, Pendle, and Rossendale area, England where dental health is known to be particularly poor. **Participant characteristics:** Age 8 months (at enrolment) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** A health visitor was recruited for the study and attached to the local community dental service. The health visitor made a home visit to parents in the intervention group to provide dental health advice after enrolment (when child aged about 8 months). Advice was based on Health Education Authority recommendations. The health visitor made a second visit when the child was about 20 months to assess a diet record sheet sent to the parent in advance. They discussed what and when the child was eating and drinking based on the sheet responses. A toothbrush, toothpaste (containing 440ppm fluoride) and a leaflet ("Giving Teeth a Good Start") covering diet and tooth brushing advice were provided at both visits. **Control/Comparator description:** Normal care provided by health visitors in the area. This included verbal advice about registering with a dentist; avoiding sugary drinks, sweets and medicine; and tooth brushing. **Total sample** n=501 **Intervention** n=250 **Comparator** n=251 **Baseline comparisons:** Information on demographic, social class, ethnic origin, and educational qualifications of the parents was collected "to ensure that the test and control groups had similar characteristics", but these were not reported in this publication.	**Oral Health outcomes:** Numbers of decayed, missing and filled tooth surfaces (dmfs), and individual ds, ms, and fs counts. **Modifiable risk factor outcomes:** NA **Determinant outcomes:** NA **Follow-up periods:** About 4 years and 4 months (from enrolment at age 8 months to age 5 years) Follow-up at age 3: 70.3%; follow-up at age 5: 55.1%	**Oral Health:** At age 3: Intervention (n=181) Control (n=171) Mean dmfs (95% CI) Intervention: 2.03 (1.39 to 2.67) Control: 2.19 (1.41 to 2.97) Mean ds (95% CI) Intervention: 1.92 (1.31 to 2.53) Control: 1.84 (1.25 to 2.43) Mean ms (95% CI) Intervention: 0.07 (-0.06 to 0.20) Control: 0.34 (-0.10 to 0.78) Mean fs (95% CI) Intervention: 0.04 (-0.03 to 0.11) Control: 0.01 (0.00 to 0.20) None of the differences between intervention vs. control were significant (p values or CI for differences not reported). At age 5 (95% CI) Intervention (n=147) Control (n=129) Mean dmfs (95% CI) Intervention: 3.99 (2.94 to 5.04) Control: 4.84 (3.39 to 6.29) Mean ds (95% CI) Intervention: 3.35 (2.35 to 4.35) Control: 4.12 (2.77 to 5.47) Mean ms (95% CI) Intervention: 0.37 (0.06 to 0.68) Control: 0.40 (0.14 to 0.66) Mean fs (95% CI) Intervention: 0.27 (0.11 to 0.43) Control: 0.33 (0.06 to 0.60) None of the differences between intervention vs. control were significant (p values or CI for differences not reported). **Modifiable risk factor:** NA **Determinant:** NA	**Limitations identified by author:** Not all participants in the intervention group received two home visits (10% had no visits, 26.4% had only one visit), which may reduce effect of intervention but reflects the real life situation. Assessment of the children's teeth at 3 years may have focused attention on dental health in families from both groups and also reduced effects of the intervention. Cross-contamination between groups may have occurred as they were both from the same area. **Limitations identified by review team:** Children were recruited at their 8 month hearing test. Comparison of those recruited versus those not recruited, or not attending the hearing test, was not reported in the publication although data on demographics was collected. Those attending the hearing test and those agreeing to participate in the study may not be representative of the general population in the area. This may be reflected in significant differences between the intervention group and non-study participants (census group) at age 5. Method of selection of participants was described, but % agreeing to participate not reported. No specific inclusion or exclusion criteria other than agreeing to participate described. Randomised in balanced blocks stratified by ethnicity and location using sealed envelopes provided by the coordinating university. Method of random sequence generation not described in this publication. Sealed envelopes prepared by university dtaff but not clear how random sequence generated, if envelopes opaque, or who distributed these. Study size "adequate" (% power not reported) at the dropout levels experienced to detect a difference between groups of 0.3 SD (estimated as a 50% reduction from 2 to 1 dmft) at 3 years of age. Study would have had less power at age 5 years when dropout was higher. Trained dental examiners blinded to group allocation assessed the objective outcome (dmfs).

