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Missing links - A qualitative study investigating perceptions of teachers and parents of infant children, in two Welsh primary schools with different socioeconomic profiles, with regard to oral health

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Abstract

Aim: This qualitative study explores the perceptions of teachers and parents of infant children in primary schools positioned and servicing affluent and deprived populations, as intermediate and end users of oral health promotion services in the Vale of Glamorgan, Wales.

Methods: A qualitative focus group methodology was chosen as the most appropriate way of exploring these issues. In addition, this method was combined with individual face to face interviews of the teaching staff.

Two primary schools within the Vale of Glamorgan were chosen each representing different geographical locations within the area as well as different socioeconomic profiles.

Head teachers invited parents to form a focus group of 8 participants. The head teachers from each school also agreed to be interviewed and invited one other teacher from their school to part-take in a face to face interview.

Results: One school was successful in forming a focus group of 8 individuals for the study, the other was unsuccessful in forming a group but one parent was available for a face to face interview. Head teachers and teachers were interviewed in each school.

Six themes emerged from the analysis of the data. These included:

The dentist

Design to Smile ((D2S)

Oral Health Education messages

Positive role modelling

Responsibility

School Policy

Increased levels of tooth related problems were reported in school 1 whereas in school 2 tooth related problems were not reported. School 1 was involved with the Welsh Government program D2S which showed positive outcomes. Confused messages were reported by both teachers and parents which suggests that different approaches are needed in the delivery of the messages. Access for effective ongoing continuing care was problematic for the parents of the children who had experienced dental caries.

Conclusion: There were clear differences in the perceptions of disease experiences of children in the staff and parent(s) of each school, with dental disease impacting on some of the children of school 1. Clear benefits were verbalised to the scheme D2S for school 1 in terms of the development of behaviours in both children and parents.

This study shows positive outcomes for D2S, however there is evidence of continued isolated, compartmentalised and uncoordinated approaches to the provision of oral health promotion.

More effective downstream approaches need to be developed in order to improve opportunities for oral health. These can be addressed through: Resource allocation for teaching, Training service deliverers, Dental service development.

Introduction

Dental caries prevalence in the United Kingdom (UK) in 2016 are low, demonstrating considerable improvements over the last decades [1]. However, these improvements are not observed in the whole population [2]. Deprived sub-groups show considerable levels of

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tooth decay with some individuals needing multiple extractions under general anaesthetic[3]. Indeed data suggest in some deprived groups there has been an increase in caries prevalence, take for example the most and least deprived areas in Wales, Blaenau Gwent and the Vale of Glamorgan.

Between 2007/8 and 2014/15, in Blaenau Gwent there were more caries free individuals and the dmft (decayed, missing, filled, teeth) for those with disease reduced from 5.15 to 4.46, while in the Vale of Glamorgan there were more caries free individuals and the dmft for those with disease increased from 3.25 to 3.45. This suggests a static if not increasing social division both between and within the most and least deprived sub groups, particularly within the least deprived unitary authority [4].

Social division in health has been reported extensively [5-7].If improvements in oral health are to be achieved in the UK then the only way to achieve this is to target improvements in deprived populations. This is because the distribution of disease shows no or little caries present in higher socio-economic groups [8]which is demonstrated in the Vale of Glamorgan with 80% of five year olds being caries free in 2014/15[4].

Watt *et al.* suggests an upstream approach to tackle oral health promotion in order to address the populations experiencing dental caries[9]. Within this approach a common risk approach to oral health promotion is fundamental with approaches such as public policy, legislation, regulation and fiscal measures being considered as upstream. Clinical prevention and health education in practice as it has been delivered is considered to be downstream and this has failed to effectively reduced oral health inequalities.

Access to general dental practice is difficult for long term oral health care for deprived groups. This has become more acute following the numerous contract changes to general dental practice National Health Service (NHS) contracts[10]. Therefore, without available, accessible and acceptable care from general dental practitioners for the sub-group experiencing disease, alternative approaches need to be considered such as school dental health education, media campaigns, training other professionals, community development, healthy settings e.g. healthy schools; these are considered to be more in the direction of upstream activities by Watt *et al.*[9]

Primary and secondary prevention can be delivered by other non-dental health care workers, and these workers can target individuals within the community at important life changing events such as the birth of a child or in a school environment. However, the effectiveness of approaches have been questioned, particularly from the viewpoint of seamless consistent cooperative approaches[11,12]. Watt *et al.* highlights that oral health education programmes have been isolated, compartmentalised and uncoordinated[9].Stillman Lowe *et al.*suggests that effective oral health education messages need to be clear, accurate, consistent and unambiguous[13].

