

Smile 4 Life Evaluation Report.

December 2015



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SUMMARY

The Smile 4 Life pilot commissioned by Public Health Derby City Council, has identified high levels of poor oral health in six Derby Primary Schools in nursery (3-4 years) and reception (4-5 years) children participating in the pilot. On average, the children in this pilot had nearly three times higher levels of poor oral health compared to England as a whole. Also parents of nearly half of the children in the pilot identified as having poor oral health reported that they did not have a dentist. Poor oral health is a potential indicator for vulnerability and neglect which impacts on overall health and school readiness.

The aim of the programme was to increase children's exposure to fluoride by offering both tooth brushing and fluoride varnish to delay childhood caries. The key outcomes can be summarised as followed;

- All participating schools received training in delivering a supervised tooth brushing programme and were given additional curriculum resources.
- 98% consent rate was achieved for the programme
- 455 children received fluoride varnish, 44% received two applications.
- All children taking part were given additional brushes and toothpaste to take home to reinforce skills/learning.
- A reduction in decay rates was observed.
- Frequency of tooth brushing had improved with more children brushing at least twice a day.
- Significant increase in oral cleanliness was noted across all settings.
- Uptake of dental visits had increased.
- No significant change in parental behaviour relating to giving sugary snacks and drinks was reported.
- Clear links are demonstrated with the Early Years curriculum contributing to positive oral health outcomes for young children

The Derby City Smile4Life pilot tested an evidence based initiative against the feasibility of delivery within early years settings. It supports current evidence that targeted tooth brushing and fluoride varnish programmes in community settings have an impact upon inequalities and contribute to preventing caries in young children. Community fluoride varnish programmes do raise further questions in terms of cost/resource implications. With just over half the children seen receiving the two recommended applications of fluoride varnish, further work is required to engage general dental practices to expand their care for children under five and to increase fluoride varnish applications.

The outcomes demonstrate that this programme within Early Years settings, establishes and supports the life-long habit of tooth brushing with fluoride toothpaste giving a long term and sustainable preventive effect reducing both decay and gum problems.

INTRODUCTION AND BACKGROUND.

This document aims to evaluate a preventive oral health pilot offering tooth brushing and fluoride varnish within six Derby City schools which took place between September 2013 and May 2015. The evaluation will help inform the feasibility of implementing further similar oral health improvement interventions.

Tooth decay is largely preventable and the most prevalent disease of childhood. Poor oral health may result in pain and infection leading to problems with nutrition, growth, school attendance and speech ⁽¹⁾. Poor oral health is more prevalent in deprived areas and also some ethnic groups, language and cultural issues present additional barriers to access for both prevention and treatment services. Significant health inequalities remain in the oral health of children in England ⁽²⁾. Poor oral health may also be indicative of dental neglect and wider safeguarding issues.⁽³⁾

Poor oral health also impacts on hospital admissions for children requiring treatment under general anaesthesia.⁽⁴⁾ Where children with tooth decay are not diagnosed early and treated appropriately in primary care, it will be necessary to extract teeth too badly damaged to be restored. This requires referral to hospital for specialist care. General anaesthetic is often the only way to provide care for young children undergoing multiple tooth extractions to reduce pain and anxiety as they find it difficult to co-operate with treatment. Approximately 46,500 children and young people under 19 were admitted to hospital for treatment of dental caries in 2013–14 in England. These numbers were highest in the five- to nine-year-old age group. It is also costly for the NHS, with £30 million spent on hospital based tooth extractions for children aged 18 years and under in 2012–13.

Oral health of five year old children is also an indicator on the Public Health Outcomes Framework.⁽⁵⁾ The results of the 2011/12 epidemiological survey of 5 year old children indicate that 31% of the five year olds examined in Derby City have experience of dental decay, which is higher than the average for both England (27.9%) and the East Midlands (29.8). The average number of decayed, missing or filled teeth in the whole Derby City sample was 1.09, which is higher than the average for England (0.94) and the East Midlands (0.92). ⁽⁶⁾

Results from the Oral Health Survey of 3 year olds in England 2012-2013, also indicate that 13.5% of three year old children examined in Derby City have experience of dental decay, which is higher than the average for England (12%). The average number of decayed missing or filled teeth in the whole sample was 0.73, which is also higher than the average for England (0.36) and the East Midlands (0.43). ⁽⁷⁾

The Health and Social Care Act (2012) conferred the responsibility for health improvement, including oral health improvement, to local authorities. Local authorities are now required to provide or commission oral health promotion programmes to improve the health of the local population. They are also required to commission oral health surveys as part of the Public Health England (PHE) dental health public health intelligence programme.

The Local Government Association document, 'Tackling poor oral health in children - Local government's public health role' (PHE2014),⁽⁸⁾ reinforces the role of local authorities to promote good oral health and highlights the need to build oral health into commissioning frameworks to:

- adopt an integrated approach with partners for oral health improvement
- use both targeted and universal approaches
- consider the evidence base to what works

Establishing early good oral health habits should save public resources in the long-term by minimising treatment need, and preventing children from suffering needless pain. The Marmot review ⁽⁹⁾ highlights the importance of the early years in affecting health and wellbeing throughout the life course. The involvement of schools in the delivery of a preventive oral health programme creates supportive environments to enable children adopt healthier lifestyle practices.

The Smile 4 Life Pilot

Drawing from principles and learning of comparable programmes, (Scotland & Wales)^(10,11) Smile4Life was designed for Derby City. An 18 month pilot was proposed to deliver an evidence based school oral health programme to increase children's exposure to fluoride by regular tooth brushing in school and twice yearly fluoride varnish applications.

AIM:

The aim of the pilot was to test the feasibility of delivery of supervised tooth brushing and fluoride varnish applications in schools and to evaluate its impact on the rate of childhood caries. The schools identified were in the most deprived quintiles of Derby City taken from public health data within Derby City Council.

The Smile 4 Life pilot was commissioned by Derby City Council Public Health in March 2013 through to May 2015. It was provided by Derbyshire Community Health Services (DCHS) Oral Health Promotion Team. The population coverage in the service specification includes at least 300 children in 6 schools within the most deprived quintiles of Derby City each having a diverse mix of cultures and languages;

- Arboretum Primary School
- Cottons Farm Primary School (previously Sinfin Primary)
- Firs Estate Primary School
- Harrington Nursery School
- Pear Tree Infant School (reception)
- St James Infant School

The programme was designed to reach up to 500 children to accommodate the fluctuations in school populations and flows in and out of the programme. The programme started in September 2013 in nursery (age 3-4 years) & reception (age 4-5 years) and moved with the children as they progressed into their next academic year.

In order to achieve the aim of the pilot, the programme specification included the delivery of the following activities;

- Pre-programme and post-programme dental examination for decayed, missing and filled teeth (dmft) and oral cleanliness, carried out by trained and calibrated dentists.
- Two applications of fluoride varnish to teeth carried out by a member of the dental team within 18 months.
- Support for implementation of tooth-brushing programmes in schools.
- Development of a curriculum pack and educational resources to promote oral health messages.
- Dissemination of take-home tooth brushing kits.
- Pre-programme and post-programme parent questionnaires on children's oral health promoting behaviours such as visiting the dentist, tooth-brushing and diet, and parent's social norms, perceived behavioural control and attitudes towards these behaviours.

How Smile4Life was delivered.

Refer to **Appendix 1** for descriptive analysis.



EVALUATION METHODOLOGY

Evaluation consisted of collecting and analysing the following data;

- Consent and participation rates by school
- Clinical data which measures the dmft (decayed, missing and filled teeth) and cleanliness of teeth.
- Questionnaires to parents/carers in target classes
- Staff questionnaires
- Feedback from the OHP team

Impact outcomes:

- Increased oral cleanliness (*measured by cleanliness score*)
- Changes in the rate of decay (*measured by dmft score*)
- Awareness of the importance of oral health in the school community (*measured by surveys*)
- Number of children whose parent / carer reports that they visit a dentist for regular dental checks (*measured by surveys*)
- Participation in brushing at home (*measured by surveys*)
- Consumption of sugary snacks and drinks (*measured by surveys*)

Process outcomes:

- Parental engagement/workshops for all schools in programme
- Staff training for all schools in programme
- 300 children (at least) in survey for oral cleanliness and dmft at both baseline and post survey.
- Surveys to be distributed, collected and analysed from all participating schools
- Consent for fluoride varnish application sought from at least 300 children's parents/carers and 300 children to receive fluoride varnish
- Consent for tooth-brushing sought from at least 300 children's parents/carers and 300 children (at least) to participate in supervised tooth brushing
- Offer of a dental surgery visit for participating schools
- Educational materials on oral health to be given to all participating schools

RESULTS: OUTCOME EVALUATION

The potential reach of the programme within the targeted six schools was 459 children aged 3-4 years old. A breakdown of those numbers by school is shown below.

School A	School B	School C	School D	School E	School F	Total
140	39	69	74	90	47	459

Figure 1; Potential reach of Smile4Life programme by Schools participating. Sept 2013.

School A	School B	School C	School D	School E	School F	Total
98%	100%	97%	97%	99%	100%	98%

Figure 1: Showing proportion of consents gained.

Survey Data.

Some children did not complete all the components of the programme from start to finish. Those missing the baseline survey were either absent or not yet in school, these children would have received one if not two applications of fluoride, participated in tooth brushing, and may have been present for the post survey.

	School A		School B		School C		School D		School E		School F		Total number of children seen
	seen	not seen	seen	not seen	seen	not seen	seen	not seen	seen	not seen	seen	not seen	
Baseline Survey	113	4	30	4	44	2	49	12	78	6	24	17	338
Post Survey	134	14	42	6	88	17	0	0	158	14	59	1	481

Children not seen include those who were not in school that day, or refused.

Figure 2; Number of children seen throughout the programme at both Baseline and Post survey.

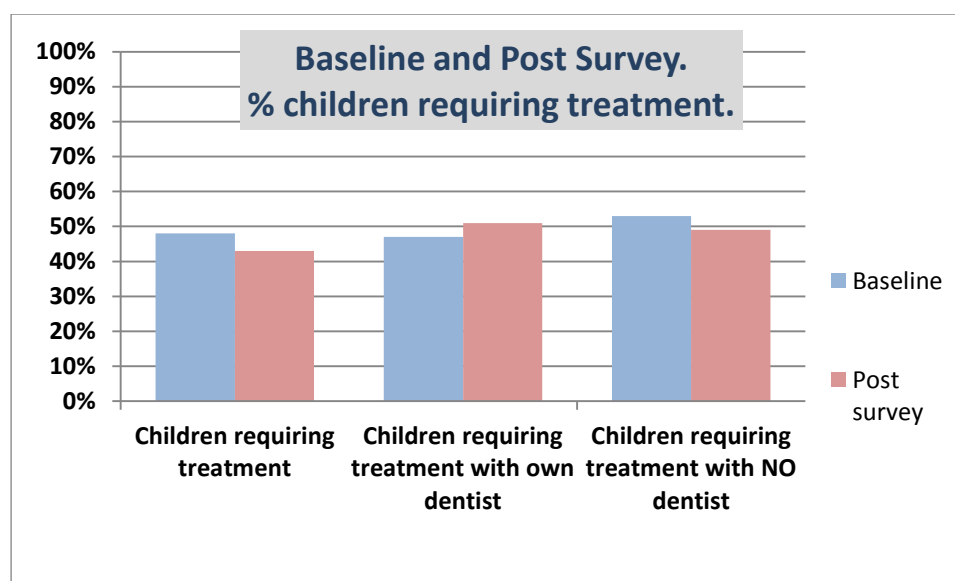


Figure 3; % children requiring treatment at Baseline and Post survey.

