

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository:<https://orca.cardiff.ac.uk/id/eprint/142963/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Alazmah, A., Parekh, S., Bhatia, Shannu and Ashley, P. 2021. Developing a child patient satisfaction survey: a quality improvement project. *European Archives of Paediatric Dentistry* 22 , pp. 209-217. 10.1007/s40368-020-00567-1

Publishers page: <https://doi.org/10.1007/s40368-020-00567-1>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Developing a child patient satisfaction survey. A Quality Improvement Project.

Abstract

Background: Satisfaction surveys are used to capture patients' experiences about treatment and services provided for them, however they commonly use parental response as a proxy for children. It is essential therefore to develop a patient satisfaction survey with children to be used by children.

Aim: To develop a child centred patient satisfaction questionnaire for use in an Outpatient Paediatric Dental Department.

Method: Data from patient satisfaction interviews was used to develop a child satisfaction questionnaire, which was used in two different centres after piloting.

Results: The final questionnaire contained 7 questions and a comments section, using writing and facial images used to record children views. Overall measures of satisfaction were similar between adults and children in both centres. However children were interested in different measures than adults.

Recommendation: Measures of satisfaction of children with regard to dental treatment were very different to those commonly used for adults. Further development and implementation of child satisfaction surveys should be considered.

Introduction

The aim of The Healthcare Quality Improvement Partnership (HQIP), which is led by members of the Academy of Medical Royal Colleges, National Voices and the Royal College of Nursing is to promote quality in health care (1). Patient feedback is needed to apply these standards and to ensure they are met. The views of children are often ignored, and current UK policies have made it a priority for service providers to listen to children's opinions. These include their experience about treatment provided to them and services related directly to them (2).

Previous surveys have explored *parent* satisfaction in paediatric dental departments, including: reception area, waiting time, paediatric dental unit, the dentist, the dental assistant, Information and explanation provided, parental involvement and overall care (3). But there have been no validated questionnaires to measure children's satisfaction as service users, in terms of dental services and preventive interventions (4). In the medical field, there are three examples where children's views have been sought. All used questionnaires as a method to measure children views and feedback. Two of these questionnaires were developed by modifying the adult version (5,6). The survey developed by the Royal College of Paediatric and Child Health in 2012; 'Patients Reported Experience Measure for Paediatric Patients in Urgent and Emergency Care' was designed in collaboration with children at all stages (7).

Currently, the Paediatric Dentistry Departments at the Eastman Dental Hospital (EDH) and University Dental Hospital, Cardiff, (UDH) are using a standard questionnaire that takes into account the parent's / carers in order to views to evaluate the services provided. The parents / carer are requested to complete a questionnaire following their child's visit which is designed for parents and provided by the NHS (8). There may be a difference between parents and children's views due to differences in needs and expectations. Therefore, there is a need to develop dental patient satisfaction surveys specifically designed for children. This can only be achieved by involving children to develop a suitable tool for them.

Aims and objectives:

To develop a child centered patient satisfaction survey for use in an Outpatient Paediatric Dental Department and compare it to the currently used survey that takes into account the parent views.

Material and method:

The development of a suitable questionnaire aimed at children involved a development phase, which involved identifying key themes from interviews with children, and an evaluation phase when the questionnaire was pilot tested in two different paediatric dentistry clinics.

In order to better understand the satisfaction of child patients, the children undergoing dental treatment at the Eastman dental hospital were interviewed on their experiences at the end of their dental appointment from February to March 2016. Information from these short interviews was used to develop a patient satisfaction questionnaire, appropriate for children. The questionnaire was subsequently tested at the Eastman Dental Hospital in April 2016 and at the paediatric dentistry department in University Dental Hospital, Cardiff from March to April 2017.

As data used in this project had been previously collected to support clinical service provision and was fully anonymised, this project was classified as Quality Improvement Project (QiP) and did not require ethical approval (9).