This qualitative study explores the perceptions of teachers and parents of infant children in primary schools positioned and servicing affluent and deprived populations, as intermediate and end users of oral health promotion services in the Vale of Glamorgan, Wales.

Methods

The overarching aim of this research platform was to study the perceptions of intermediate and end users of oral health promotion services in relation to dental health, risk factors for dental disease and their role in oral health promotion. Other studies include dental, healthcare professionals and the public [14] and school nurses and health visitors [12]. This study sought to explore the perceptions and knowledge of teachers and parents. A qualitative focus group methodology was adopted [15]. In addition, this method was combined with individual face to face interviews of the teaching staff. This approach was considered more appropriate since both head teachers as well as receptions teaching staff were involved. Given the hierarchical positions of authority, it was important that the teachers felt able to speak truthfully.

Two primary schools within the Vale of Glamorgan were chosen each representing different geographical locations within the area as well as different socioeconomic profiles. The Vale of Glamorgan is the least deprived unitary authority in Wales, however there is a pocket of severe deprivation positioned within the authority. Therefore primary schools servicing the area in which there is deprivation would be expected to have a proportion of children from these household within the schools. A Flying Start area is defined as families living in the most disadvantaged areas in Wales.

School 1 (Defined by head teacher)

This is an infant and nursery school in the centre of Barry, Vale of Glamorgan. It has 125 children aged between 3-7 years, 73% white British and with 23% of pupils who speak English as an additional language. Forty two percent of the families live in a Flying Start area which is defined by the Welsh Index of Multiple Deprivation as families living in the most disadvantageous areas in Wales. Approximately 7% of pupils are entitled to free school meals.

School 2 (Defined by head teacher)

This is a junior school in a semi-rural location on the outskirts of Penarth serving families across the eastern Vale of Glamorgan. It has 221 pupils from 3-11 years, 64% white British and 16% of pupils who speak English as an additional language. The pupils are from varied socioeconomic backgrounds with a minority economically disadvantaged families. Approximately 11% are eligible for free school meals.

Sample

Parents for the focus groups were recruited via a school letter. Eight was considered to be an appropriate sample size for a focus group [16]. The head teachers invited another teacher from their own school to take part in the study.

Data collection tool

A 12-item interview schedule which had established face and content validity from a previous study was used for the focus groups and teacher interviews [12]. The wording of some of the questions was slightly amended only in relation to whether the participant(s) were parents or teachers.

Data collection and analysis

Focus groups were undertaken in quiet well ventilated rooms away from the teaching areas. Permission was gained for involvement and audio recording. A facilitator and a moderator was present. The focus group took approximately and hour and the individual interviews 30 minutes. The narrative data were subsequently transcribed verbatim. Nvivo qualitative research software was used to in the analysis with nodes and sub-nodes and this was undertaken by each team member

independently. Inter-rater reliability was then established which allowed the researchers to reach a consensus on the salient themes.

Ethical approval

Ethical approval was granted by the University Faculty Research Programme Committee (FRPC). The main ethical principles of informed consent, confidentiality, anonymity and data protection were maintained.

Results

Both schools participated in the study. School 1 included a focus group of 8 parents following the invite from the head teacher to parents to take part in the research. The group represented the social mix of the school with parents present from the most deprived areas. A teacher and the head teacher gave individual interviews. School 2 included individual interviews with a parent, teacher and head teacher. There was little response from the invite from the head teacher to parents to form a focus group. The parent who volunteered to part-take had worked in a school as a teaching assistant positioned in a deprived area of Cardiff.

Following the interviews it became clear that School 1 was involved in the Welsh Government scheme Design to Smile (D2S) which delivers supervised tooth brushing and oral health education (OHE) within part-taking schools. School 2 was not involved in the program.

Six themes emerged from the analysis of the data. These included:

The dentist

Design to Smile

Oral Health Education messages

Positive role modelling

Responsibility

School Policy

The emerging themes from the data will be presented under three headings:

1. Those shared by all participants at both locations.
2. Those that only arose in School 1.
3. Those that are of interest in the context of D2S.

