

Prevention and Management of Caries in Children Consultation Feedback Report

Question 6a: To what extent do you currently do this action? (Response: 1='not at all' to 5='always')

This question is designed to determine how current practice reflects recommended practice.

Results

- **None** of the recommended behaviours are currently being always implemented by participants (N=44).
- On average, participants reported complying with 8 (SD = 4) recommended behaviours.
- The recommended behaviours most commonly (>80%) always performed are to check existing fissure sealants at each recall visit and to place fissure sealants in children assessed as at increased caries risk (See Table 1).

Table 1. The percentage of participants (N=44) who always perform each recommended behaviour (response = 5)

Recommended behaviours	%
Ask about the child's toothbrushing practice	56%
Encourage parent/carer's (or child if old enough) to take responsibility for the child's oral health	67%
Record the child's caries risk	39%
Check existing fissure sealants at each recall visit	84%
Take bitewing radiographs at appropriate intervals based on caries risk	29%
Take appropriate action if wilful dental neglect is suspected	29%
Give toothbrushing advice to all children at intervals based on caries risk	60%
Give dietary advice to all children at intervals based on caries risk	65%
Give toothbrushing instruction to children assessed as at increased caries risk	71%
Apply NaF (5%) varnish to children assessed as at increased caries risk	52%
Place fissure sealants in children assessed as at increased caries risk	84%
Prioritise the management of carious permanent teeth	77%
Manage carious primary teeth having first considered all of the options	39%
Refer only after having first attempted treatment using behavioural management techniques	53%
Use caries risk to inform the choice of recall interval	57%

- Looking at the distribution of the responses for Q6a, the most poorly performed (at least one response of 1, i.e. 'not at all' and a median score < 5, i.e. not always) of the recommended behaviours are:
 - Record child's caries risk;
 - Take bitewing radiographs at appropriate intervals based on caries risk;
 - Take appropriate action if wilful dental neglect is suspected.

Summary

The responses to Q6a suggest that current practice does not adequately mirror recommended practice.

Question 6b: Will reading the guidance change what you do? (Response: 1='not at all' to 5='radically')

This question is designed to identify if some form of intervention - other than publishing the guidance document in its current format - is required to help the implementation of the recommended behaviours.

Results

In General

- 50% of participants (22/44) report that reading the guidance will not change anything they do;
- The average number of behaviours participants say they will change after reading the guidance is 1 (mean = 0.82, SD = 1.84; median = 1)

Summary

Since the average number of recommended behaviours currently performed by participants is 8 out of 15, and the reported average impact of reading the guidance is to increase this by 1, the results suggest that the guidance document - in its present format and/or alone – is unlikely to result in the implementation of all recommended behaviours.

Least performed behaviours

- Record child's caries risk: Only 3 / 13 participants scoring ≤ 3 on Q6a (i.e. rarely to not at all performing the behaviour) said they would radically change what they currently do in regard to this behaviour as a result of reading the guidance;
- Take bitewing radiographs at appropriate intervals based on caries risk: Only 2 / 18 participants scoring ≤ 3 on Q6a (i.e. rarely to not at all performing the behaviour) said they would radically change what they currently do in regard to this behaviour as a result of reading the guidance;
- Take appropriate action if wilful dental neglect is suspected: Only 5 / 15 participants scoring ≤ 3 on Q6a (i.e. rarely to not at all performing the behaviour) said they would radically change what they currently do in regard to this behaviour as a result of reading the guidance.

Summary

These results suggest that knowledge of the recommended behaviours, particularly the currently least performed actions, does not drive the decision to implement them.

Question 6c: How difficult do you think it is to do this (i.e. perform each behaviour)? (Response: 1='extremely difficult' to 5= 'Not at all difficult')

This question operationalises a psychological variable – perceived behavioural control (PBC). It was included in case the answer to Q6b suggests an intervention may be necessary to encourage the implementation of a recommended behaviour. The relationship between this variable and the recommended behaviour will help identify the type of intervention to use.

Results

In General

- This measure of PBC has very good internal reliability (Cronbach's alpha = 0.91).

- In line with theoretical expectations, the greater the perceived behavioural control, the more recommended behaviours are currently performed (Pearson Correlation = 0.45, $p < 0.01$).
- On average, participants had good perceptions of control over generally performing the recommended behaviours (mean = 3.87, SD = 0.89; median = 4). That is, they thought the overall performing of all the recommended behaviours was not that difficult.

