

SHORT COMMUNICATION

SCOTT AND THE LOGS: DESIGN AND DATA CAPTURE IN A PRE-PARATORY ONLINE PACKAGE FOR CHILDREN UNDERGOING GA FOR DENTAL PROCEDURES

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Key words

Data Capture, Paedodontics, General Anaesthesia, Animation,

Introduction

This National Institute of Health Research (NIHR)* funded project aims to test if children scheduled for anaesthesia benefit from an interactive online package. This presentation was given at the 10th 'International Innovations in Education Colloquium' held at Brescia University, Italy 10-13 May, 2012. (Figure 1). The presentation discussed the design and data capture (logs) of a prototype (alpha) online interactive cartoon created to answer the research question: "Will internet delivered information help children cope better with anaesthesia?" Following modification of the alpha package the resultant beta package will be compared to two control groups: standard care procedures and a non-medical computer game.

Materials and Methods

After obtaining ethical permission, a prototype (alpha) online cartoon package was designed for testing on 70 5-7 year olds undergoing general anaesthesia for extraction of teeth. A storyline of a 6 year old child called Scott was devised to take him through the series of procedures as part of the overall clinical management. Particular care was taken with disability, cultural and gender considerations.

To analyse the use of the online (alpha) interactive package, a series of logs were obtained from the server hosting the package. The logs captured the time taken for users to view the package, their interactivity and navigation by clicks. From these logs, the ideal method

of log data collection was refined for the beta package.

The views of the audience at the Brescia Colloquium presentation were obtained to further refine the design and data capture.

Results

Each slide in the animation can be identified with a unique code and description. The child ID was included in each line of data and each click was recordable from each slide. The duration of the narration for each slide was recorded. The text log data was convertible to an excel file for further analysis.

The Colloquium audience of over 40 international participants included senior faculty and students drawn from educational, dental and psychological, technical and engineering backgrounds. They unanimously appreciated the good design of both the animation and the study including the data capture method.

Discussion

A suitable system of data capture to analyse use of the online package in the beta testing phase can now be created. A recommendation was made that a similar package be created for venepuncture. The package solution is applicable to other health scenarios where such patient information may improve their experience.

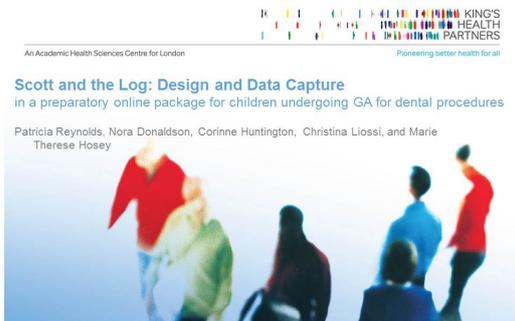
Conclusions

An international academic audience provided positive feedback on the package design and data capture. The animation package sets an example of good practice in design for other similar healthcare scenarios.

Acknowledgements

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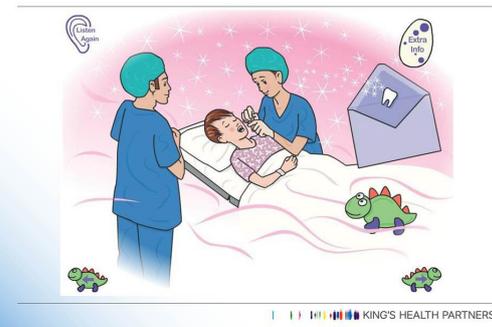
Research Plan

- Ethical permission obtained
- Prototype package tested on 5-7 year olds having GA for extractions.
- 210 children (70 per group) test the package against standard care and a non-medical computer game.
- Child behaviour at GA induction assessed via video recordings scored by observers blind to the child's group allocation using validated measures
- Parents report on GA side effects at home, satisfaction and mode of package usage.
- Impact on the service - time of induction and time to discharge noted.
- Analysis of data from online package use

Will internet delivered information help children cope better with anaesthesia?

- Test if children scheduled for anaesthesia and their families benefit from an interactive online package
 - patient experience
 - ease of GA induction
 - child distress
 - satisfaction
 - service improvement
 - less time in Day Surgery Unit
 - package accessibility and satisfaction.

Package Design



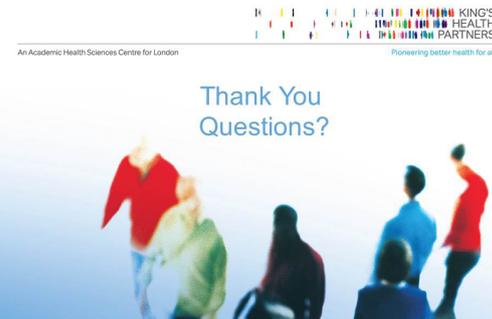
Data Collection from Package

- 14 slides/scenes of Scott's story



- Each slide identified with a unique code & description
- Child ID included in each line of data.
- Each click recorded in each slide
- Duration of the actual narration for each slide used in analysis
- Text log data converted to excel file

Slide Short Description
90 Welcome (start)
100 Move 1 + Dental Chair
102 "
104 Dental Chair after exam
106 Extra Info 1
108 Name questions on Scott's health
110 SFT tests and foods
112 Extra Info 2
114 Hospital reception
116 Temperature
118 Wash/Brush
120 The Anaesthetist
122 Anaesthetics Room
124 Asleep
126 Tooth out
128 Waking up
130 Recovery room
132 Showing his mouth
134 Move 2 + Home with Dad
136 Pain Medicine
138 Brushing teeth
140 Good bye



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Figure 1 Slide Presentation