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Dental Public Health in Action

Oral health survey of five-year-olds 2014/15: Have strategies for increasing the levels of parental consent in Bradford been effective?

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Abstract: Public Health England facilitates national epidemiological surveys of five-year-olds to monitor oral health, both locally and nationally. Positive consent for participation in surveys such as these was introduced in 2006 following guidance from the Department of Health. Following this change, consent rates have fallen slightly. Bradford, a city in West Yorkshire in the north of England, has actively tried to encourage an increase in consent rates. In the 2014/15 survey several measures were implemented to encourage parents to return their consent forms in order to increase consent levels. Despite these additional measures consent rates have continued to fall. The schools involved in both the current (2014/15) and previous (2011/12) surveys were directly compared and the results showed a 4% decrease in consent returns. Consequently, recommendations have been made to investigate alternative strategies for increasing levels of survey participation. One of the suggested strategies is to gain consent for all health screening including dental examinations at school entry.

Key words: *oral health, dental health survey, epidemiology, parental consent, Bradford, UK*

Initial Impetus for Action

The oral health surveys of five-year-olds are nationally co-ordinated and the fieldwork is usually conducted by community dental services across England. The Health and Social Care Act 2012 requires local authorities to commission epidemiological surveys such as this, for the purpose of monitoring oral health both locally and nationally. The act makes clear that health improvement, including oral health, is also the responsibility of local authorities. Oral health surveys are carried out as part of the Public Health England (PHE) dental public health intelligence programme (PHE, 2014a). Collection of data from oral health surveys is valuable to commissioners of oral health improvement programmes and treatment services. The proportion of five year olds free from dental decay is an outcome indicator in the Department of Health's (DoH) Public Health Outcomes Framework (2013/16) (PHE, 2016a).

Currently, parents must provide explicit consent in order for their child to participate in oral health surveys. Explicit consent was introduced following guidance from the DoH in 2006. The guidance states that consent from parent, or an older age child (if he/she is competent), must be given in order to be involved in a dental epidemiological survey. This was thought to be necessary as a dental inspection requires the dentist to have physical contact with the child (DoH, 2006). Prior to this guidance, negative consent was used. Parents were informed of the survey by letter and, unless they refused, a dental examination of the child would be conducted. Following the implementation of positive consent there was a concern that levels of participation in surveys would fall. The 2007/08 and 2011/12 surveys proved that these concerns were justified, as the levels of participation fell considerably: from 75% in previous surveys to 2007/08's 66.8% and 2011/12's 65.2% (PHE, 2009, 2013).

The main purpose of a survey, such as the oral health survey of five-year-olds, is to collect epidemiological data that is representative of the population to monitor health locally and nationally. Therefore, poor consent rates risk impacting on the quality of the epidemiological data collected and the usefulness of those data in healthcare planning, evaluation and needs assessment (Morgan and Monaghan, 2014; Prendergast *et al.,*1993).

Bradford is a city in West Yorkshire in the north of England. In the oral health surveys of five-year-olds, Bradford has mirrored the decrease in consent rates seen nationally. The proportion of children examined in Bradford, compared with the number sampled and asked for consent fell from 53% in 2007/08 to 52% in 2011/12 (PHE, 2009; 2013). Bradford has a diverse population with a rich variety of cultures. Different cultures place different levels of importance on oral health and encouraging certain groups to engage with dental services, including involvement in oral health surveys can be difficult (Dyer *et al.,* 2008).

In 2013, Glenny *et al* published the results of a randomised controlled trial investigating the effectiveness of different strategies for increasing parental consent for dental health surveys of young children. Several different interventions to increase consent were implemented during the 2007/08 oral health survey of five-year-olds in the North West of England: multiple letters to parents promoting the survey; a financial incentive to the school; a financial incentive to the school administrator in addition to posting letters directly to parents; a single letter home to parents via the children as a control.

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The study concluded that no single intervention provided a significant difference to consent rates when compared to the control group. A limitation of the study was that it only investigated the effect on consent levels of applying single and not multiple interventions.