Themes shared by all participants at both locations

The dentist

Access: Regular attendance at a dental practice was seen as an important aspect of oral health. There was a general opinion that children should attend the dentist from an early age although the precise age was unsure with comment as to when the dentist though that children would be welcome being made. Frequency of regular attendance varied from 3 months to 12 months.

Availability and access to dentists along with costs were issues that were particularly highlighted in school 1.

P6 "the bad thing is that its so hard to get into a dentist, I had to wait a year and a half, its so hard. She's (the teenage daughter present) got a little hole in her tooth right now and I tried to ring the dentists for her but as they haven't seen her in the last two years"

P2 "its difficult to get into a dentist yeah I found that cos we moved so many times trying to get into a dentist has been horrendous"

Personal experiences: Personal experiences played an important part in reality perception with regard to advice being delivered and acted upon. There was a perception that a certain section of the community did not behave appropriately in terms of caring for their teeth, which created an 'us and them' scenario.

P9 "But I know that, yeah, it was a program aimed at children in inner cities and they needed it to be fair. Their oral hygiene was not good."

There was evidence of disbelief in OHE messages to be effective and/or socially (un)acceptable.

P6 "I would say ten percent sugar, ninety percent not brushing their teeth, if you had a sugary drink, you'd brush your teeth afterwards, you might degrade it a bit but if you look after your teeth you won't have a problem with sugar. That is my opinion."

T10 "..and obviously its not rinsing too much after…

With D2S project they don't rinse anyway…

…but in my own experience, em my children would really rather like to get rid of it all thank you very much"

Oral health education messages

The main OHE messages that were perceived by the participants were diet control particularly reducing the amount of sugar in the diet, brushing regularly and visiting the dentist regularly. It was clear that healthy eating and 'five a day' had been communicated effectively as a holistic common risk approach. There was evidence of confused messages with regard to the reasons why the above should be undertaken.

P9 "Eem something I am not quite sure I know there are rules about brushing your teeth after a certain amount of time isnt't there?… But I am not quite sure what they are I just know there's something about if you eat eem you know, you shouldn't brush your teeth straight afterwards.'

Conspicuous in its absence was the issue of the use of fluoride, particularly in toothpastes. Most reference was made to coating and painting of teeth as a treatment provided rather than self administered fluoride as toothpaste. There was no reference to maximising the effect of fluoride toothpaste through the use of tooth paste of at least 1000 parts per million and one mention of refraining from rinsing post brushing. However, positive comments were made regarding the anonymous toothpaste provided by D2S regarding taste.

Positive role modeling

Making oral health a positive experience for children; through the use of games for brushing, toothpastes that taste good, visiting dentists to get accustomed to the process early; were some of the many examples stated. Also parents were keen to show their children positive role models when visiting dentists even though they themselves had had negative experiences at the dentist and were anxious patients themselves.

Responsibility

There was unanimous opinion that the responsibility for oral health was firmly in the domain of parents, this was particularly so from the

focus group of parents. Some mention was made of child neglect from one teacher and from within the focus group one parent.

P4 "yeah, it would be a form of neglect to leave them and if you are going to go down the route of unfortunately having bad teeth."

School policy

Snacking was seen as a normalised part of human life and much of the discussions surrounding the concept of snacking were termed 'healthy snacking'. There was some mention of confusion with regard to 'healthy snacking'. There was much reference to programs such as Appetite for Life and Healthy Schools.

T11 "Eem and so trying to help children to understand and even myself with my children as well eem trying to make sure that we do not eat too much fruit at the end of the meal so and at the wrong time snacks and then worrying about the acid and now also with fruit juices too.'

Outcomes such as hyperactivity and obesity gave greater value to having 'healthy snacks' from the viewpoint of teaching staff.

T13 "it was a five year old boy and he was drinking eeem the Lucozade not the fizzy drinks and he was five and I thought you are not drinking that because you are going to be bouncing off the walls this afternoon"

Themes arising in School 1 only

The dentist

Feelings: During the focus group many negative feelings were described by the participants, these included Fear, Vulnerability, Upset, Anger, Guilt and Humiliation. Often fear and unpleasant past experiences had kept them away from dental care.

There was much discussion within the group surrounding blame and dental caries. The parents whose children had experienced caries blamed the child having a fall, the child not complying with brushing requests and the child having conditions such as autism or taking medications.

P7 "he had a fall he did when he was two and em, his teeth were going black so he went in and he had eight teeth out and then he had to go back then cos he was having a bit of trouble and they took the rest of his teeth out"

When the child received care from dental professionals the parent was confronted with blame regarding responsibility to control the diet of the child.