These figures demonstrate that by the end of the programme, it was reported more children were accessing dental services and the number of children without their own dentist had decreased. Overall the percentage of children requiring treatment had also decreased.

Fluoride varnish visits

Fluoride varnish visits were carried out by the Dental Therapist and an extended duty Dental Nurse. Under her duty of care, the Therapist noted a number of children required further dental care. Whilst this was not an examination, appropriate advice to seek further care from a dentist was given. Below is a tabular version of the results from these visits.

<i>Fluoride Varnish Visit</i>	Total number of children who received Fluoride Varnish	Number of children refused	Children need to be seen by dentist	Children referred with a dentist	Children referred who have no dentist.
Feb/March 2014	381	15	75 (20%)	36 (48%)	39 (52%)
Oct/Nov 2014	455	5	206 (45%)	105 (51%)	101 (49%)

Figure 4: Data from fluoride varnish visits

At the first visit in February/March 2014, the average number of carious teeth amongst the cohort of 75 children requiring treatment was 7 teeth; 18 of these children had ten or more carious teeth, which represent at least half of their normal dentition. On the second fluoride visit more children were identified with having persistent treatment needs. New children had entered the school that had not previously been included in the baseline examination survey; in addition, some children who had been examined in October/November 2013 with decay, had no evidence of any treatment being done within the past 12 months.

For the purpose of this evaluation we focus on the cohort of children who had,

- **participated in both baseline and post clinical surveys,**
- **received fluoride varnish**
- **participated in tooth brushing at school.**

	School A	School B	School C	School D & E	School F	Total
Number of children matched Baseline and Post Survey	90	24	29	84	16	243
Number of matched children who received 2 applications of Fluoride Varnish	76	21	23	67	15	202

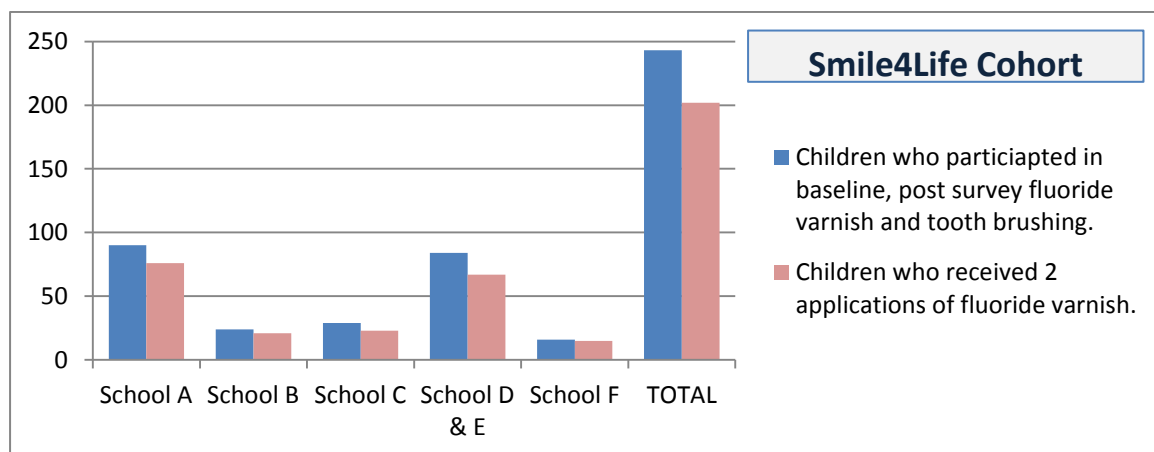


Figure 5; Children who participated in all elements of S4L programme.

Of the 243 children who had participated in both baseline and post survey, 202 (83%) children had received 2 applications of fluoride varnish. All other children had one application of fluoride, this is due to absence, or the child was on a phased entry and therefore not in school.

Matched Data

Matched data n=243	Mean dt	%dt>0	Mean dmft
Baseline Survey 2013	2.82	52.67	3.13
Post Survey 2015	2.17	43.21	3.01

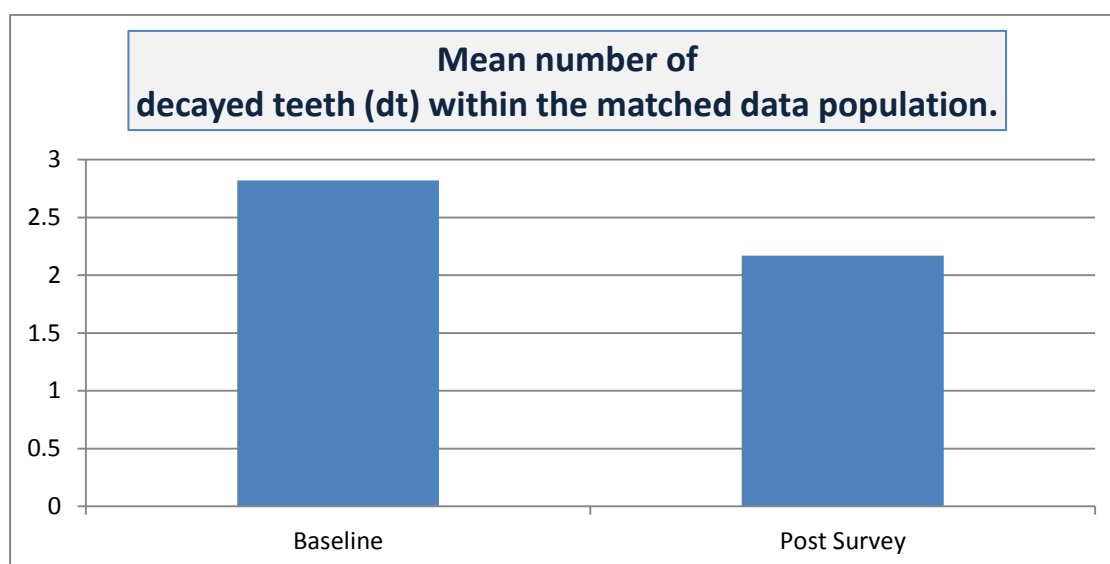


Figure 6; Graph showing mean number of decayed teeth in S4L Cohort.

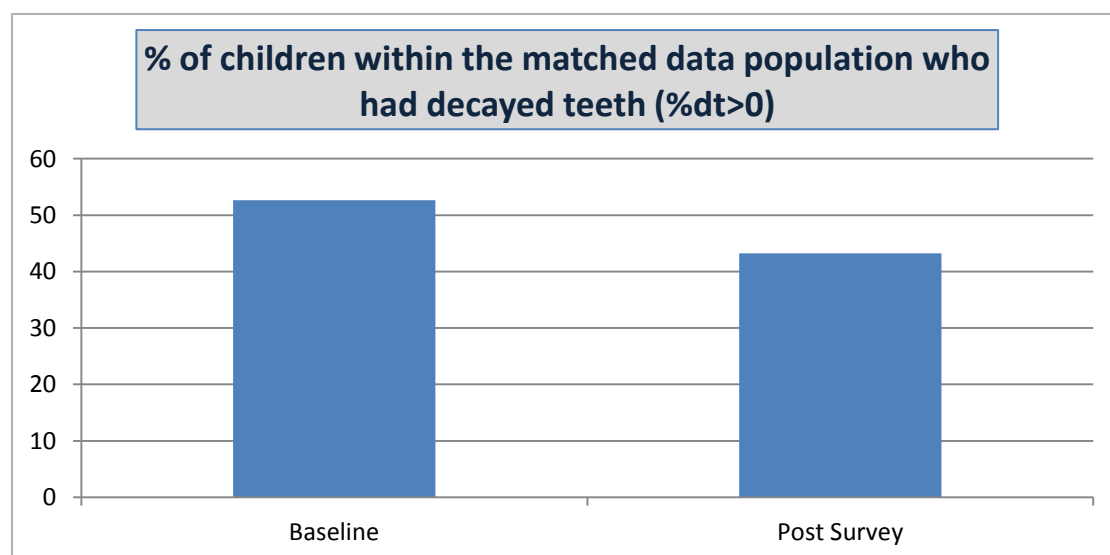


Figure 7; Graph showing % children who had decayed teeth (%dt>0) in S4L Cohort

Of the matched S4L cohort of children, the overall number of decayed teeth had gone down which implies a reduction in decay this is due to either the teeth being treated (filled or extracted) or exfoliated.

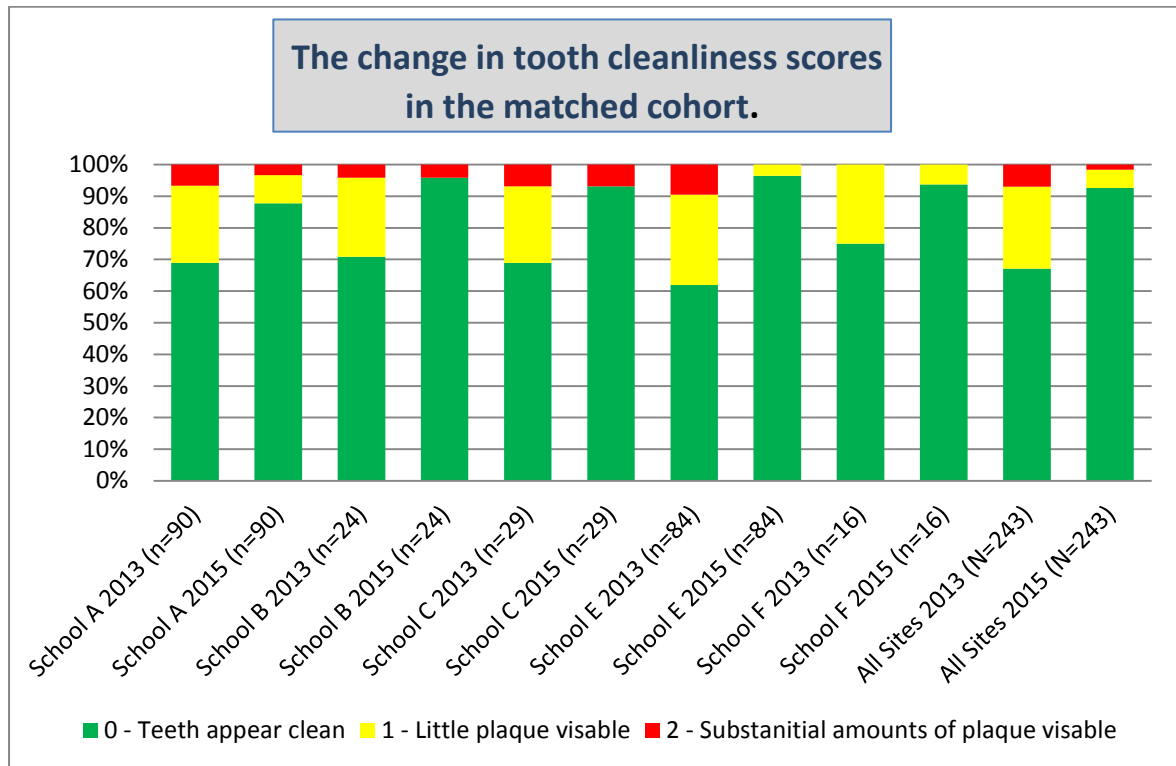


Figure 8; Graph demonstrating outcome of tooth cleanliness from Baseline to Post Survey.

By the end of the programme all settings demonstrated increased tooth cleanliness which suggests the positive benefits of tooth brushing within the school setting.