Children aged 4-16 years, attending the paediatric dentistry department at the Eastman Dental Hospital were invited to participate in the development and evaluation phase of the questionnaire, and those attending University Dental Hospital, Cardiff were invited to participate in the evaluation phase only. In the evaluation phase, families who were asked to complete the standard parent satisfaction questionnaire were approached, to see if their child was willing to answer some questions relating to satisfaction, whilst the parent completed the standard questionnaire. As a result, the data provided for the questionnaire development depended on the parent's agreement and the child's willingness to answer. This formed a convenience sample and was intended for use as part of a separate Quality Improvement Project looking at satisfaction with the service. To ensure that the patients were asked similar questions and getting a valuable feedback, a topic guide was developed by the research team to guide the researcher (AA) who will collect the information from the child participant. The guide includes an introduction about the topic and why do we need the children view as well as a remainder to take the parents agreements and the child assent. This was followed by questions about the child's satisfaction.

A total of 29 child patients were interviewed to find out about their satisfaction with the service. Data from these interviews (in the form of quotes and comments) was grouped into three age groups (below 8, 8-10 and above 10 years). This was to reflect the developmental differences reported between age groups (10). The data was used to develop relevant themes for a questionnaire. Ten children below age of 8 years were included in group one. Group two and three included 11 and 8 children respectively.

A simple framework analysis was undertaken for each group, and quotes were transcribed into an excel spreadsheet, one for each main theme, with each line representing a quote from one of the age bands used and each column representing an identified subtheme.

Initially, it was planned to design a separate questionnaire for each age group, but due to similarities between the 3 groups, and logistics of ensuring that the appropriate questionnaire could be given to the correct child by reception staff, it was decided to produce only one version of the survey that would be suitable for all ages.

Three different versions of the same questionnaire were developed (with and without horizontal lines and columns) and piloted amongst 15 children (aged between 4 and 16 years) at the Eastman Dental Hospital, to see which one was preferred by the children. In addition, the children were asked if the questions were easy to read and understand. Minor changes were made to the questionnaire following the pilot testing to modify what the questionnaire looked like including addition of a line requesting parents to give the questionnaire to their child to complete, as there was some confusion initially regarding who was to complete the questionnaire. Other changes included moving the patient details like (age and gender) to the top of the questionnaire and expanding the comments section to accommodate children with a larger handwriting. The final version of the child satisfaction questionnaire is shown in figure 1.

The final questionnaire was used in two different centres to allow a better assessment of its utility. The questionnaire was handed out to all children attending the Paediatric dental department at the EDH for a one-week period in April 2016, during which it was filled in by 103 children. Questionnaires were also disseminated to 100 children at UDH in March to April 2017, Cardiff.

Results:

Five key themes were identified from the interviews: waiting area, the dentist, appointment length, treatment provided and staff. The waiting area and waiting time before they were called to see the dentist were most interesting to the children in group one (below 8 years), while all themes were of interest to the two older age groups. The need for more toys and games in the waiting area was a common quote from group one (below 8 years of age). Group two (8- 10 years of age) were interested in video games and group three (more than 10 years of age) were more interested in the availability of books and magazine in the waiting area. As the children in the last two groups become more aware about their dental needs and health at this age, Children belonging to group 2 and 3 were particularly focused on the dentist and the treatment provided. They cared about the dentist welcoming them and the explanation provided prior to the treatment. The final version of the child satisfaction questionnaire is shown in figure 1.



Children Satisfaction Questionnaire

Kindly pass this to your child after reading it. Then ask them to tick the box that express their feeling e.g.:

 HAPPY

Please answer the following questions about seeing us today.

 GIRL  BOY  AGE

What do you think about the toys and games in the waiting area?	<input type="checkbox"/>  HAPPY <input type="checkbox"/>  OK <input type="checkbox"/>  SAD
What do you think about the books/magazines in the waiting area?	<input type="checkbox"/>  HAPPY <input type="checkbox"/>  OK <input type="checkbox"/>  SAD
What do you think about the TV in the waiting area?	<input type="checkbox"/>  HAPPY <input type="checkbox"/>  OK <input type="checkbox"/>  SAD
Did you wait before you saw the dentist today?	<input type="checkbox"/> No <input type="checkbox"/>  YES A LITTLE <input type="checkbox"/>  YES A LOT
How do you feel about seeing the dentist today?	<input type="checkbox"/>  HAPPY <input type="checkbox"/>  OK <input type="checkbox"/>  SAD
Did your dentist explain everything to you?	<input type="checkbox"/>  YES A LOT <input type="checkbox"/>  YES A LITTLE <input type="checkbox"/> No
How was your visit today?	<input type="checkbox"/>  HAPPY <input type="checkbox"/>  OK <input type="checkbox"/>  SAD
How can we make your visit even better?	