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					Data on demographics, social class, ethnic origin and parent education were collected "to ensure that test and control groups had similar characteristics", and randomisation was stratified by location and and ethnicity. However, these characteristics not reported in this publication. Completer analysis only. May bias results as dropout relatively high (30% at 3 years and 45% at 5 years). Mean values and CIs provided, with comparison of CIs used to assess significance. Differences and CIs or p values not reported. **Evidence gaps:** NR **Source of funding:** NHS Executive National Primary Care R&D Programme

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Wind et al. **Year:** 2005 **Country of study:** The Netherlands **Aim of study:** To evaluate the impact of a school based tooth brushing programme on oral hygiene behaviour and attitudes. **Study Design:** Cluster RCT **Quality Score:** - **External validity:** -	**Source Population/s:** Children between the ages of 7 and 10 years attending elementary schools in The Netherlands in May 1998. **Participant characteristics:** Age 7.6 (baseline mean) Sex 38.3% and 56.1% female (intervention and comparator) Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES NR Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** Daily school-based supervised tooth brushing, at the same time each day, for three-years. **Control/Comparator description:** No intervention. **Total sample** n=7 schools, 296 participants **Intervention** n=3 schools, 141 participants **Comparator** n=4 schools, 155 participants **Baseline comparisons:** Comparator group had significantly more girls than the intervention group; included as a covariate in analyses	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Frequency of tooth brushing at home and at school, assessed via parent completed questionnaire, measured on a 3 point scale for each location (0 to 3 times per day). **Determinant outcomes:** Attitudes towards tooth brushing, assessed via student completed 8 item questionnaire, assessed on a 16 point scale, with lower scores indicating poorer attitudes. **Follow-up periods:** 1 year post-intervention (follow-up NR)	**Oral Health:** NA **Modifiable risk factor:** Daily frequency of tooth brushing, mean (SD) Baseline Intervention: 2.21 (0.57) Comparator: 2.14 (0.64) 95% CI NR; p=0.32 1.5 years after intervention start Intervention: 2.85 (0.62) Comparator: 1.91 (0.53) 95% CI NR; p<0.001 Immediately post-intervention Intervention: 2.80 (0.58) Comparator: 1.91 (0.55) 95% CI NR; p<0.001 1 year post-intervention Intervention: 2.02 (0.71) Comparator: 2.00 (0.67) 95% CI NR; p=0.45 **Determinant:** Attitude toward tooth brushing, mean (SD) 1 year post-intervention Intervention: 6.02 (4.47) Comparator: 6.49 (4.00) 95% CI NR; p=0.59	**Limitations identified by author:** Use of questionnaire to assess outcomes, especially among children, may reduce validity of results; Cluster randomisation resulted in unbalanced groups. **Limitations identified by review team:** Recruitment methods and representativeness (eligible population of source population) not reported. Current study is a sub-sample of a wider cluster RCT; 7 of the original 18 randomised schools were included, unclear why these schools were selected or if they are representative of the originally randomised schools. No information on randomisation of original schools or the selected sub-sample was provided. No information on allocation methods was provided; unclear if allocation was concealed. no power calculation or expected effect size reported. Outcomes assessed via questionnaire; parents completed questionnaires regarding school based activities. Analyses adjusted for baseline differences (gender) and potential confounders (age, parental education, baseline toothbrushing behaviour). Analyses did not appear to be adjusted for clustering. **Evidence gaps:** NR **Source of funding:** NR

STUDY DETAILS	POPULATION AND SETTING	METHOD OF ALLOCATION TO INTERVENTION/CONTROL	OUTCOMES AND METHOD OF ANALYSIS	RESULTS	NOTES BY REVIEW TEAM