PARENT/CARER QUESTIONNAIRES

A validated questionnaire which had previously been tested in Belgium (Van den Branden et al (2013), Skeie et al (2006) and Adair et al (2004)) was used to assess oral health related behaviour for parents with children under 5 years. There were 14 questions which tested knowledge, behaviour, norms and intentions to change. Questionnaires were distributed before the baseline survey, parents were allowed 2 weeks to return their response in a sealed envelope to either the teacher or school office. To maximise response rates, a second questionnaire was sent to the original cohort. Post questionnaires were completed after the final survey in May 2015. Responses were entered onto an Excel spread sheet for analysis

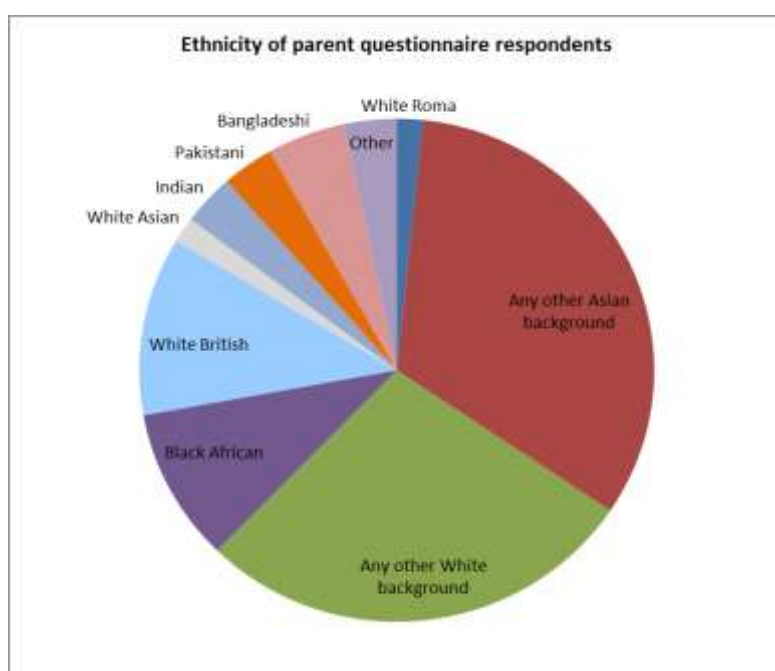
Of 530 questionnaires that were sent out at baseline, 175 were returned completed (response rate of 33%).

Of 474 questionnaires that were sent out at follow-up, 172 were returned completed (response rate of 36%).

A total of 67 respondents returned both baseline and follow-up questionnaires. These form the cohort of matched data analysed below.

School	Total Baseline	Total Follow Up	Matched
A	61	43	21
B	16	19	6
C	24	37	13
D&E	56	48	18
F	18	25	9
Total	175	172	67

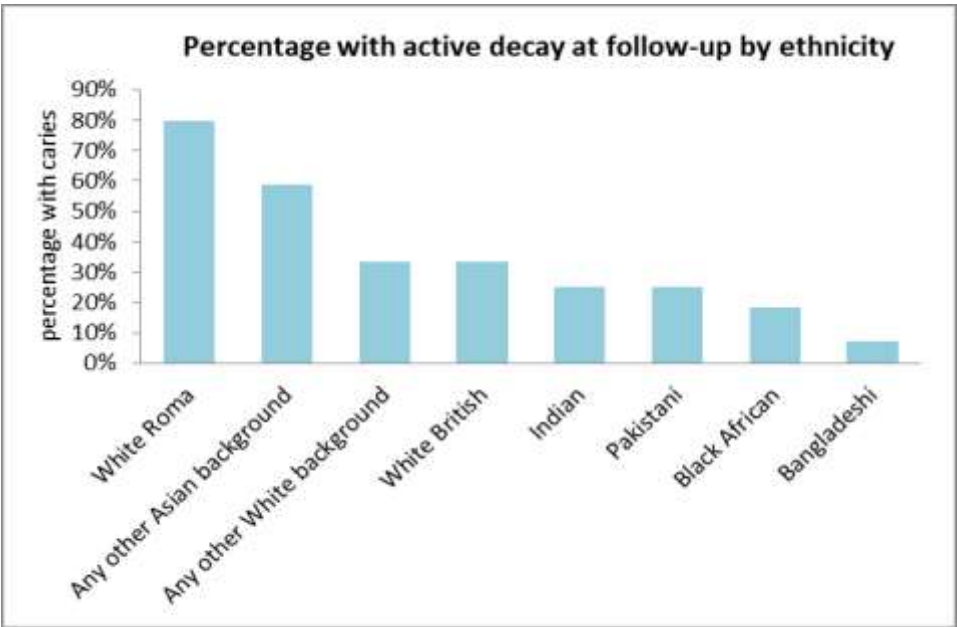
The length of the questionnaire, literacy levels, and the fact that it had not been translated may have contributed to the response rate.



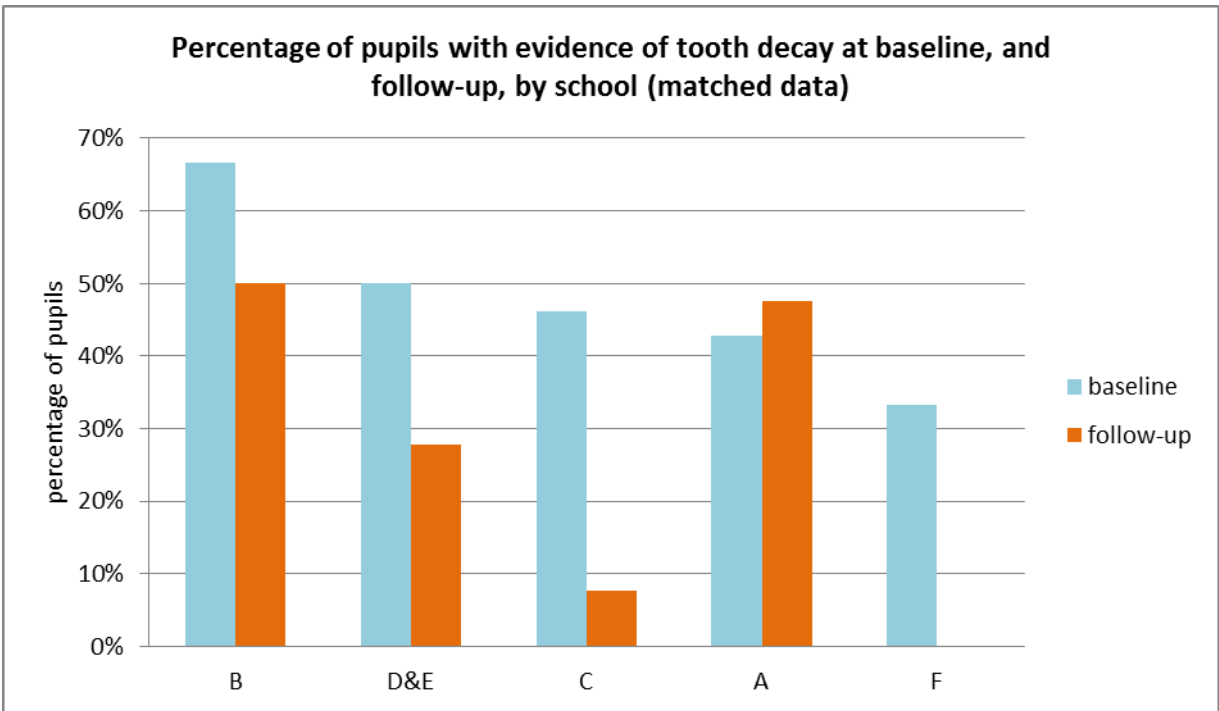
The ethnic make-up of the children whose parent/carer completed the survey is shown in the chart below. 'Other – Asian' was the most prevalent ethnicity, with 'Other - White 'as the next biggest ethnic category.

The chart indicates the highly ethnically diverse nature of the populations at the target schools in this pilot.

Ethnicity data were only collected at follow-up, and for some ethnic groups the numbers of respondents was small. Because of these small numbers, the prevalence of decay by ethnicity is given below using the whole cohort of follow-up respondents (n=172) rather than the smaller matched cohort (n=67). We can see that tooth decay is most prevalent in the Roma group, however the small numbers means this finding should be treated with some caution.

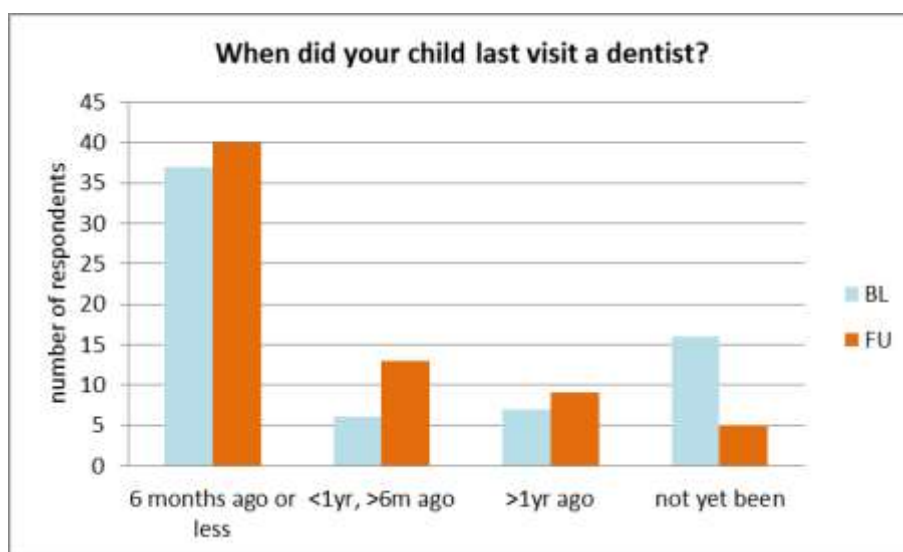


The graph below compares the prevalence of active tooth decay before and after the Smile 4 Life intervention, by school. It should be noted that the raw numbers are small, especially for schools B and F. At school F no pupils at follow-up had evidence of tooth decay. Overall, 46% of the matched respondents had evidence of active decay at baseline, and 28% had evidence of active decay at follow-up.



Dental attendance

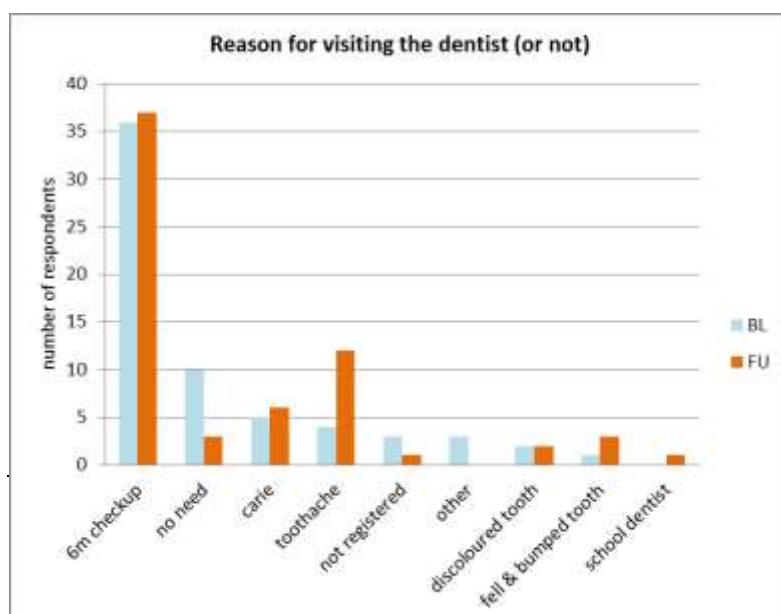
Dental attendance was assessed using the parent questionnaire. The graph below shows that there was a reported increase in visits to the dentist across all frequencies of visit, and a corresponding drop in the number reporting not having been to the dentist yet.