Figure 1. Final children satisfaction questionnaire

Of the 203 forms in the total sample, three forms were excluded due to incomplete response. The 200 remaining questionnaires were equally distributed within the two centres (Table. 1).

		Eastman		Dental College Wales	
Gender	Age Group	Number of test subjects	%	Number of test subjects	%
Girls	Group 1 (< 8)	16	7.75 %	13	6.75%
	Group 2 (8-10)	14	6.8 %	23	11.7 %
	Group 3 (>10)	19	9.2 %	15	7.8 %
Boys	Group 1(< 8)	21	10.2 %	22	10.65 %
	Group 2 (8-10)	16	7.75 %	12	5.9 %
	Group 3 (>10)	17	8.25 %	15	7.25 %

Table 1. Questionnaire results - gender spread results

The data from the questionnaires were transferred to an Excel spreadsheet after coding the responses. Qualitative analysis was used to determine the percentages for each response.

In general, the responses from both centres were similar, with patients largely OK or happy with the service and facilities provided. In 5 out of the 7 questions over half the sample were happy with their experience, none of the unhappy responses exceeded 10% of the sample. The most positive responses were associated with the last three questions ('How do you feel', 'did your dentist explain', 'how was your visit'). The question with the least 'happy' responses was around waiting times (Figure. 2).

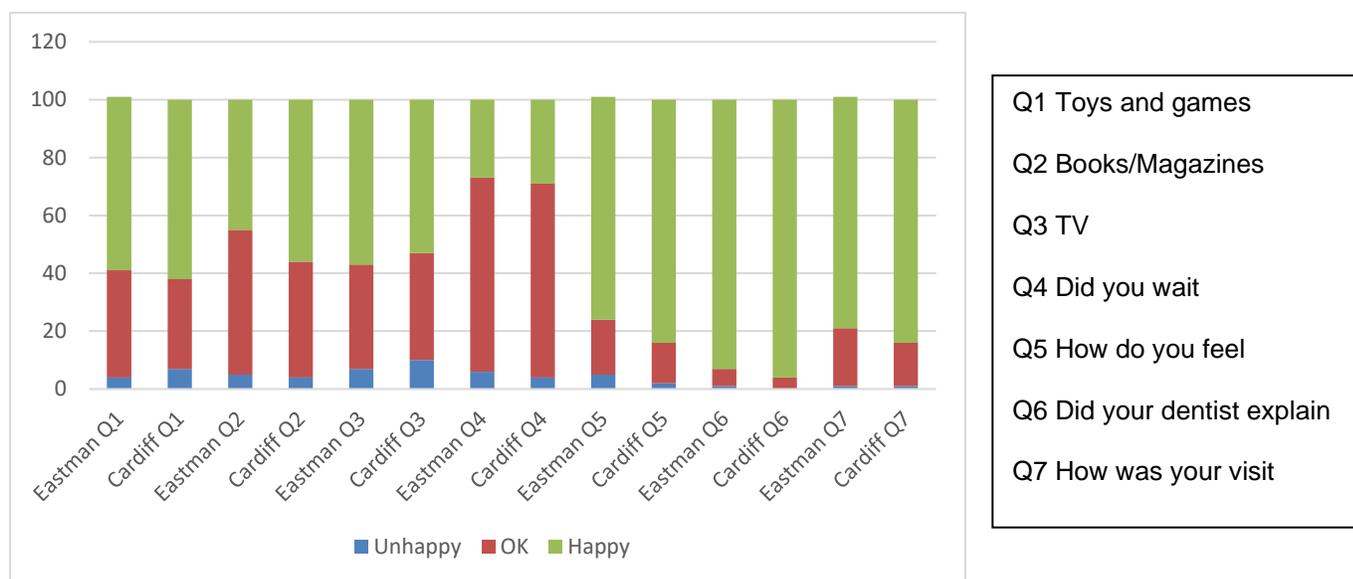
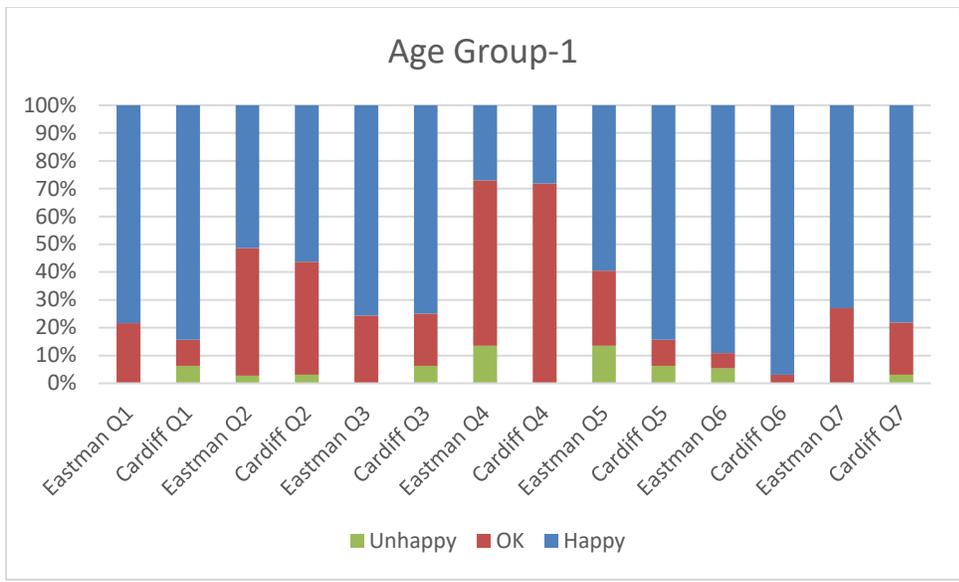