P7 "but they are all coming through fine now but its from .. em they were saying it was the bad diet but he eats really well. So em…

well they were saying that I was feeding him sweets"

Feedback following dental care: Parents whose children had had multiple extractions voiced very strong opinions regarding the non-verbal and verbal feedback that had been received following the process of extractions and general anaesthetic. The feedback was perceived as destructive and unhelpful in content and manner that it had been delivered.

P6 "Cos she could have been that person who pulled them out, I don't know but it was like she didn't care. You'd think oh, you would think she would say, oh I do apologise, not apologise but say, sorry to tell you but we've had to take out his teeth not go there's your sons teeth and stick them in front of you in a pot."

Similarly parents of children who had received routine dental care voiced the fact that dental care was more treatment orientated rather than communication orientated and when attempts were made to communicate issues the content and manner in which it was delivered was perceived as destructive and unhelpful.

P4 "I'm mortified, absolutely mortified and I'm cross at the dentist who says it doesn't matter they're his milk teeth. Er, no we can't be dismissive at this time cos he's hearing that and I don't want that to be…"

Design to Smile

This program was perceived positively by all involved teachers and parents.

Oral health education messages

Again confusion regarding the OHE messages delivered was observed. Clearly the effect of sugar and the need for reduced sugar consumption was voiced but there was little awareness of the need for the control of the frequency of sugar intake in practical ways. This was particularly pertinent in a school with higher levels of tooth decay in sub-groups within the school.

Positive role modeling

Teaching staff: Teaching staff placed great emphasis on demonstrating general positive role models to the children and developing independence and ownership of behaviour in the children.

T10 "The cleaning of the teeth em, also as well with regards to children taking ownership that they are cleaning their teeth because they do do it quite independently in school so therefore we do try to say to children that well, they are your teeth, you need to look after your teeth because children will always blame their parents! (laughter) but we try with older children to explain to them that actually they are old enough to clean their own teeth now so that's ok."

Peer pressure and Parenting skills: There were two issues where peer pressure from the children influenced the behaviour of both the parent and the chid. Firstly, the issue of parental consent was raised by the teaching staff at both locations. The lack of parental responsibility in parenting was highlighted and participation and inclusion in D2S made the child 'pester' the parent for consent. Also there was mention of the child telling the parent when tooth brushing was not done when it should have been done e.g. at bed time. Secondly, children who were difficult to motivate to brush in the home environment were motivated to part-take in brushing at school and consequently at home. On the other hand teaching staff did allude to some parents not bothering to brush at home because the school was already doing this thus disempowering the parent.

Responsibility

Even though the teachers were positive regarding D2S in order to address those children experiencing the affects of dental decay, there was an underlying feeling that the responsibility for toothbrushing and teeth should be with the parents. This was particularly evident when time constraints were already great for the teachers.

School policy

Much value was placed on compliance to policy issues within the schools.

T10 "Its part of the Appetitie for Life project which is obviously Welsh government guidelines. We do try and encourage, er, lunch boxes but obviously we can't police it ……."

Interesting themes in the context of D2S

Appropriateness of D2S: The amount of disease experienced by children of school 1 was of concern. Examples were given of children having multiple extractions and losing time from school with teeth problems. As a result D2S was perceived as an appropriate program for the school. However, in school 2 tooth decay was not perceived as a problem that impacted on the school in terms of absence or discomfort.

T11"…I think it needs to be depending on where you are and the oral hygiene of the children.

…can I just go back, not necessarily not important enough, but that generally parents are already doing a good job with it, therefore I don't think they need support with it"

Time as a resource constraint: Teaching staff were concerned with the amount of time that was taken out of the already busy curriculum although the positive aspects of the D2S program were valued by the staff of school 1. Again the underlying feeling that responsibility for toothbrushing should be with parents emerged in this context.

The time required to administer the program had an impact on the decision making of school 2 on the implementation of the scheme.

Cross infection issues: The storage and cleaning of tooth brushes as a potential cross infection risk was an issue that received considerable discussion with school staff. Protocols were viewed as important and authoritarian monitoring was undertaken by D2S staff that caused levels of tension within the school.