When last visited dentist	Baseline	Follow-up
6 months ago or less	55.2%	59.7%
<1yr, >6m ago	9.0%	19.4%
>1yr ago	10.4%	13.4%
not yet been	23.9%	7.5%

The reason given for visiting (or not) the dentist is shown in the graph below. There was a notable increase in visits for toothache and a reduction in respondents reporting they felt there was no need to visit a dentist. Whilst reflecting the high unmet needs in these communities, S4L could have raised awareness of how to access dental care.

There appears to be a very minor effect of the Smile 4 Life intervention on potentially discouraging visits to the dentist, in that 1 respondent (2 in the full follow-up cohort) reported not visiting the dentist because a dentist had been into the school. This highlights the risk of conducting screening or examinations within the school setting in relation to perceptions of care.



The mean domain score for check-up behaviour at baseline was 4.96, and at follow-up it was 5.3. A higher score indicates more desirable behaviour. The observed improvement between baseline and follow-up was statistically significant ($P=0.008^1$).

Barriers to accessing a dentist expressed in Parent Survey:

Six baseline respondents reported access to dentistry as the main reason for not visiting the dentist. These responses are given below:

Because I cannot find one, everywhere I go they said is full booked. I am trying to look in other area
Can't get appointment
Every dentist I've try getting her in they have no places - I don't know any more
I was told that she couldn't be registered until she was 4
On waiting list
We took him before - they said bring him when he is three

Five follow-up respondents reported access to dentistry as the main reason for not visiting the dentist. These responses are given below:

Because they don't give us space. They says they already full
I went to my dentist but he said we are not taking
As they were non taking NHS patients when I tried to get him a dentist
Because dentist keeps cancelling appointments

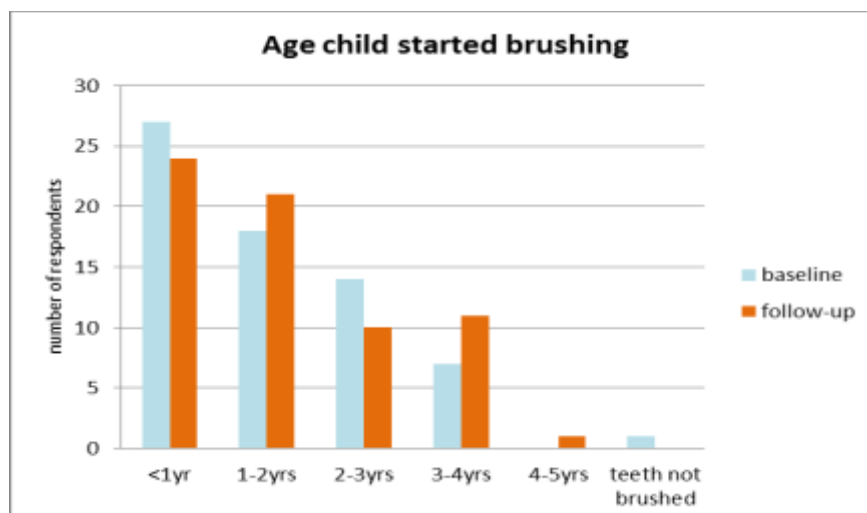
Brushing behaviour

The vast majority of respondents reported that their child has their own toothbrush, and at follow-up all children in the cohort had a toothbrush.

Does your child have their own toothbrush?

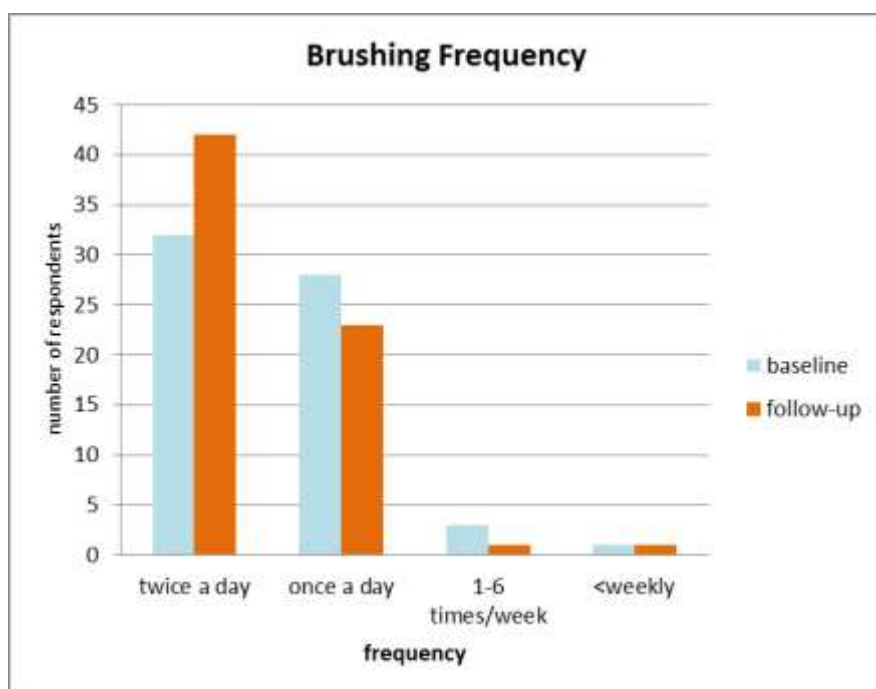
	BL	FU
Yes	64	67
No	1	0
% with no toothbrush	1.6%	0.0%

The most prevalent age at which children started to brush their teeth was under one year. The graph below shows increases in numbers reporting starting at age 3-4 years and 4-5 years which could potentially be attributed to Smile 4 Life, but differences seen at earlier ages suggest reporting bias as this would not have changed for this cohort. The same parent/carer may not have completed both questionnaires, and some parents may have given socially acceptable answers.

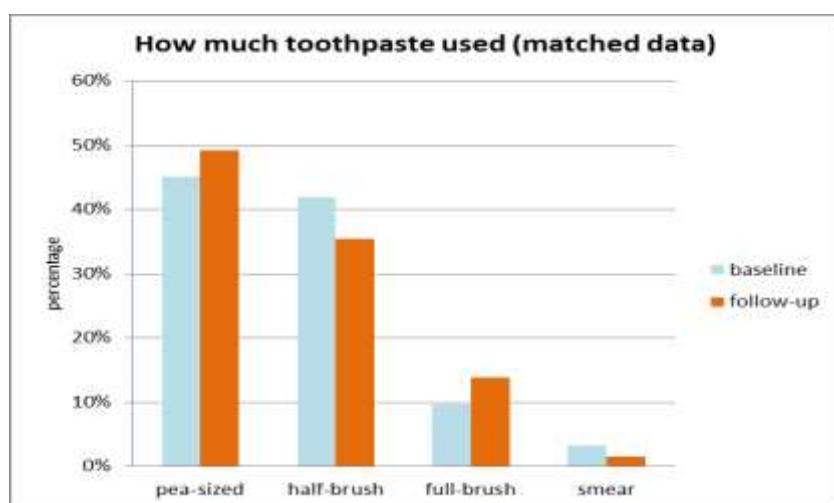


Frequency of brushing is a key outcome for the Smile 4 Life pilot. It is therefore encouraging to observe, below, that the proportion of respondents reporting the desired frequency of twice or more per day increased from 50% to 62.7%. The change in brushing frequency between baseline and follow-up was significant (95% confidence level)²

Brushing frequency	baseline	Follow-up
twice a day	50.0%	62.7%
once a day	43.8%	34.3%
1-6 times/week	4.7%	1.5%
<weekly	1.6%	1.5%



It is recommended children up to the age of 3 years should use a smear of toothpaste on their brush, and for children over the age of 3 a pea-sized amount of toothpaste is recommended. The graph below shows a mixed picture, with an increase in those reporting using the recommended pea-size amount, but also an increase in those reporting using a full-brush amount.



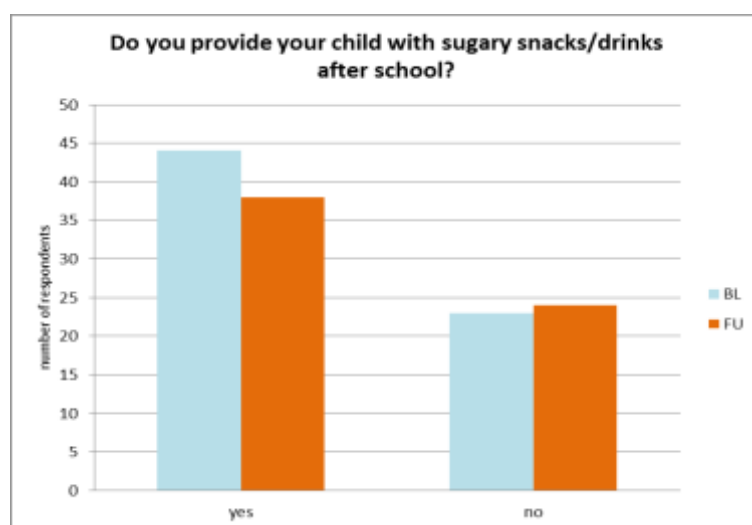
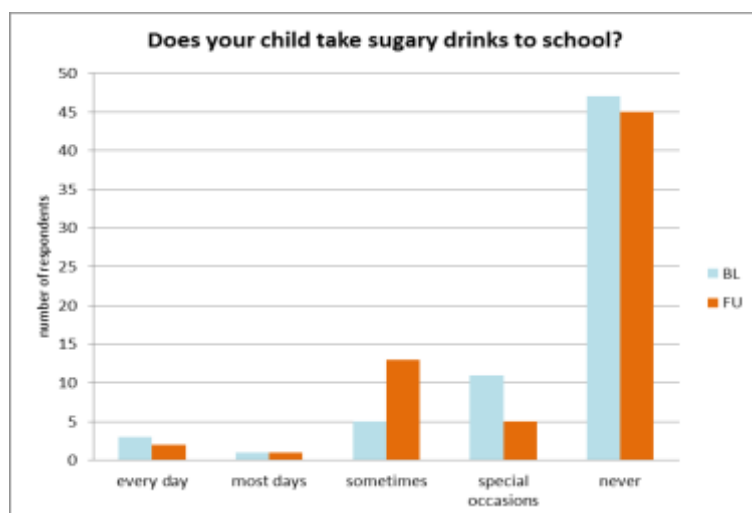
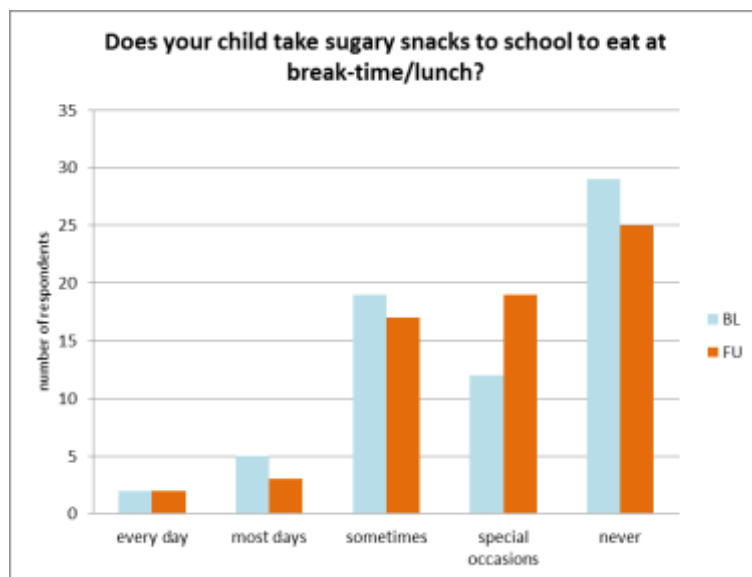
The mean domain score for brushing behaviour at baseline was 9.9, and at follow-up it was 9.6. A higher score indicates more desirable behaviour. No statistically significant change in brushing score was observed between baseline and follow-up ($P=0.167^3$). No correlation was observed between brushing score and dmft.