Figure 2. Questionnaire responses at the Eastman and Cardiff Dental School

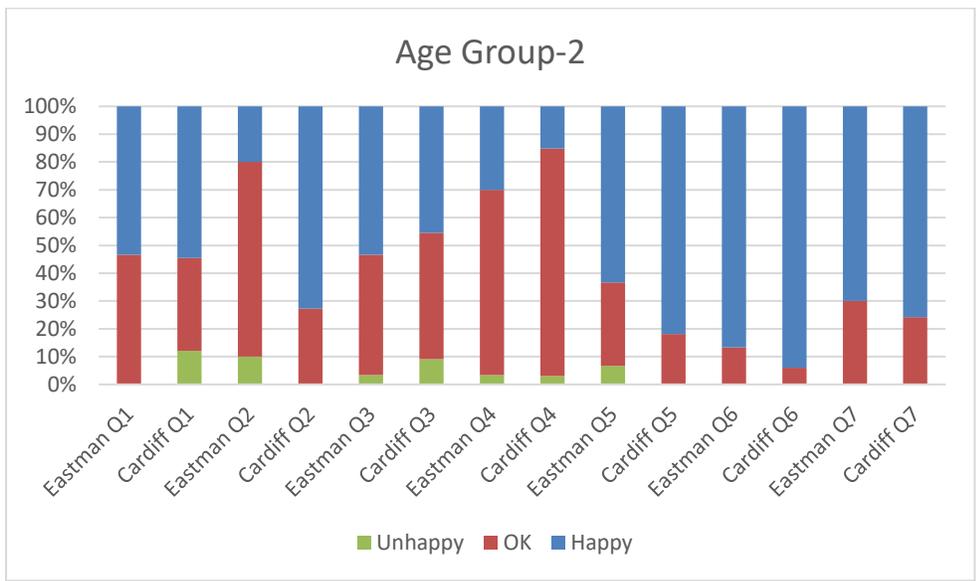
For the first age group (below 8 years old), question 6 was the one that children from both centers agreed on as more than 85% are happy with their experience. About 5% negative responses were given for insufficient books and magazines in the waiting area at both centers (question 2) as shown in figure 3.