Summary

These results suggest that an intervention targeting an increase in general PBC is unlikely to significantly influence the overall implementation of the recommended behaviours.

Least performed behaviours

- Record child's caries risk: Participants are more likely to be recording the child's caries risk the less difficult they think this is to do (Pearson Correlation = 0.45, $p < 0.01$). However, most participants already think that this behaviour is not at all difficult to do (mean = 4.41, SD = 0.91; median = 5).
- Take bitewing radiographs at appropriate intervals based on caries risk: Participants are significantly more likely to take bitewings the less difficult they think this is to do (Pearson Correlation = 0.59, $p < 0.001$). Participants report that they are finding it relatively difficult to take bitewings (mean = 3.45, SD = 1.03; median = 3). Relative to all other recommended behaviours, the median PBC score for this behaviour is the lowest.
- Take appropriate action if wilful dental neglect is suspected: Participants are significantly more likely to take appropriate action the less difficult they think this is to do (Pearson Correlation = 0.57, $p < 0.001$). Participants are finding it relatively difficult to take appropriate action (mean = 3.19, SD = 1.35; median = 3). Relative to all other recommended behaviours, the median PBC score for this behaviour is the lowest.

Summary

The results suggest that an intervention specifically targeting PBC over recording the child's caries risk is unlikely to influence the implementation of this behaviour. However, interventions specifically targeting PBC over the taking of bitewings at appropriate intervals based on caries risk and specifically targeting PBC over taking appropriate action if wilful dental neglect is suspected may influence the implementation of these behaviours.

Question 6d: How important do you think it is to do this (i.e. perform each behaviour)? (Response: 1='Not at all important' to 5='extremely important')

This question also operationalises a psychological variable – attitude. It was included in case the answer to Q6b suggests an intervention may be necessary to encourage the implementation of a recommended behaviour. The relationship between this variable and the recommended behaviour will further help identify the type of intervention to use.

In General

- This measure of attitude has very good internal reliability (Cronbach's alpha = 0.93).
- In line with theoretical expectations, the more positive the attitude, the more recommended behaviours are currently performed (Pearson Correlation = 0.35, $p < 0.05$).
- On average, participants already have a very positive attitude toward generally performing all the recommended behaviours (mean = 4.49, SD = 1.22; median = 5). That is, they think that, overall, performing all the recommended behaviours is very important.

Summary

These results suggest that an intervention targeting an increase in general attitude is unlikely to significantly influence the overall implementation of the recommended behaviours.

Least performed behaviours

- Record child's caries risk: Participants are significantly more likely to be recording the child's caries risk the more important they think it is to do (Pearson Correlation = 0.51, $p < .01$). However, most participants already think that it is extremely important to do this behaviour (mean = 4.41, SD = 0.80; median = 5).
- Take bitewing radiographs at appropriate intervals based on caries risk: Participants are significantly more likely to take bitewings the more positive their attitude toward doing it (Pearson Correlation = 0.63, $p < .001$). However, most participants already think that it is very important to do this behaviour (mean = 4.19, SD = 0.87; median = 4).
- Take appropriate action if wilful dental neglect is suspected: Participants are significantly more likely to take appropriate action the more positive their attitude toward doing it (Pearson Correlation = 0.56, $p < .001$). However, most participants already think that it is extremely important to do this behaviour (mean = 4.58, SD = 0.67; median = 5).

Summary

The results suggest that an intervention specifically targeting attitude toward any of the least performed behaviours is unlikely to influence the implementation of these behaviours.

Q7. Impact and implementation if the guidance is published as is.

Results

Item	Response	Mean (SD)	Median
a. How confident are you that the guidance can be fully implemented?	1='Not at all' to 5='extremely'	3.37 (1.03)	3
b. How difficult will it be to fully implement the guidance?	1='extremely' to 5='Not at all'	2.92 (1.18)	3
e. Do you intend to change your current practice to implement the guidance?	Yes / No/ Unsure	Yes	Yes
f. Are there any aspects that you will not implement?	Yes / No/ Unsure	No	No
g. How helpful do you think this guidance is ?	1='Not at all' to 5='extremely'	4.47 (0.74)	5

Summary

The responses to Q7 suggest that, although thought to be generally extremely helpful, the guidance was perceived to be very difficult to fully implement and participants were not particularly confident that they would be able to overcome the difficulties to fully implement the guidance. Questions 7c and 7d (What would prevent / help the implementation of the guidance?) were designed to identify the perceived barriers and facilitators to generally implementing the guidance (to help further inform the design of a possible intervention) however, this information was not provided in this data set.