² $P=0.05$ (Wilcoxon signed ranks test for related samples)

³ Paired t-test

Dietary Behaviour

The mean diet score at baseline was 6.19. This score remained largely unchanged at follow-up (6.13).



No significant change in behaviour relating to taking sugary snacks or drinks into school was observed between baseline and follow-up (snacks $p=0.8$; drinks $p=0.5$)⁴. Similarly, there was no observed change in behaviour relating to the giving of sugary drinks or snacks after school ($p=0.49$).

No correlation was observed between diet score and dmft or deprivation.

⁴ Wilcoxon signed ranks test

Other Domains

People's health behaviour, whether relating to oral health or any other aspect of our health, is shaped and determined by various factors. According to the Theory of Planned Behaviour (Ajzen, 1991), our actions are guided by behavioural beliefs, norms and perceived behavioural control.

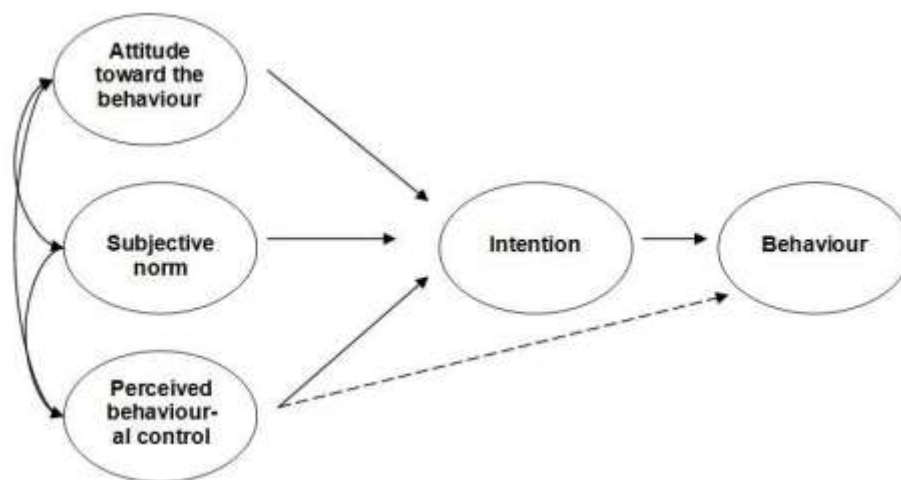


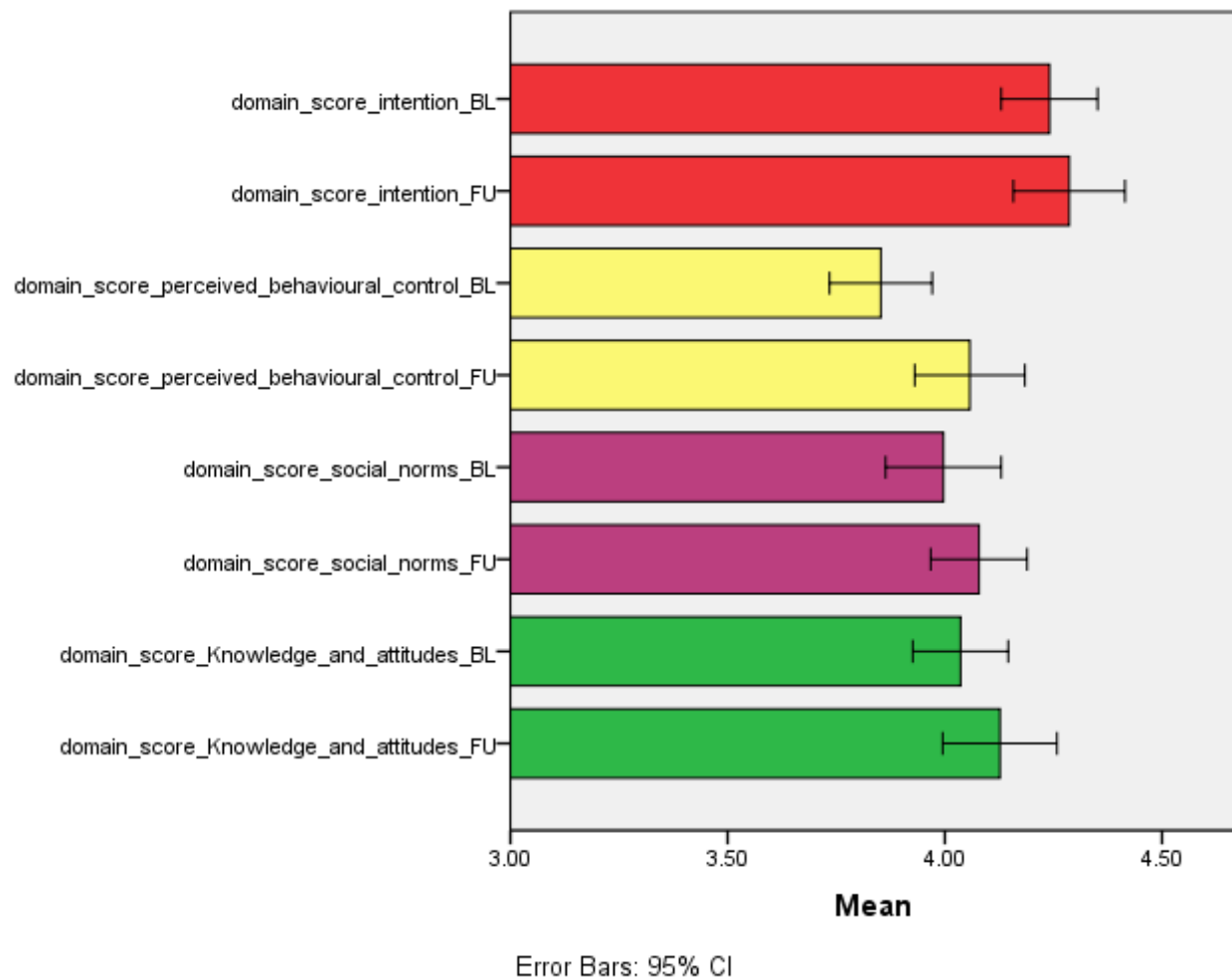
Figure 9: Theory of Planned Behaviour – Ajzen 1991.

Attitude toward the behaviour refers to the degree to which a person has a favourable evaluation or appraisal of the behaviour in question. Norms refer to the perceived social pressure to perform the behaviour. Perceived behavioural control refers to people's perception of the ease or difficulty of performing the behaviour of interest. The way these factors interact leading to a given behaviour is illustrated by the diagram in figure 9.

A central factor is the individual's intention to perform a given behaviour. As a general rule, the stronger the intention to engage in a behaviour, the more likely should be its performance. The parent survey included questions that aimed to measure these domains of behaviour in relation to oral health.

Example domain statements	
Knowledge & attitudes	If my child brushes their teeth twice a day, it can prevent tooth decay in the future.
Social norms	In our family it's normal to take a child at an early age to the dentist for a checkup
Perceived behavioural control	It is my responsibility to prevent my child getting tooth decay
Intention	I am unlikely to take my child to the dentist

For the four domains within the Theoretical model, a mean average score was calculated for the questions relating to each domain. A comparison between these domain scores at baseline and follow-up is given in the graph below.



It is encouraging to note that for all of the above domain scores there has been an increase between baseline and follow-up, however the only domain for which this increase has statistical significance is perceived behavioural control ($p=.009$)⁵ This finding indicates that, following the Smile for Life intervention, parents felt it would be easier to adopt desirable oral health behaviours than before the intervention.

Perceived behavioural control was also the domain with the lowest mean score at baseline, suggesting that within the population surveyed parents typically find it difficult to adopt desirable oral health behaviours. In contrast, intention scores were higher at both baseline and follow-up compared to the other three domains. This suggests that parents' intentions were good but that they face barriers to adopting good oral health promotion practices.

⁵ Paired samples t-test

RESULTS: PROCESS EVALUATION

Feedback from school staff and the OHP team (see Appendix 2) highlight the following points;

Benefits: <i>School Staff</i>	Benefits: <i>OHP Team</i>
○ Enjoyment and participation of children ○ Establishes good daily habits – early interventions ○ More children were accessing the dentist by the end of the project ○ Free brushes and paste to those families who need it most ○ Parents prompted to seek dental care ○ Children who do not go to the dentist have the opportunity of receiving fluoride varnish ○ Provides a positive introduction to dentistry for those children with little or no experience of accessing a dentist ○ Develops a lifetime skill – positive outcome ○ Provides an enabling environment for children to participate in a skill – confidence	○ Clear links to EYFA curriculum – PSE development, communication and language, physical development. ○ Contributes to OFSTED framework ○ Encourages partnership working ○ Addresses inequalities – children who do not normally brush teeth or have access to brush and paste can do so in EY settings. ○ All participating schools received additional resources to support the curriculum
Challenges: <i>School Staff</i>	Challenges: <i>OHP Team</i>
○ Some teachers found it difficult to manage on a day to day basis ○ Too many children to oversee at one time ○ Conflicting demands v curriculum delivery ○ Additional pressures on timetable ○ Extent of dental disease noticeable resulting in follow up with parents, time consuming.	○ The amount of translation required to keep parents informed ○ Gaining parental consent throughout the year is a constant ○ Engaging parents to promote oral health messages ○ Scheduling oral health clinical visits to fit around school activities ○ Identifying children with similar names required careful monitoring, teaching staff time required
Perceived Risks: <i>School Staff</i>	Perceived Risks: <i>OHP Team</i>
○ May devolve parental responsibility around brushing at home if done at school.	○ Identifies potential vulnerabilities in children in terms of neglect ○ Fluoride Varnishing is resource intensive. Question cost v benefit? ○ Unknown medical histories where language is a barrier – possible contraindication for use of fluoride varnish. ○ Question the efficacy of fluoride varnish when the diet is high in sugar and oral hygiene is minimal. ○ Potential cross infection of toothbrushes due to poor storage ○ Committed staff who leave school

DISCUSSION

Impact Outcomes

It is worth noting that the sample size would have been larger if the baseline survey was planned in the second term starting January 2014. This would have allowed new children who were on a phased entry to be more settled and attending school more frequently.

Local clinical data was based on a mixed age cohort (ages 3-5), the national data sets are based on specific age cohorts (3 and 5 year olds), for this reason we were not able to draw direct comparisons between national and local data.

Within the total number of children surveyed, access to dental services had increased. However, of those requiring treatment just under half the children still do not have their own dentist. This continues to highlight an area of unmet dental need and the barriers that exist in accessing services. These include cultural norms, language, lack of understanding of NHS dental system, fear, mistrust, and lack of NHS capacity from dental practices.

The clinical data gives evidence of increased oral cleanliness, this was supported by responses given in parent questionnaires which showed an increase in frequency of brushing from the start of the pilot. This in part would be due to tooth brushing taking place in the school and may have also prompted better routines at home.

Current evidence suggests twice yearly fluoride varnish applications over a 2 year period to be effective with a 37% reduction in caries of deciduous teeth ⁽¹²⁾. By the end of the pilot 455 children had received fluoride varnish; of the 243 children with matched clinical data, 83% (202) had received two applications of fluoride varnish. Delivering Better Oral Health guidance advises that children who experience high caries can receive up to 4 fluoride applications a year. Of the children we saw who required treatment just over half did not access a dentist, this demonstrates a negative impact on accessing preventive services in terms of caries outcomes. Only 44% of the total number of children seen (455), received two applications of fluoride. This demonstrates the challenges of delivering FV in a community setting when children may be absent or have left. This highlights the impact of transient communities upon sustained interventions to achieve better outcomes.