- Q1 Toys and games
- Q2 Books/Magazines
- Q3 TV
- Q4 Did you wait
- Q5 How do you feel
- Q6 Did your dentist explain
- Q7 How was your visit

Figure 3. Questionnaire responses at the Eastman and Cardiff Dental School - group 1 -

The second group, children between 8-10 years old, reported no negative responses for questions 6 and 7 respectively. More than half of the children reported waiting for some time before seeing the dentist (Q4), with these questions producing the lowest positive response. Question 6 was again the question with the most 'happy' responses (figure 4).



- Q1 Toys and games
- Q2 Books/Magazines
- Q3 TV
- Q4 Did you wait
- Q5 How do you feel
- Q6 Did your dentist explain
- Q7 How was your visit

Figure 4. Questionnaire responses at the Eastman and Cardiff Dental School - group 2 -

In the last group, children above 10 years old, question 3 (lack of a TV in the waiting room), had the most 'unhappy' responses (15%). (Figure 5).

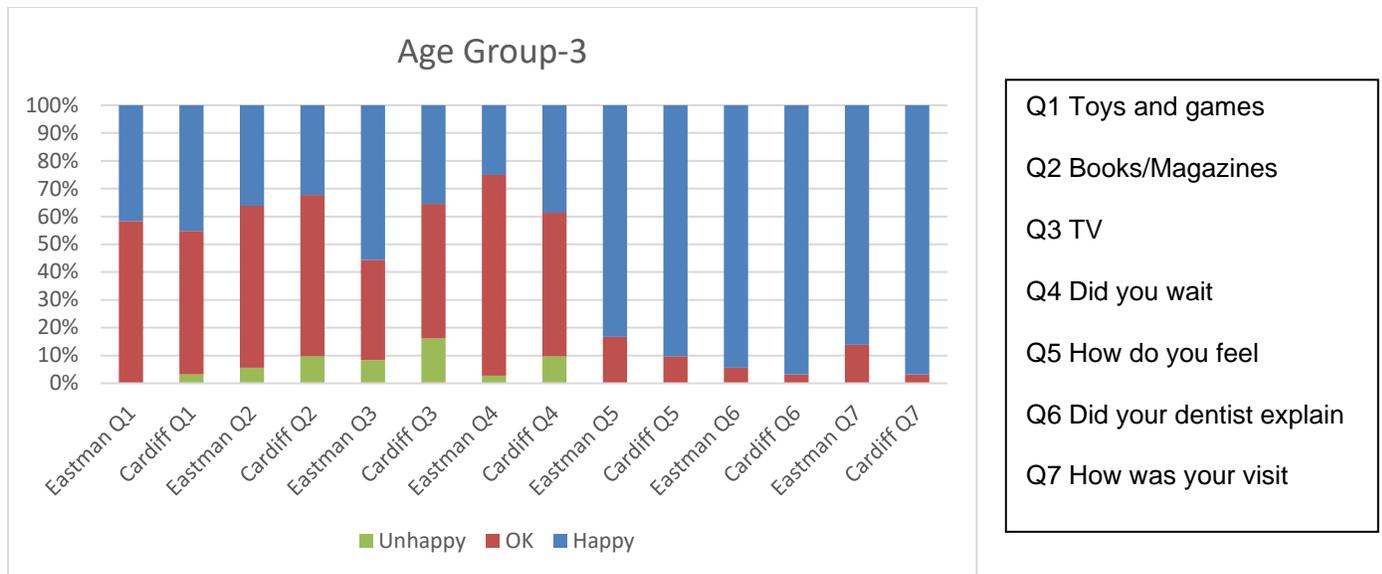


Figure 5. Questionnaire responses at the Eastman and Cardiff Dental School - group 3 -

Data from the individual age groups was supported by the comments at the bottom of the satisfaction survey sheet. A variety of comments were obtained, and provided additional useful information; such as the waiting area facilities and items not always being appropriate for older children. Many children asked for items suitable for their age, stating that waiting area was currently designed to accommodate those aged below 8 years old. Some children in group two expressed that the waiting time was an issue. Group three asked for Wifi internet, TV and books for teenagers .

Comparison between the child satisfaction survey and the adult satisfaction survey at the Eastman Dental Hospital

Currently at the Eastman Dental Hospital, satisfaction is measured using the Friends and Family survey (8) which is completed by an adult (Example in figure 6). In general, the children satisfaction score agreed with the adults' satisfaction score, with 67% of adults extremely likely to recommend the department to others, while 77% of children gave a happy response about their visit.