In 2007, alternative strategies to increase consent levels were considered by the DoH and the Department of Education and Skills. It was suggested that consent from parents for their children's participation in health surveys could be obtained at school entry. This would include the option to withdraw consent at any time. However, it was decided that local arrangements should be made to implement the strategy rather than applying a national approach (DoH, 2007; PHE, 2014b; White *et al.,* 2007). This strategy had not been implemented in Bradford for the 2014/15 survey, or any previous surveys. It was hoped that simpler strategies would be effective as consent at school entry requires greater local change, arrangements and manpower.

Solutions suggested

In Bradford a number of strategies were considered with the aim of increasing levels of parental consent. These strategies are in line with the suggestions made by PHE in their national protocol (PHE, 2014b). Head teachers of the schools sampled were emailed asking for their support and involvement in the survey. The email detailed the importance of the survey and how it might be of benefit to their pupils. It also included a copy of a letter of support from PHE's Director of Dental Public Health to the local Director of Public Health and Directors of Children's Services. Schools that agreed to be involved were issued with invitation letters and consent forms to distribute to parents. Each school was asked to nominate a member of staff to oversee distribution and collection of the consent forms. This duty included speaking to parents and following up when forms were not forthcoming. To aid the nominated person, schools were given tracking forms to monitor which parents had responded. Parents that did not respond to the first letter were sent a second, along with another consent form. This distribution process is an essential requirement of the survey in order to gain positive consent. Additionally, in the Bradford local authority, parental support was encouraged by publicising the survey and its importance via Bradford Schools Online, in the form of a news article (City of Bradford Metropolitan District Council, 2015). Posters were also produced and displayed in the reception area of participating schools. Some participating schools were able to contact parents via text message reminding them about the survey and asking that they return the consent form. It was hoped that by implementing all of these strategies in unison consent levels would increase. This approach is in contrast to the Glenny *et al* (2013) study that investigated implementing single strategies.

To assess the effectiveness of this approach, consent rates for the 2014/15 survey were compared with those of the 2011/12 survey. Consent rates for each individual school that participated in either of the two surveys were extrapolated from the raw data using Dental Surveyplus 2, a multi-purpose computer software tool used for the collection and analysis of information generated via a survey or questionnaire. The 2011/12 survey sampled 96 schools and the 2014/15 survey sampled 154 schools with 54 participating in both. A direct comparison of the consent rates for each of these 54 schools was made. Overall consent rates for the 2011/12 and 2014/15 surveys were also calculated. Schools involved in only one of the surveys were excluded from these calculations. This allowed direct comparison of consent rates before (2011/12) and after (2014/15) the interventions, whilst reducing confounding factors by comparing children from the same school and therefore having similar social demographic profiles.

Actual Outcome

Surprisingly, the response rate in the 54 schools for the 2014/15 survey fell by 4%, despite the strategies introduced, from 52% examined in 2011/12 (590/1,135) to 48% in 2014/15 (613/1,268). Interestingly the published statistics for the whole of Bradford show the same percentages of children examined and the same decrease in consent rates (PHE, 2013; 2016b).

The overall results are shown in Figure 1. In both surveys the percentage of children that were absent or uncooperative on the day of the survey was the same (3% and 0% respectively). The proportion of children that were examined with consent from their parents had fallen by 4% in the current survey compared to 2011/12. Although this decrease may be the result of chance, it is clear that the strategies implemented have been ineffective at increasing consent. However, it is not known if the consent rates would have decreased further if additional measures had not been implemented.