Ethnicity data within the pilot did demonstrate prevalence of active tooth decay in children mainly from Eastern European and Middle Eastern cultures. This supports research that there is an association between ethnicity and tooth decay but the associations are not straightforward, and link to socio-economic status, amount of time living in the UK, whether English is spoken, and how early cultural and traditional influences are deeply rooted, particularly relating to diet and access/experience of dental care.

Whilst there was no dietary intervention within the pilot, the parent questionnaire did explore dietary behaviour in relation to use of sugars. The questions asked showed no significant change in the giving of sugary snacks/drinks within the cohort. It is worth noting that parent's intention to pursue positive health behaviours were often met with barriers. One example of this includes the perception in some new emerging communities, that drinking fizzy drinks were seen as a luxury item which contributes to status by embracing the western culture.

Process Outcomes

1. Organisation and delivery of the programme:

School staff felt they were supported well by the S4L team in helping to implement the programme. Organising dates to visit the schools often took time to co-ordinate diaries. It was more challenging arranging the clinical survey from the dentist and team as clinical commitments were often working 2-3 months ahead. This could have the potential to delay implementation if communication links are not strong. All components of S4L were implemented within an appropriate timeframe for the schools. Original timeframes indicated that the baseline data was collected during September 2013, as some children were still coming into school late into September; the baseline data was then planned from October. The first fluoride varnish was arranged after Christmas to allow children to settle into school and establish brushing routines at school. Information on timetables of schedules for the fluoride visit, dental surveys and letters which needed to go to parents could be improved. Whilst we communicated this to the co-ordinators, some teachers felt they did not have this information soon enough.

The activities in the last term of the programme stretched the OHP team, dental staff and teaching staff. This included the post survey, disseminating and collecting parent questionnaires, plus staff questionnaires. End of the summer term was not a good time to collect all this information as children are restless and teachers are tired, this created extra pressure between the OHP team and schools involved. Further programmes would not involve this level of data collection except routine evaluation and quality monitoring.

Recruitment:

The process for recruiting schools was generally positive, only one school declined. The healthy schools co-ordinator for that school did not have the support of key staff to deliver the programme who felt this an additional task in their schedules. Whilst the funding allowed us to offer the programme in just 6 schools, it was felt that other schools would also benefit from this intervention. The current OHP service specification (contract) for Derby City includes expanding the offer of S4L to other early years settings. A common thread of feedback we received throughout the programme related to the need to promote oral health at a much earlier age. The S4L team feel that future work targeting early years settings would be more beneficial, this view was supported by feedback from school staff.

Staff Training:

Staff training is an important element to gain commitment at the beginning of the programme. In all six schools the co-ordinators and the teaching staff taking part attended a training session which included guidelines for gaining consent, protocols for safe storage of toothbrushes, infection control, basic oral health messages, and signposting. Feedback from the staff indicated that part-time/job share staff and new staff may not have been included in the training. Improved communication with the co-ordinators would help to identify these staff. The training guide has now been amended which includes clarity of what is expected of the co-ordinator within each school, and a section at the back for staff to sign which indicates their commitment to the delivery of the programme.

Oral Health Resources:

At the planning stage of the programme it was suggested that children had the opportunity to visit a local dental practice as a learning experience. The implementation of this was impractical for a variety of reasons. This included organisation of groups of children in/out school, transport, time, availability of dental surgeries with loss of income for dental practices involved.

A dental role play area was set up in each setting prior to the dentist coming into school which proved a valuable resource. The S4L team produced a CD Rom for each school with additional curriculum resources relating to oral health activities for early years and key stage 1. Further work is currently being explored in developing appropriate oral health resources to support teaching staff within the City.

Monitoring;

The movement of children on and off the school register made monitoring the programme a challenging task, some children will leave and then return back into the school a year later, some children left, and then moved into one of the schools also running the programme, others may only be in a few days, weeks, or term. Collating quantitative data becomes difficult and time consuming with frequent checking and cross-checking. Future programmes would require improved communication with the co-ordinators to have active class lists regularly updated which records consents given, returned and which also adds new children. These are however, challenges that any health improvement programme will experience.

Language barriers;

This was the most difficult and challenging aspect of the pilot. The S4L team were supported by the interpreters working within the schools; in one school 26 languages were spoken. After consulting with the schools, it was agreed to choose the 4 most common languages to translate written materials. Additional costs were incurred for further translation of referral letters to parents. It was noted that some parents do not have a written language; this was overcome when gaining consents by having a set of pictorial aids to support verbal dialogue. This partnership working with schools has proved effective. The OHP team felt that the presence of multiple languages, varying levels of literacy do not make the provision of appropriate written material a panacea for success and a local supportive approach is often more effective. This learning can be applied to other health improvement programmes,

Some translated consents were returned in the spoken language. This presented a challenge for the S4L team, especially the medical history which was required for the fluoride varnish; additional time was needed to speak with the interpreters to help translate back to English. If further schools are recruited to receive fluoride varnish, additional time needs to be factored in to gain consent with a valid medical history of those requiring translation. Future programmes would need to consider the level of translation required and costs involved.

Parent Engagement;

In addition to engaging with parents at pick up/drop off times at each school, the S4L team also attended parent evenings with varying degrees of success, we mainly experienced poor

attendance at these events. School assemblies were attended by most parents that enabled the S4L team to promote the OH messages and reinforce the pilot within the school. The S4L team also attended new parent events in the summer term prior to children starting in the September; these were a good method of communicating with parents. Communicating with parents remains a challenge and further work is required to develop more engaging initiatives.

Tooth brushing in school;

Daily tooth brushing increases the availability of fluoride to reduce levels of tooth decay. Brushing routines varied from school to school with over half the schools brushing at least every other day. This reflects the demands of scheduled activities within the school timetable which potentially undermines the effectiveness.

At the beginning of the pilot the parent questionnaires identified high numbers of children who were not brushing regularly and were delaying when they brushed. Parental involvement is an important factor in establishing good early habits, however, where this is deficient, providing tooth brushing in EY settings highlights the positive benefits in establishing routines at an early age to develop self-confidence, independence and positive health outcomes for that child.

In North Derbyshire, a nursery tooth brushing programme has been operating for several years and recent evaluation shows that parents reported tooth brushing skills had increased since daily brushing started in nursery, in particular noting that children's dexterity had improved. The parents also reported that children were more compliant in tooth brushing at home than previously. Feedback from Derby City S4L parents indicated an increase in participation of brushing by the end of the pilot with children brushing more than once a day.

Fluoride Varnish visits;

Fluoride varnishing requires specifically trained and registered personnel to carry out this procedure; at present there is only one member of the Derby City OHP team who is trained to apply fluoride varnish. Any future recommendations to expand this intervention would need careful consideration with regard to workforce capacity and costs. At least two staff are required for each setting which includes admin support, particularly in helping to match consents with each child to ensure accurate identification. These visits require careful utilisation of time particularly working around the school timetable, break times and especially dinnertime. On two or three instances children were not seen until after 10am as 'literacy hour' was an essential element of the school day, lunchtimes were sometimes from 12pm, fluoride varnish had to be completed by 11.15am to allow maximum time for the fluoride to remain on the teeth. When working with nursery children some attend mornings only or afternoons, others certain days, most are not full time; this presents a complex matrix of timetabling and to make the best use of allocated time from the OHP team.

Children were really enthusiastic about taking part, more children refused on the first visit owing to the fact they were new in school and some even new into the country, speaking very little English. By the second visit those who were previously apprehensive would freely take part.

Providing fluoride varnishing and a visit from the dentist provides a positive image of dental teams particularly for those children who had no previous experience of visiting a dentist. This is an excellent example of added value by working in partnership with the schools to create supportive environments where children can learn new skills and form lifelong behaviours.

Children with untreated Decay

Although some children reported they had been to a dentist, the disease previously charted was still evident at the fluoride visits. There are a number of potential explanations that the child;

- 1. *Attended the dentist , a full examination was given and the dentist decided to either;***
 - Adopt a 'minimal invasive approach' which may involve small 'squash' fillings, regular 4 monthly visits to review and give preventative/dietary advice and application of fluoride varnish at each quarterly visit.
 - Do nothing unless the child is in obvious pain.
 - Refer into Special Care Primary Dental Service (SCPDS) to extract carious teeth under General Anaesthetic and/or restore.
- 2. *Attended the dentist but the child was not co-operative enough to allow a full dental examination, the dentist may then decide to;***
 - Do nothing at present and review in 4/6 months
 - Refer to Hygiene/Therapist for acclimatisation visits and prevention which includes tooth brushing instruction and dietary advice.
 - Refer into SCPDS
- 3. *Had not attended their dentist for over a year or did not attend their last appointment(s).***
- 4. *Does not yet have a dentist.***

If a child had been referred from their own dentist into the SCPDS for a General Anaesthetic (GA) there would be a time lapse between appointment times, further delays would occur if those children failed to attend any of their appointments. This pilot has identified that many children still do not access dental care.

Cultural differences highlighted parent's perceptions of 'going to a dentist'. Some believed that their child had been seen by a dentist at school and therefore did not need any further visits and may explain why referral letters were not acted upon. This highlights a lack of understanding of how dental services are organised and also reinforces that preventive dental care is an unfamiliar concept to those who have no previous experience of accessing dental care.

2. Barriers to seeking care

Anecdotal reports from parents, school health teams and school staff in the pilot schools suggests that there have been difficulties in accessing care from local dental practices. Some practices are cited as either not taking on new patients or having long waiting lists. There also appear to be conflicting messages regarding the age at which some dentists will see a child. There is no lower age limit for a child to receive free dental care within the NHS.

Language barriers add an additional layer of complexity. There have also been anecdotal reports of instances where families have been turned away as they could not speak English.

Actions to date;

- Where issues with particular practices have been raised with the NHS England Area Team, concerns have been addressed directly with the practice. In addition, funding has recently been made available to commission additional recurrent capacity in Derby City practices with a focus on providing additional access in the more deprived areas. Thirty six practices were eligible to apply for this funding, of which eight practices expressed an interest and were awarded additional recurrent activity that equates to more than three additional dentists.

3. Safeguarding and Information sharing

The S4L programme highlighted a high level of unmet dental need. The S4L team observed many instances of extensive caries particularly where children do not access dental services. Children were seen with sepsis present and significant pain; at this level of disease many of the children are likely to need tooth extraction under general anaesthetic. These children may or may not be known to services but the level of dental disease indicates vulnerabilities and may be an indicator of neglect. Throughout the programme much work was developed and implemented to create better pathways for sharing information with health and social care professionals. In particular, child health teams and GP's, alerting them to children who had received referral letters advising a dental visit to seek further treatment (see appendix 5).

The programme has also highlighted the barriers and challenges that exist in sharing information between GPs and other practitioners, including dental practices. Compatible IT systems are not currently in place for all staff that link to the Smile4Life project.

Actions to date;

- An information sharing process has been agreed with the local Health Visiting Operational Lead which has been approved by the Derby Safeguarding Children's Board.
- An information sharing working group has been formed to address this issue. The group has identified how information is currently shared between health professionals, and also developing protocols on how information sharing can become more systematic.

Obtaining up to date class lists is an example where having an information sharing agreement in place with the school before the programme is essential. Class lists which contain personal information are not generally shared. One school would only provide the S4L team with a list of the date of births and gender, matching consents to these lists was an unnecessary time consuming task by the S4L team, with a potential to mismatch common names and same date of births.

Following up children who required treatment following the dental and/or fluoride varnish visit were difficult to track. Teachers were given the names of children who required further treatment, the teachers spoke with each of these parents, but receiving feedback from the parents whether they had been to a dentist was not always forthcoming. Knowing which dentist the child had attended was also difficult to obtain, this would be dependent on parents knowing

which practice they took their child. Further work is required with City GDP's to promote and increase uptake of dental attendance for children under 5.