Group Differences

ANOVA was used to examine if there were group differences between Primary Care GDPs, Primary Care others and Non-Primary Care participants in the responses to Q6 and Q7. For Q6, there were no significant group differences between Primary Care GDPs (N=11), Primary Care others (N=21) and Non-Primary Care participants (N=3) in general PBC, attitude or the total amount of recommended behaviours currently being performed. There were significant group differences in responses to Q7 between Primary Care GDPs (N=10), Primary Care others (N=21) and Non-Primary Care participants (N=9). Bonferroni post hoc tests showed that, compared to both Primary care groups, Non-Primary Care participants were significantly more unsure about whether there were aspects of the guidance they would implement, and thought that the guidance would be significantly less helpful to primary care practice. There were no significant group differences in responses to Q7 between Primary Care GDPs and Primary Care others.

Summary

The results suggest that there does not need to be differential implementation interventions aimed at the different Primary Care groups. However, there may be need of further investigation of non-primary care participants beliefs if their acceptance or implementation of this guidance is required.

Overall Summary and Recommendations

Participants report that their current practice includes, on average, only 53% (8/15) of the recommended behaviours to manage dental caries in children in an evidence-based way (Q6a). Only 50% of participants report that reading the guidance will change their current practice. Additionally, the responses to Q6b suggest that, on average, they expect this change to be the addition of only one more recommended behaviour. This strongly suggests that reading the guidance document in its present format is extremely unlikely to result in the implementation of all fifteen recommended behaviours, or even a significant change, given the increase projection is less than 10% (8 to 9/15). The implication of this result is that there is indeed need for further intervention - either within the guidance document or accompanying its publication.

One way of identifying **where** to intervene is to focus on the recommended behaviours that are reported to be least included in current management strategies (Q6a). Three of the recommended behaviours fell into this category: Record child's caries risk; Take bitewing radiographs at appropriate intervals based on caries risk; Take appropriate action if wilful dental neglect is suspected.

The next step is to determine **how** to intervene. Increasing knowledge is the standard intervention method. The rationale behind this method is that these particular behaviours may be relatively neglected in current management strategies because they are not known to be recommended best practice. However, reading the sections of the guidance document specific to these behaviours - and so gaining that knowledge - had little influence on participants' intention to change what they currently do in regard to the three behaviours (Q6b).

Another way of determining how to influence a specific behaviour is to assess its relationship with psychological variables known to be mediators of intention, behaviour and behaviour change. Perceived behavioural control (operationalised as perceived difficulty: Q6c) and attitude (operationalised as perceived importance: Q6d) were chosen because they are simple to assess and because there are established written methods of influencing them which could be incorporated into the guidance document. Overall results provide evidence of the applicability of these variables, in that the variable measures had good internal reliability and because they acted in line with theoretical expectations, with higher perceived control and more positive attitude associated with more recommended behaviours being part of current management strategies. Given the relationship between these variables, knowledge and the three poorly performed recommended behaviours, the following interventions are suggested:

Intervention 1: The results suggest that this intervention should be aimed at helping participants overcome their perceived difficulty in performing the recommended behaviours, particularly in relation to taking bitewing radiographs at appropriate intervals based on caries risk, and taking appropriate action if wilful dental neglect is suspected. This would usually entail identifying specific barriers (e.g. lack of training, time issues, economic issues, and equipment issues) and suggesting ways to overcome them as supplemental paragraphs within the document itself. If it is not possible to collect further information about specific barriers to each action prior to publishing the guidance, then the document should be accompanied by notification of training courses specifically designed to identify and overcome barriers to taking bitewing radiographs and taking appropriate action when faced with wilful dental neglect. Alternatively, the document could be accompanied by a free return survey of training course preferences based on a checklist of all (or a subset of the recommended behaviours) to be later made available (depending on numbers).

Intervention 2: Introduce a supplementary paragraph at the end of the relevant sections in the guidance document which asks the reader to think about where, when and how each behaviour can be incorporated into their usual management strategy and suggesting some examples of prompts for each action. This is particularly relevant to the behaviour of recording the child's caries risk.