Discussion

This qualitative study was rich in that the methodological approach provided data with depth and complexity that could not have been obtained through traditional quantitative methods. It is limited in that it reflected individuals and a specific group and therefore may not be generalisable. However, the location was chosen within the least deprived unitary authority area of Wales with appropriate schools from locations and catchments, with teaching staff commenting on an observed increase in dental problems (school 1) and a lack of dental problems (school 2).

The two schools that were involved in this study showed differing attitudes to involvement in the study. The parents of the more affluent school, school 2, did not accept the invite to part-take in focus group activity. This may reflect the view that dental health is already adequately covered and not a problem for them, or it may be that the invite to part-take was not made as an attractive proposition. This school was not involved in the Welsh Government D2S scheme and the appropriateness of the scheme was a theme that emerged from the study. This suggest a socially just outcome and does not fit into the inverse care law for health[17]. However, there was one opinion that the D2S scheme should be available to all schools regardless of social standing. Whether this opinion would be supported by the parents of school 2 is unknown.

Attendance at the dentist featured as a theme within the results of this study, with the majority stating that six monthly attendance to be appropriate to all. This is not strictly in line with NICE guidelines regarding routine attendance where low risk individuals should attend every two years, while high risk individuals should attend at three monthly intervals [18]. However, one parent had been advised that her child should attend every three months following multiple extractions under general anaesthetic. There was little evidence of an understanding as to why the child should go so frequently. There was a possibility that perception was that merely attending the dentist reduced the risk category of the child whereas in reality it is the daily behaviour that needs to be addressed in order to reduce the risk of disease developing. One parent who attended for private care was attending the dentist only once per year but her reasoning for this was cost not appropriateness of the activity. Clearly there was confusion regarding the rational for attendance at the dentist within the group. Clarity surrounding this issue would have the potential to increase capacity within dental practice and appropriate resource usage. This would impact on the availability and accessibility of services for those with the greatest need, an issue identified as problematic for parents in the focus group of school 1. Access to general dental services have been arranged in the recent past to address emergency care only with no regard to converting irregular symptomatic attenders into regular asymptomatic attenders [10].Trubey*et al.* interestingly found that workers within D2S did not feel it important to develop links with local dentists and D2S was seen as a stand alone tooth-brushing scheme not integrated with general health promotion [19].

Personal experiences almost resulted in an acceptance that deprived sections of the community would behave inappropriately and have belief systems that perpetuate unhealthy behaviours, for example that diet is only 10% responsible for dental caries. This stereotyping was observed in the teachers and one parent and has also been reported in other healthcare workers and dental professionals [20]. Stereotyping deprived groups could pre-empt poor health outcomes for individuals within these groups. Adopting new behaviours such as using tooth paste of adequate strength and avoiding rinsing as a behaviour, depends on educators (teachers and D2S staff) communicating this fact clearly and behaving on evidence rather than personal preference.

The Scientific Basis of Oral Health Education identifies five key messages that need to be communicated to society at large [20]. Three of these messages were clearly identified in the results of this study, namely brushing regularly twice per day, reducing the amount and frequency of sugar in the diet and visiting the dentist regularly. The other two regarding fluoride usage and smoking were briefly mentioned only. The use of fluoride toothpaste of adequate strength was conspicuous in its absence, an activity that would be particularly effective when the toothpaste is not rinsed following brushing [21]. The use of an anonymous toothpaste within D2S did not improve understanding for the need for toothpaste of at least 1000 ppm and although the children did not rinse in school this was not verbalised by the parents within the schools as a habit that should be formed. The parents may have interpreted no rinsing in the school as a practical constraint with resources? This is a missed opportunity to clarify necessary behaviours in social groups that need that help most at no extra cost.

Interestingly all the parents were in agreement that responsibility for children's oral health was firmly with them with them as parents. This is in contrast to the view that health care workers have regarding the perception they hold to parents taking responsibility for their children's oral health [12].Bedos*et al.* also states that contrary to common belief, lower socio-economic groups care about their oral health and appearance [22]. Also there was some reference within this research study to stereotyping of 'deprived' social groups with regard to their oral health behaviours such as undertaking adequate toothbrushing, not controlling diet and attendance at dentists. These sentiments have also been reported in the literature surrounding general dental services [23].