4. Scope for developing Smile4Life

The oral health promotion team have also engaged with other stakeholders to expand further partnership working;

- Presentations at the Derby City Council's 0-19 Strategic Group have raised awareness of the pilot and discussed actions required by all partners. Integration of oral health promotion into the 0-19 year's children's public health services specifications thus supporting a whole systems approach.
- Links with the Early Years Flying Start programme in the city. This programme offers free nursery places for 15 hours per week to 2 year old children in Derby City who meet certain requirements. Training has been provided to those settings offering funded places and free toothbrush/paste packs have been disseminated. Further work is planned for developing future early year's settings offering tooth brushing.
- The specification for oral health promotion within Derby City has been redeveloped to emphasise working more closely with frontline health care professionals, as well as more focus on supervised tooth brushing programmes in the most deprived areas.

RECOMMENDATIONS

- To discuss outcomes of the report with Commissioners with regards to future commissioning decisions.
- To note the issues raised by the pilot, including the potential impact on health inequalities and school readiness, safeguarding, cultural issues, poor knowledge and behaviours around oral health and access to care.
- To support an integrated approach with oral health promotion being a key element in existing and future mainstream service provision, using a multi-agency and an evidence-based approach.
- Further work is required with City GDP's to increase uptake of dental attendance for children under 5, and to increase the availability of fluoride varnish within general dental practices.
- To support the development of more sustainable information sharing practices between dental teams and other practitioners.
- To promote the uptake of Smile4Life tooth brushing in Early Years settings, particularly in areas where there is a higher prevalence of 2/3year old funding.
- Further planned programmes will require the strengthening of the communication process with co-ordinators from each setting, in terms of updating class lists and scheduling of oral health visits within the school timetable.
- Careful consideration to be given on the level of appropriate translation required. It was noted that some languages do not have a written text, therefore verbal translation is required. This impacts on resources in terms of staff and time, especially when gaining accurate and reliable medical information required for fluoride varnishing.
- Future programmes will require greater co-operation from Early Years settings with regard to information sharing. Therefore, an information sharing agreement needs to be in place to enable efficient monitoring of the programme.
- Carry out a cost/benefit analysis of offering further community based fluoride varnish interventions.

APPENDICES

Appendix 1: Descriptive Analysis of how Smile4Life was delivered.

In February 2013, an initial contact was made through the Derby City Healthy schools network where we invited the Healthy School Co-ordinators to a meeting to stimulate interest prior to contacting each of the schools. During March/April 2013, an invitation was sent to each of the selected schools to gain initial interest. This was followed up with a meeting with the Head Teacher to outline the programme and what it would entail. A key worker was established for each of the schools who would provide a central point of contact. A training session for staff was organised which gave guidelines for gaining consent, protocols for safe storage of toothbrushes, infection control, basic oral health messages, and signposting.

After the training session, considerable time was spent engaging with parents to gain consent. The consents outlined the whole programme for the duration of the pilot. Each parent signed up for a pre and post survey, daily tooth brushing and two applications of fluoride varnish.

Whilst resource intensive, it was important that parents were fully informed about the fluoride varnish element of the programme which also involved gaining a brief medical history. This was achieved by numerous visits to each school at the beginning and end of the day to engage with parents when dropping off or collecting children.

The OHP team also attended new parent events in the term prior to the programme starting in September 2013. Gaining consent remained a constant throughout the year as the ebb and flow of children in these schools was high.

As language was often a barrier, the interpreter for the school was used to help explain to parents about the programme. Consent forms and information about the programme was translated into the 4 main languages identified by the schools and interpreters. (Polish, Czech, Slovak and Urdu) We also kept parents informed during the programme. A letter was sent home before the dentist came into school to carry out the survey and before the fluoride visit. Parents were also given the option to attend if they chose to do so, but no parent attended.

By September/October 2013 the programme was ready to be delivered. At the beginning of term Parent questionnaires were sent home to establish knowledge, norms and behaviours.

A validated questionnaire which had previously been tested in Belgium (Van den Branden et al (2013), Skeie et al (2006) and Adair et al (2004)) was used to assess oral health related behaviour for parents with children under 5 years. There were 14 questions which tested knowledge, behaviour, norms and intentions to change. Questionnaires were distributed before the baseline survey, parents were allowed 2 weeks to return their response in a sealed envelope to either the teacher or school office. To maximise response rates, a second questionnaire was sent to the original cohort. Post questionnaires were completed after the final survey in May 2015. Responses were entered onto an Excel spread sheet for analysis.

Prior to the dental survey each school had the opportunity to borrow resources from the OHP team to have a dentist role play area within their school. Although a visit to a dental surgery was initially suggested as an outcome, this was impractical in terms of organising groups of children outside school, in addition, a dental practice would have to schedule a free surgery with potential loss of earnings. An alternative solution was adopted by providing a role play area within the school, this proved to be a valuable and effective resource before the dentist came into school especially for the many children who had never been to a dentist.

The baseline survey was carried out between Sept-Nov 2013 which recorded dmft (decayed, missing, filled teeth) cleanliness and sepsis. The dentists used within the S4L programme were

employed by DCHS and were part of a national epidemiology team who are calibrated to screen for national surveys.

After the survey, parents were informed if their child required further treatment from a dentist; a letter was sent home advising them to take their child to their general dental practitioner. A list of local GDP's was included with the letter to take home. Teachers were also informed who would then speak with the parents at home time.

After the survey the children were given their toothbrushes to start brushing in school. An oral health pack was also given at this point to support each child at home to continue to establish a normal pattern of regular brushing at home. Each pack contained a toothbrush, toothpaste and a brushing chart; this was also given out at the end of the first summer term in July 2014 and at the end of the programme in May/June 2015.



The first application of fluoride varnish was applied during February-April 2014 and the second fluoride varnish was October/November 2014 after the child had moved up to their next year. This was applied by a Dental Therapist and Extended Duty Dental Nurse, another member of the OHP team was also present to help with the organisation of the children to and from each classroom and to make sure each child was correctly identified. Some children had very similar, and some with

identical names; a rigorous process was established to match consents forms with each child, this required additional help and time from teaching staff.

During the programme it became evident that some children presented with persistent disease that had not been treated despite previous communication with parents, in some instances sepsis was evident. At both fluoride visits, children with caries were noted and parents informed. This highlighted an area of vulnerability for these children, so a protocol for sharing information was formulated with the CYP team to assist families seek further help. (Appendix)

The final survey was carried out in May 2015 along with the same parent questionnaires we had distributed in September 2013. Analysis of data was completed by November 2015 ready for the evaluation report.

Appendix 2: Feedback from Staff Questionnaires.

At the end of the summer term 2015, staff actively involved in the programme, were given the opportunity to share their experiences about Smile4Life. Questions were asked about the information and resources provided, level of support, the organisation and delivery, any challenges they experienced and suggestions for improvement. All schools responded with 75% staff who were delivering S4L completing a questionnaire. The questionnaires were given out at the end of the summer term, this did impact on the quality and quantity of the responses as staff were fully stretched and had little time and energy to complete and return their responses.

Training

54% staff said they received training and guidelines for delivery of the programme in the classroom. The OHP team delivered training to 100% of the schools, all co-ordinators from each school were trained and it was expected that this was cascaded to all new members of staff. When the initial training was given, nursery and reception children were targeted so these teachers were aware of the guidelines for tooth brushing; the Y1 staff were not involved until the second year of the programme. When the staff questionnaires were given out, it became apparent that Y1 teaching staff would have benefited from mid- point training during the programme (transition time from children leaving reception and going up to Y1).

Resources

67% agreed that they were offered dental role play resources to enable the school set up a role play area prior to the dental visit. These resources were mainly offered to nursery and reception classes at the beginning of the programme. Those who replied no to this question were mainly Y1 staff who at that point was not fully involved in the programme until the following year when the children moved up.

80% of staff commented that the resources were appropriate to the curriculum, the rest did not answer.

Brushing in School.

All schools were able to establish a time for routine brushing, this varied from school to school to fit around the timetable. 45% of the schools managed to brush every day, and 55% every other day. 85% staff reported that they were provided with oral health take home packs for each child. The staff who replied 'no' to this question was from Y1. The first 2 packs were given out in the nursery and reception; Y1 children had these packs at the end of the summer term in 2015 after the staff questionnaire was given out.

When asked how likely they were to continue with tooth brushing, a third of the staff thought it was not at all likely they would carry on, a third thought it would be possible and the other third would like to continue.

Support

100% staff felt they were either well or extremely well supported by S4L staff in the distribution and gaining of consents; this task was less onerous on the teaching staff with the dedicated support of the S4L team.

92% staff agreed that they received follow up visits to support the programme; one person did not complete this section. The S4L team visited each school every term to monitor progress and offer any practical help and also communicated with the co-ordinators by email/telephone between visits.

Response from Parents

We asked the schools how the parents have responded to the S4L programme, these are the comments recorded;

- 'parents appreciated the free toothpaste and toothbrushes'
- 'more families have visited the dentist and received necessary treatment'
- 'positive feedback regarding fluoride treatment'
- 'happy for their child to take part'
- 'some parents have acted on referrals'

Whilst the overall response from parents was positive with most parents welcoming the programme, there were some challenges and barriers noted;

- 'parents needed a lot of reminding about the referrals'
- 'parents not followed through on referrals'
- 'some parents showed no interest'
- 'translated conversation needed as some parents do not have a written language'

General comments on the experiences of S4L from Staff.

The positive comments we received in this section include;

- Very worthwhile
- Excellent access to fluoride
- More children accessing a dentist
- Establishes good daily dental hygiene (at least two other commented on this)
- Easy to implement and incorporate into classroom topics
- Worked well once routine was established
- Children enjoyed daily brushing
- Great programme, needs to be delivered to early years programme
- S4L staff were extremely helpful and enthusiastic
- Hard to begin with but got much easier as we went along

The staff also recorded the challenges they experienced;

- Put additional pressures on timetable
- Difficult to run effectively whilst delivering the curriculum (one other person also commented on this)
- Took a long time to clean teeth and keep brushes clean
- Too many children to oversee at one time
- Huge responsibility to manage with other school pressures

Suggestions to improve the service further

- Should be aimed at an earlier age
- Allow children to 'settle' in before implementing
- More work in the home with parents, not so much in school
- Dentists to do more regular schools visits
- Make use of parent evenings
- Termly assembly to promote the importance of daily tooth brushing
- Most children have tooth decay before they come into school – parents need educating earlier as teeth erupt.



Smile4Life Oral Health Programme School Staff Survey

We are really interested in your feedback as part of the evaluation of the Smile 4 Life pilot, which has been running in your school from September 2013. Please answer the following questions and return this survey sealed in the envelope provided **by July 10th 2015**. The information you provide will be kept confidential, and neither you nor your school will be identifiable in any report resulting from this evaluation.