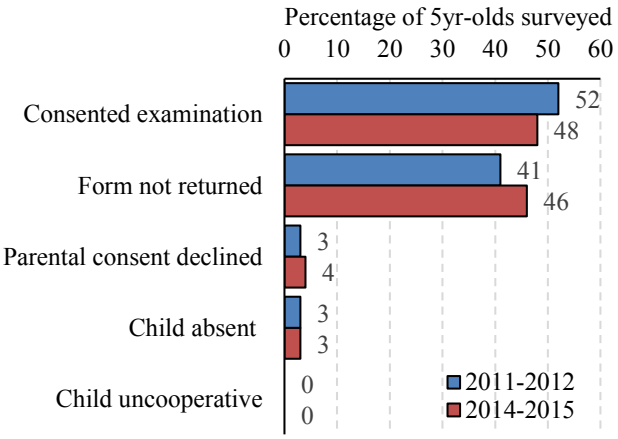

Figure 1. *Comparisons of outcomes for oral health survey samples of Bradford five-year-olds 2011/12 and 2014/15 for the 54 schools sampled in both surveys*

Parents refusing their child's involvement in the survey showed minimal change (4% vs 3%) suggesting that parents failing to return consent forms are the biggest contributing factor to the falling levels of survey participation. Over the same period more parents did not return consent forms: 46% vs 41%. Anecdotally, this is consistent with findings in other areas.

Challenges addressed

In the 2014/15 survey, parents failing to return consent forms increased by 5 percentage points. This has been an important factor contributing to relatively low levels of consent. Trying to engage parents and encourage them to return consent forms was the major challenge of this survey. All of the strategies implemented in Bradford were designed to encourage more

parents to return their consent forms. Despite this, parents have continued to fail to return consent forms and consent levels have continued to fall. However, it is not known if consent levels would have fallen further if the strategies had not been implemented.

The work presented in this report was confined to the oral health survey of five-year-olds in Bradford and did not investigate any other geographical areas. The issues with falling consent levels are not confined to the Bradford area, as shown in the in the previously published national statistics for the 2007/08 and 2011/12 surveys (PHE, 2009; 2013). The recently published statistics for the 2014/15 survey show a national response rate of 63.1% (PHE, 2016b). Although the strategies implemented in Bradford failed to increase consent levels, it is unknown if the same strategies would be effective in any other regions.

Future implications

The randomised controlled trial by Glenny *et al* (2013) showed that single interventions applied in the 2007/08 oral health survey of five-year-olds in the North West of England were unsuccessful. It was reasoned that the application of multiple interventions might positively impact on consent rates. However, this was shown not to be the case. The levels of consent for the oral health survey of five-year-olds in Bradford are consistent with the findings of Glenny *et al*. This would suggest that an alternative approach is required if any improvements are to be seen.

The 2014/15 survey report presented data on the oral health of different ethnic groups and was the first survey to make collection of ethnicity data compulsory. However, the level of consent for different ethnic groups was not presented. If the failure to return consent forms was higher in one ethnic group than others it would be reasonable to target strategies to increase consent towards specific groups. Therefore, it would be useful to look at ethnicity data, either nationally or locally.

Given the failure of current strategies to increase consent in Bradford, it would be appropriate to consider obtaining consent at school entry. The national protocol for the 2014/15 survey considers there to be a sufficient level of consent when parents have agreed to health surveillance throughout the child's school life. This can be done when the child is enrolled at school. As long as the description of 'health surveillance' explicitly includes dental examinations, and letters are provided before the survey as a reminder of its purpose and nature, consent is considered valid. The reminder letter provides parents with an opportunity to amend their initial decision and withdraw consent before the survey takes place (DoH, 2007; PHE, 2014b). Following the lower consent levels of the current survey, consent at school entry might contribute to arresting the decline. However, regardless of which new strategy is implemented we are unlikely to see consent rates reach levels achieved by negative consent in earlier surveys.

Learning Points

This work has highlighted the impact of positive consent on survey participation and that adding time, effort, and resources to other approaches, such as those applied in Bradford, may be inappropriate. The simple interventions applied in Bradford to encourage parents to return consent forms do not appear to have been effective. However, further in-depth analysis was not undertaken in this study and only basic figures have been presented in this report. Consent levels achieved with positive consent are unlikely to increase to the levels seen with negative consent, but levels cannot continue to fall if the data collected is to be considered a reliable representation of the population (Morgan and Monaghan, 2014; Prendergast *et al.,*1993). Alternative strategies for increasing levels of survey participation need to be investigated and implemented. In Bradford, progress towards gaining consent at school entry is being made.

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