Snacking as a concept means different things to different people and for it to be meaningful in the context of OHE a definition in needed as to what a snack is. The promotion of 'healthy snacks' condones grazing as an acceptable behaviour, particularly in the context of snacks between small frequent meals. It has been reported that children in low income groups have a significantly higher intake of non-milk extrinsic sugars [24] and they obtain a greater amount of energy and nutrients from snacks [25]. This study suggests that there is a belief within these groups that diet is only 10% responsible for poor oral health. However, the healthy food message was clearly verbalised within the focus group. Confusion regarding what can and cannot be regarded as healthy and non-cariogenic arose within the study. Moynihan *et al.*identified the need for a pragmatic approach to providing a numerical limit to the number of sugar intakes [26]. Richards *et al.* suggested an alternative more specific and unambiguous message of leaving the mouth empty for two hours so as to enable sufficient enamel remineralisation to occur in an attempt to overcome communication misunderstandings [27].

There was clear evidence in school1 of a positive approach that was sensitive to the needs of all their children and parents. Child independence and ownership of behaviours were encouraged, this could be seen as an important life skill in a population where parenting skills were not clearly demonstrated. The D2S scheme was seen to be effective, an important outcome of this research, in improving tooth-brushing activity and influencing parenting skills. Supervised tooth-brushing had been shown to be effective by other workers [28].

The focus group voiced many negative feelings surrounding dental experiences that had lead them away from dental care. These feeling have been reported in other qualitative research with lower socio-economic groups [22]. In conjunction with this victim blaming was clearly present and there was evidence of Attribution theory in action [29]where the patents blamed their situation 'autistic child' and the dentist/ professional blamed the parent for lack of control 'too much sugar'.

The role of the dentist was perceived as a doer, a provider of treatment rather than a communicator of health. Other research has highlighted this viewpoint [30]. Opportunities to encourage the child for appropriate good behaviours were missed when children attended for regular care, suggesting that examinations were about absence of disease rather than an opportunity for reinforcement of good behaviours or development of new behaviours. This does not mean that the dentist did not care about 'prevention' but that the focus of an appointment was possibly treatment or process, from the viewpoint of the patient. Communication or feedback from this viewpoint is not just verbal but also non-verbal in terms of the processes encountered. Clearly when a dentist is presented with a child experiencing multiple caries, the dentist wants to help the parent prevent future disease. There was evidence in this research of the 'righting reflex' in action where the dentist wants to help too much too soon [31]. This results in destructive communication that is not focused on patient feelings in present time. Also well meaning attempts to use shock/consequence modalities to influence behaviours created feelings of guilt and anger which were counter productive. There was little reporting of the application of sound health behaviour change theory [31-33].

There is much in the literature suggesting an inverse care law within service provision in dentistry [34,35].This research suggests a more socially just allocation of the D2S program even though this maybe a coincidental outcome as the time needed to deliver D2S was a factor in school 2 participation decision-making. The pressures on school 1 in terms of time allocation were greater in the context of a school having greater needs, not only dental. Trubey*et al.* found that D2S support workers felt that all socio-economic groups should be involved not only high need schools [19]. There was evidence of this view in one of the parents. Qualified oral health educators within D2S felt that focus should be placed on those schools willing to take part in D2S rather than convince more reluctant schools of its benefits [19]. This is understandable from the viewpoint of delivering a program but could potentially create an inverse need allocation of service.

Conclusion

There were clear differences in the perceptions of disease experiences of children in the staff and parent(s) of each school, with dental disease impacting on some of the children of school 1. Clear benefits were verbalised to the scheme D2S for school 1 in terms of the development of behaviours in both children and parents.

Within the upstream framework identified by Watt *et al.*, this research has identified issues (missing links) that hinder improvements in the oral health of school 1. For these groups, more effective downstream approaches need to be developed in order to improve oral health. These issues can be addressed through: Resource allocation for teaching, Training service deliverers, Dental service development.

The issues include:

Time - D2S is time consuming in a more demanding school environment compared with a school servicing a more affluent demographic. (Resource allocation for teaching)

Stereotyping - There is a training need regarding stereotyping deprived groups within professionals. (Training issues)

Messages - Clear, accurate, consistent and unambiguous evidence based messages need to be communicated. (Training issues)

Availability and access - Regular asymptomatic dental care is a key OHE message, therefore this needs to be made available and accessible. (Dental service development)

Acceptability of service - Opportunistic symptomatic dental care used to convert irregular symptomatic attendance into regular asymptomatic care based on sound health behaviour change theory. (Training issues)

This study shows positive outcomes for D2S, however there is evidence of continued isolated, compartmentalised and uncoordinated approaches to the provision of oral health promotion as highlighted above.

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