Name of school

Name of respondent

Position in school of respondent

Please tick this box if this is a collective response from more than one member of staff ☐

1.	At the beginning of the programme, how well were you supported by Smile 4 Life staff to distribute consent forms to parents/carers regarding their child's participation in the programme? (not at all well supported) 1 2 3 4 5 (extremely well supported)
2.	Was your school provided with Smile 4 Life parental/carer questionnaires in envelopes for the children participating in the Smile 4 Life Programme? Yes ☐ No ☐ Don't know ☐
3.	Was your school offered resources to set-up a dental role-play area? Yes ☐ No ☐ Don't know ☐
4.	Was your school provided with appropriate educational materials on oral health to integrate into the curriculum for Nursery and Reception? Yes ☐ No ☐ Don't know ☐
5.	How useful have you found the resources and curriculum materials to promote oral health messages within lessons. (not at all useful) 1 2 3 4 5 (extremely useful)
6a.	Were you able to establish a routine brushing programme in school? Yes ☐ No ☐ Don't know ☐
6b.	If so, how often is this delivered? Everyday ☐ Every other day ☐ 3 times a week ☐ other ☐ Please state other...
7.	Do you feel you have been supported from Smile 4 Life staff to establish the classroom brushing programme? (not at all well) 1 2 3 4 5 (extremely well supported)
8.	Was your school provided with training on the safe and hygienic facilitation of classroom tooth-brushing programmes? Yes ☐ No ☐ Don't know ☐
9.	Did your school receive follow-up visits from Smile 4 Life staff to support your brushing

	programme practice? Yes ☐ No ☐ Don't know ☐
10.	Was your school provided with free toothbrushes and toothpastes for the children to take home? Yes ☐ No ☐ Don't know ☐
11.	How likely is your school to continue with daily toothbrushing? (not at all likely) 1 2 3 4 5 (extremely likely) Comments:

12. Please comment on your experience of the Smile 4 Life programme?

14. What suggestions would your school make to improve the service further?

Thank you for completing this survey on the Smile 4 Life Programme



Questionnaire Number(for administration use)

Derbyshire Community Health Services **NHS**
NHS Trust

Smile 4 Life Parent/Carer Questionnaire

You have been given this questionnaire because your child is taking part in the '**Smile 4 Life**' Programme in school to support good oral health habits. Derby City Council & NHS Derbyshire Community Health Services are running '**Smile 4 Life**' and are interested in finding out more about your child's dental visits, tooth brushing and diet, and also how you feel about their oral health.

Please answer the following questions and return the questionnaire sealed in the envelope provided to your child's teacher who will give it to Smile 4 Life staff.

Your completed questionnaire will ONLY be seen by Smile 4 Life staff, and not your child's school. Your questionnaire will be assigned a number and your child's name will be torn off when it is received by Smile 4 Life staff and kept separately. Information will be stored on a password protected file accessible to Smile4Life staff only. If you need any help to complete this questionnaire call 01332 888040 ext 88526.

Please return this by the end of the week, thank you.

Name of your child _____
Your child's school year _____
Your child's age _____
Your child's School _____
Your Postcode _____
Your GP _____

Are we accessible to you? This publication is available on request in other formats (for example, large print, easy read, Braille or audio version) and languages. For free translation and/or other format please call 01773 525099 extension 5587, or email us at:
communications@dchs.nhs.uk

Part 1: Your child's dental visits

1. When was the last time your child visited a dentist?

- ☐ more than 1 year ago
- ☐ less than 1 year ago, but more than 6 months ago
- ☐ 6 months ago or less
- ☐ your child has not yet been to the dentist. Please explain why

.....

..... (now go
to question 3 on next page.)

2. For what reason did you take your child to the dentist? (several answers possible):

- ☐ because of toothache
- ☐ your child fell and bumped a tooth
- ☐ 6 months or yearly checkup
- ☐ because of a discoloured tooth
- ☐ hole in a tooth
- ☐ other:

3. Please indicate how you feel about the following statements with a tick...

Only 1 answer per question possible	Strongly disagree	Disagree	Undecided / don't	Agree	Strongly Agree
a) I feel confident about taking my child to visit the dentist					
b) It is the responsibility of the dentist to prevent my child getting tooth decay					
c) My family feel it is important for my child to visit the dentist					
d) I am unlikely to take my child to the dentist					
e) Going for a checkup at the dentist is a stressful experience for my child					
f) In our family it's normal to take a child at an early age to the dentist for a checkup					

g) Most of my friends take their children to the dentist at an early age for a checkup					
h) I intend to take my child to the dentist for check-ups					
i) I find going to the dentist a stressful experience which prevents me from taking my child					
j) Taking my child regularly to the dentist for a checkup is reassuring					
k) Taking my child to the dentist is not a priority for me					
l) Regular visits to the dentist helps to keep my child's teeth healthy					
m) I understand why it is important to visit the dentist					
n) I don't have time to take my child to the dentist					
o) I feel confident about asking the dentist if my child needs fluoride varnish					

Part 2: Your child's tooth brushing

4. Does your child have his/her own toothbrush?

- ☐ no
- ☐ yes

5. At what age did your child brush their teeth for the first time?

- ☐ teeth are not brushed (go to question 9)
- ☐ between 4 and 5 years old
- ☐ between 3 and 4 years old
- ☐ between 2 and 3 years old
- ☐ between 1 and 2 years old
- ☐ under 1 year

6. How often are your child's teeth brushed?

- ☐ less than once a week
- ☐ at least once a week but not every day
- ☐ once a day
- ☐ twice a day or more

7. Does your child use fluoride toothpaste? *You can check for fluoride in the ingredients list on the tube*

- ☐ no (go to question 9)
- ☐ yes
- ☐ Dont know

8. How much toothpaste does your child use?

Indicate by circling ONE of the following examples...

A SMEAR



PEA SIZE



HALF A BRUSH



FULL BRUSH



9. Please indicate how you feel about the following statements with a tick...

Only 1 answer per question possible

	Strongly Disagree	Disagree	Undecided / don't	Agree	Strongly Agree
a) I intend for my child to brush their teeth everyday					
b) I brushed my teeth when I was my child's age					
c) My family feel it is important that my child brushes their teeth					
d) I don't know how to show my child to brush teeth properly					
e) I don't have time for my child to brush their teeth					
f) It is not worth it to battle with my child to brush their teeth					
g) It is important that my child cleans their teeth					

h) Most of my friends insist their children brush their teeth					
i) If my child brushes their teeth twice a day, it can prevent tooth decay in the future					
j) Tooth decay can be a serious problem in baby teeth					
k) It is my responsibility to prevent my child getting tooth decay					
l) No matter what I do, my child is likely to get tooth decay					
m) In my family it is normal to brush teeth from an early age					

Part 3: Your child's diet

10. Does your child take sugary snacks to school to eat at break-time/lunch? (e.g. chocolate, sweets, cakes, biscuits)

- ☐ every day
- ☐ most days
- ☐ sometimes
- ☐ only for a special occasion (e.g. birthday)
- ☐ never

11. Does your child take sugary drinks to school? (including fizzy drinks, energy drinks, flavoured waters, etc)

- ☐ every day
- ☐ most days
- ☐ Sometimes
- ☐ only for a special occasion (e.g. birthday)
- ☐ never

12. Do you provide your child with sugary snacks/drinks after school?

- ☐ no
- ☐ yes

13. How many times does your child have the following food and drinks...

Only 1 answer per question possible	Every day	Four to six times a week	One to three times a week	Just at the weekend	Never
a) Sweets and chocolates					
b) Starchy savoury snacks (eg crisps)					
c) Milk					
d) Cakes and biscuits					
e) Water					
f) Fruit and vegetables					
g) Fizzy drinks					
h) Sugary drinks (eg cordial, fruit juices)					

14. Please indicate how you feel about the following statements with a tick.

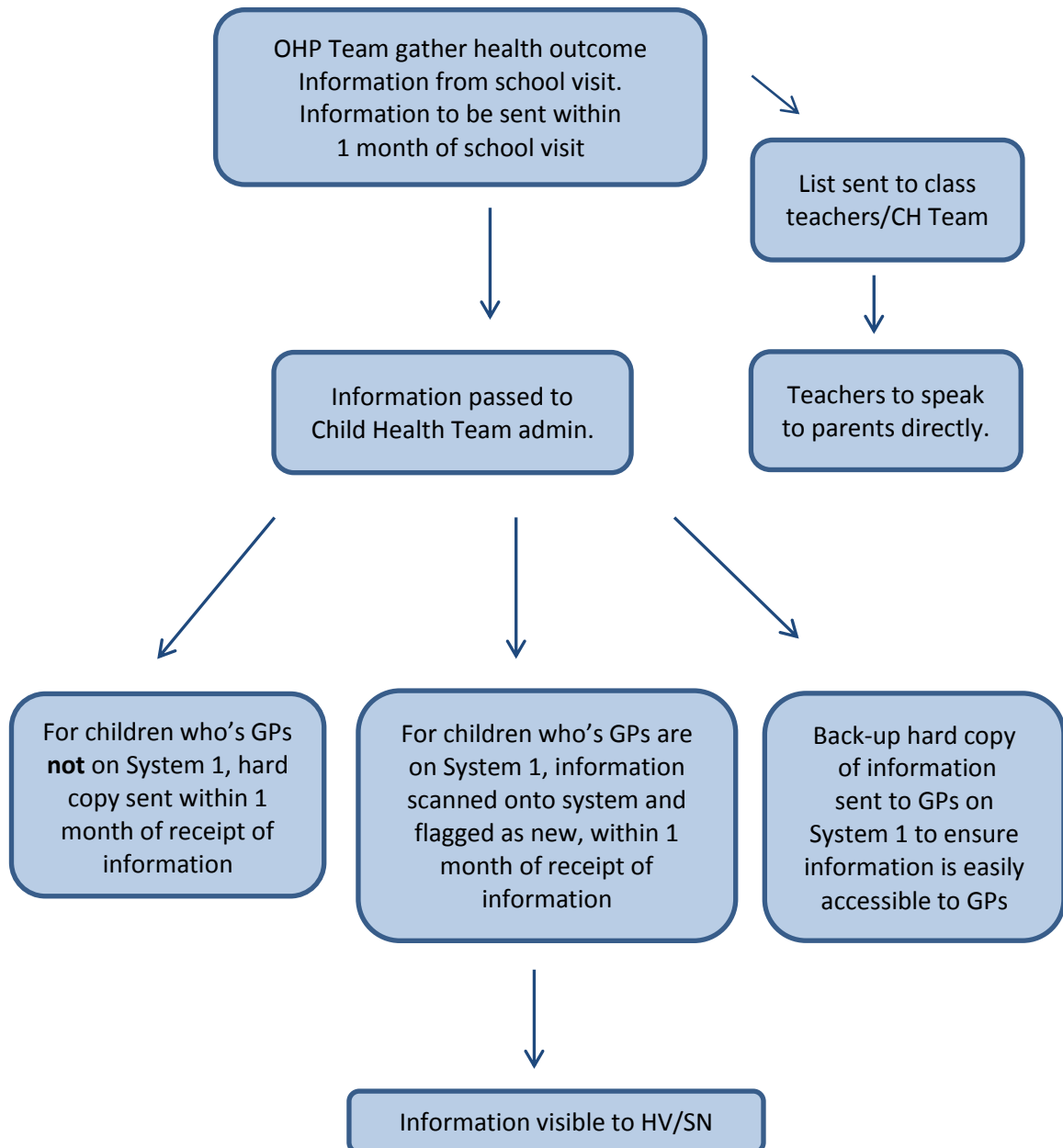
Only 1 answer per question possible	Strongly Disagree	Disagree	Undecided / don't know	Agree	Strongly Agree
a) My child's school feels it is important for children to have healthy snacks					
b) I can help prevent tooth decay by reducing my child's sugary foods and drinks between meals					
c) It is difficult to stop my child having sugary foods and drinks between meals					
d) I intend to limit how often my child has sugary foods or drinks between meals					
e) It is worthwhile giving my child sweets/biscuits to behave well					
f) My family would feel it is important to manage how often my child has sugary foods					
g) I know that sugary food and drinks can harm teeth and cause decay					
h) I limit how often my child has sugary foods and drinks					
i) The people I know well would feel it was important to manage how often my child has sugary foods					
j) I feel it would be unfair not to give sweets to my child every day					
k) It is often too stressful to say no to my child when he/she wants sweets					

l) In my family it is normal to have a healthy diet

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Thank you for taking the time to complete this questionnaire

Appendix 5: S4L Pathway for Information



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