The only other question common to the adult survey and the child satisfaction survey was regarding waiting times. Fifty two percent of adults reported they were seen on time, whilst 27% of children reported the same (Figures 7 and 8). A direct comparison was difficult, as a child arriving early for an appointment may be seen on time, but may not like the wait for that appointment.

THE NHS FRIENDS AND FAMILY TEST



We would like you to think about your recent experience of our service.
 How likely are you to recommend our dental practice to friends and family if they needed similar care or treatment?

Extremely Likely	Likely	Neither likely or unlikely	Unlikely	Extremely Unlikely	Don't Know
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thinking about your response to this question, what is the main reason why you feel this way?

Figure 6. Friend and family test

9. How many minutes after your appointment time were you seen? (Overall score: 81.50%)

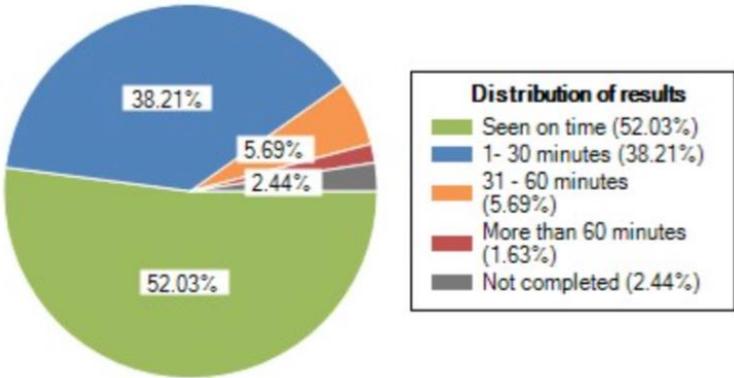


Figure 7. Waiting time, adult questionnaire

<p>Did you wait before you saw the dentist today?</p>			
	<p>27% NO</p>	<p>66% YES, A little</p>	<p>7% YES, A LOT</p>

Figure 7. Waiting time, children questionnaire

Adults comments otherwise were very different compared to those from children, for example, many adults express the need of air conditioning and parking (almost half of the comments), whereas no children mentioned these issues. Other adult comments were mostly about the appointment availability and the appointment time.

Comparison between the child satisfaction survey and the adult satisfaction survey at Cardiff Dental Hospital

Satisfaction in Cardiff was measured using a 12 point survey targeted at adults. Questions asked are summarised below. Data for comparison with the Child satisfaction survey was from 2014.

1. Were you happy with the quality of service by reception?
2. How long did you wait (from your appointment time) to be seen today?
3. Were you satisfied with the appearance and arrangement of the waiting room?
4. Were you satisfied with the appearance and arrangement of our clinic?
5. Was the appearance and behaviour of the dentist professional?
6. Was the attitude of the dentist friendly and approachable?
7. Was the attitude of the dentist assistant friendly and approachable?
8. Was the dental assistant's appearance and behaviour professional?
9. Were you satisfied with the information given about the condition of your child's teeth?
10. Were you happy with your child's teeth?
11. Did you feel involved in the decision making about your child's dental care?
12. Were you satisfied with the overall care your child received today?

Satisfaction survey used in Cardiff results

As with the Eastman, overall levels of satisfaction were high, 96% of adults were satisfied with the overall care, and 84% of children reported they were happy. Again, as with the Eastman adult survey, the only other common question was around waiting time; 35% of adults reported they were seen within 5 minutes of the appointment time, and 29% of children reported they did not wait.

In the comments section, as with the Eastman parents were concerned with parking, the length of time between appointments and privacy during treatment.

Discussion

This report describes the development of a questionnaire for assessing children's experiences using services at two paediatric dentistry departments. Patient experience is a significant part of service evaluation to ensure provision of high quality care.

During development of the survey, the decision was made to create one survey for children of all ages. However, children from different age groups showed different interest and responses – some of the older children found the survey too simplistic to complete, some of the younger children need some help filling

it in. Further development of the survey might consider developing surveys targeted at different ages, this was not done for this evaluation, as it was felt it would be too complicated to administer.