Author: Yuan et al. **Year:** 2007 **Country of study:** UK [Northern Ireland] **Aim of study:** To evaluate the effectiveness of a community-based oral health promotion programme at improving dental registration among preschoolers in a deprived area. **Study Design:** Non-randomised controlled trial **Quality Score:** + **External validity:** +	**Source Population/s:** Children residing in urban and rural wards in and around Belfast with the lowest dental registration rates. **Participant characteristics:** Age 0 to 2 (child range) Sex NR Sexual orientation NA Disability NR Ethnicity NR Religion NR Occupation NA Education NA SES top 10% most deprived communities in N. Ireland Fluoridation NR **Inclusion criteria:** NR **Exclusion criteria:** NR	**Programme/Intervention description:** New mothers in programme wards received a dental registration intervention lasting two years, during which time health visitors (community-based nurses) provided new mothers with dental health education, feeding cups, toothbrushes and fluoride toothpaste, registration vouchers and a list of local participating dentists. The intervention was delivered during three routine health visits when the baby was aged 7 weeks, 8 months and 18 months. Using the voucher, mothers could register children with a dental practice, and was provided with one-on-one advice regarding how to reduce the need for pain-only dental appointments and maintaining registration with the practice. **Control/Comparator description:** New mothers in comparator wards received no intervention. Wards were matched on **Total sample** n=22 wards, participants NR **Intervention** n=9 wards, participants NR **Comparator** n=13 wards, participants NR **Baseline comparisons:** Wards were matched for urban/rural location, access to Sure Start programmes, and population size.	**Oral Health outcomes:** NA **Modifiable risk factor outcomes:** Dental registration, assessed using Central Services Agency (CSA) monthly registration data from general dental practices. **Determinant outcomes:** NA **Follow-up periods:** 5 months post-intervention (% follow-up NR)	**Oral Health:** NA **Modifiable risk factor:** Dental registration among 0 to 2 year olds, % (95% CI) 6 months pre-programme Programme: 17% (15% to 20%) Comparator: 21% (17% to 24%) Mean difference: -3% (-8% to 1%); p=0.13 During the programme Programme: 25% (19% to 31%) Comparator: 22% (19% to 24%) Mean difference: 3% (-2% to 9%), p=0.21 5 months post-programme Programme: 26% (23% to 29%) Comparator: 22% (19% to 25%) Mean difference: 4% (-8% to 0%)*, p<0.05 *reported difference outside range of reported 95% CI; presumed to be an error in reported 95% CI. Dental registration among 3 to 5 year olds, % (95% CI) 6 months pre-programme Programme: 52% (45% to 58%) Comparator: 46% (41% to 51%) Mean difference: 5% (-2% to 15%); p=0.14 During the programme Programme: 53% (46% to 60%) Comparator: 48% (44% to 53%) Mean difference: 4% (-3% to 12%), p=0.25 5 months post-programme Programme: 54% (49% to 60%) Comparator: 52% (46% to 57%) Mean difference: 3% (-5% to 11%), p=0.48 **Determinant:** NA	**Limitations identified by author:** Intervention directed at mothers of infants, not older but at risk preschool children; association between dental attendance/registration and oral health debated. **Limitations identified by review team:** Intervention and comparator wards were drwn from the top 10% most deprived communities in Northern Ireland, and matched on urban/rural location, access to Sure Start programmes and population size. Method of selecting wards not reported (reported as purposive). No inclusion/exclusion criteria reported. Non-randomised intervention study; intervention and comparator wards were matched on several potential confounding variables (location, community size and service access). Allocation methods not reported. No power calculation or expected effect size reported. Dental attendence assessed using government data (CSA registration data). No information was reported on baseline differences between intervention and comparator wards. Mean differences and 95% CIs presented as proportions (not %) in results section, transformed to % for clarity during data extraction (RC). **Evidence gaps:** NR **Source of funding:** Eastern Health and Services Board