The approach we followed to develop a children satisfaction survey was a pragmatic one. Our data may not have been from a representative sample of child population. Further development could be improved through prospective qualitative interviews with children in a similar method to that described by The Development of a Patient Reported Experience Measure (PREM) Survey for Children 0-16 Years in Urgent and Emergency Care (7). In PREM development, a focus group was used as the qualitative research method followed by an interview to test the cognitive ability. Nevertheless, when the satisfaction survey was used in an unrelated group of children in Cardiff Dental school, it was interesting to note that their likes and dislikes were very similar, suggesting the survey was picking some common themes relevant to child satisfaction with their dental visit.

The questionnaire consists of 7 questions following children interests. The first four were about the waiting area and waiting time as it is a point of high importance. The unhappy and ok responses were more noticed in these four questions compared to the last three. This could be due to different demands children required during their waiting time and how much they enjoy the staying at the waiting area depends on what is available. For example, some children mentioned how busy is the waiting area with no available space to play. However, almost no unhappy responses were selected for the last three questions in both centres. This reflects the general agreement about the standard of care and the service provided.

The five themes identified following the analysis of the direct interview were more related to children interests and different from the adult survey questions. Parent/carer questions included the recommendation of the department to others, being welcomed on arrival, check in, staff kindness and waiting time. Children are not concerned regarding recommending the department to others, when arriving to the department, children have no role in check in or communication with reception staff. Although both children and adults visitors do care about waiting time, it seems that children care more about quality of that time unlike adults who seem more concerned with the length of the wait. Enjoyment during waiting is what all children ask for. Therefore, multiple source of fun is required like video games, TV, toys and books and magazine. The adult should be informed about delay in their child

care so they will feel not ignored during waiting and the staff is trying to see their child as soon as possible.

The difference between the questions used in the adult survey and the child survey was striking as we mentioned. At present the adult survey is not measuring the satisfaction of patients at all, only their caregivers. Whilst some input from caregivers is important, much more emphasis must be placed on the satisfaction of children. The child satisfaction survey developed in this study, or similar, should be implemented in paediatric dentistry units as soon as possible to ensure the right metrics to shape service delivery are being recorded.

Conclusion

Measures of satisfaction of children with regard to dental treatment were very different to those commonly recorded by adults for the same service. Further development and implementation of child satisfaction surveys should be considered.

Reference:

1. Dixon N. Proposed standards for the design and conduct of a national clinical audit or quality improvement study. *Int J Qual Health Care*. 2013 Sep 1
2. Department of Health. Improving Children and Young People's Health Outcomes: a system wide response. 2013;51.
3. Bhatia S, Hingston E, Chadwick B. (2012). Parental satisfaction with care provided on the paediatric dental unit, Cardiff. *Int J Paediatr Dent* 2012; 22(S2): 24–25
4. Morgan AG, Madahar AK, Deery C. Acceptability of fissure sealants from the child's perspective. *Br Dent J*. 2014;217(1):E2.
5. Attwood A, Burger S, Court B, Way W. Young Outpatients Survey – Autumn 2013. 2014;(January).
6. Care Quality Commission. Children and young people 's inpatient and day case survey. 2015;(July):49.
7. Davies F, Vohra J, Hopwood B. The development of a patient reported experience measure for paediatrics patients (0–16 years) in urgent and emergency care: research report. 2012.
8. England NH. Friends and family test. Publications Gateway Ref. 2014(01787).
9. Dixon N. Guide to managing ethical issues in quality improvement or clinical audit projects [Internet]. Healthcare Quality Improvement Partnership; 2017.
10. Hetherington EM, Parke RD, Locke VO. *Child psychology: A contemporary viewpoint*. McGraw-Hill; 1999

Patient Number:

Age:

Gender

Number of previous visits:

Parent's verbal agreement ...

Hello

We would like to find out how children feel about coming to the dentist and what they like / don't like.

We would like to speak to your child about their experience of visiting our department – would you be happy for us to talk to them? (It should only take a few minutes)

Could you please help us, by answering a few questions??

There is no right or wrong answers; we are just interested in what you think

What is the most important thing for you when you come to visit us?

What things make you happy when you visit us? What do you like?

What things don't you like? Why?