Refereed papers

Pregnancy information and advice on Sky television: an evaluation

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ABSTRACT

This paper is one of a series produced as part of an evaluation of a number of digital interactive television (DiTV) health pilots funded by the Department of Health during 2001/2002. This paper is concerned with two pregnancy health services produced by Channel Health and hosted on Sky television. The study aimed to discover the success or otherwise of health information on pregnancy in this form and on this medium or 'platform'. In particular we were interested in what kinds of people on the broader national stage viewed the *Bush Babies* programme. Data were obtained through a telephone questionnaire of Channel Health users. More than 250 people took part. More than 175 000 households watched the programmes, a large audience for this type of programme. *Bush Babies* attracted a sizeable audience with over a quarter of Channel Health viewers in this study having seen it. There proved to be marked differences between the types of people using the service and in the patterns of their use – and not always in the ways one might have expected. As expected, people who were single, older or male were less likely to view *Bush Babies*, while younger, married or cohabitants and females were more likely to watch the programme. More unexpectedly, perhaps, the fact that the person was pregnant was not a predictor of whether they saw a *Bush Babies* programme or the number of the programmes watched.

Keywords: consumer health channel, digital interactive television services, health information service – pregnancy

Introduction

The Department of Health funded a number of pilot digital interactive television (DiTV) services in the consumer health field, running for between three and six months.[1] The services were launched in various locations in the United Kingdom (UK) in 2001, including Birmingham, Hull and London. Each pilot offered different consumer health products: text and video, interactive and transactional services were featured. These pilots were investigated by the authors using a combination of research methods: log analysis was supported by questionnaires, interviews, observation, usability studies and BARB data.

One of the pilots concerned Channel Health, a consumer health channel hosted on Sky television, which provided, in addition to its normal schedule, two health information services. The two services

were the so-called *Bush Babies* television series, giving pregnancy advice and covering related topics such as exercise, nutrition, relaxation, etc., and the associated Maternity Guide interactive service. *Bush Babies* tells the stories of seven women, in varying stages of their pregnancy, all living in or around the Shepherds Bush area in London (hence the title). Each expectant mother is said by the Channel Health website guide to represent different ethnic and social groupings. The programmes filmed their progress through the different stages of pregnancy. Supporting material was also broadcast with the programmes, representing an enhanced service. This largely text-based information covered all aspects of pregnancy, and was branded the Maternity Guide.

The *Bush Babies*/Maternity Guide service was available to a global audience of five million subscribers; in this it was unique amongst the four Department of Health pilots – the others were targeted at much smaller populations, numbered in thousands rather than millions.

The *Bush Babies*/Maternity Guide service (referred to from now on as *Bush Babies*) television series was initially targeted at women aged 25–40, across the Sky platform. Channel Health is a free-to-air service, so is available to households across Sky's demographic spectrum. Clearly the programme had been designed with pregnant/nursing mothers in mind. However, in reality, the appeal was broader than this, including those who were planning to have a baby, knew someone that was having/planning to have a baby, or those just generally interested in health and well-being.

Bush Babies was transmitted from 11 October 2001 to 31 March 2002. There were three phases: phase 1 ran from 11 October to 25 November 2001 and encompassed the initial establishment of each episode separately with multiple transmissions in its own seven-day window. Phase 2 ran from 26 November to 30 December 2001, and consolidated phase 1 with three weeks of 'blitz' transmissions, wherein each day saw the transmission of a different episode; each episode was transmitted in four time slots. These weeks were interspersed with two weeks of a phase 1 pattern. Phase 3 ran from 31 December 2001 onwards, where the series was rotated in four regular time slots on each of four days per week. This allowed the series to become a regular feature of the schedule, so that less frequent viewers could make an 'appointment to view'.

Aims/objectives

The paper presented here is one of a series we have produced as part of the evaluation of the health

television pilots for the Department of Health.[2] What makes this paper special is that all of the other pilot studies involved relatively small potential audiences for health information, but with Channel Health on Sky digital we were evaluating a genuinely national audience, and also a potentially huge one at that (in the millions, rather than thousands as in the case of the others). (For published papers covering these other pilot services, see www.soi.city.ac.uk/organisations/is/research/ciber.) This study, then, aimed to discover the success or otherwise of health information on pregnancy in this form and on this particular platform. We were especially interested in what kinds of people on the broader national stage viewed the *Bush Babies* programme.

Literature review

While health information and advice on DiTV is something very new and about which little has been published, telemedicine itself has already a strong track record. Telemedicine can be defined as the use of telecommunications technologies to provide medical information and services.[3] Remote health information for patients and the general public has been rapidly growing over the last decade. Telephone helplines, the internet, touch-screen kiosks and now digital television have all been used to disseminate health-based information to as wide a section of the population as possible. The multi-channelled NHS Direct Online is probably the most well-known manifestation of this trend. It is designed to give 24-hour-a-day access to information on all aspects of health, including diagnosis, conditions and treatment, self-help, healthy living and NHS services. Its appearance on DiTV follows its website and touch-screen development.[4]

In general NHS digital services have gone down well. Thus Munro *et al*, monitoring the telephone helpline, found that call rates doubled during the first year of operation, with around 97% of questionnaire respondents indicating satisfaction with the service.[5,6] Equally positively, press reports claim that over one and a half million people visited the website on the day it launched.[7] Unlike the telephone service, however, little work has been undertaken on the NHS website and the authors have attempted to fill the gap.[8] The study demonstrated that the general public's expectations of digital health services are very high indeed.

Earlier studies concerning telemedicine and interactive video consultations have been undertaken with regard to specific conditions, with pre-selected participants, where the teleconferencing facility is often placed in a setting where travel is difficult. Brunk, for example, describes an initiative to provide

nutrition counselling for elderly people in Nevada in which a small group of senior citizens received two 40-minute counselling sessions on dietary matters.[9] Similarly, Swindell and Mayhew provided 18 housebound elderly people with an eight-week teleconference facility offering practical information (nutrition, health and social services).[10] Peer-to-peer support group video-conferencing facilities have also been set up. Brown *et al* provided a telephone and teleconferencing facility for a group of carers of patients rehabilitating from head injury.[11] Face-to-face meetings were offered to a control group. The researchers found that outcomes (including measures of the burden felt by subjects of their situation) were similar for both groups. Much of the literature also discusses teleconferencing between professionals. Regnard described a system reaching 136 health professionals which provided workshops and support to those training in palliative care.[12]

Teleconferencing studies have highlighted safety, efficacy and cost-effectiveness.[13–15] There is also a large body of research into patient satisfaction.[16,17] Studies have tended to produce such positive results that Mair and Whitten suggest there is a tendency to assume that the need for further research into this is now less of a priority than research looking at safety, etc.[18] However, they argue that the available research fails both to provide satisfactory explanations of the underlying reasons for patient satisfaction or dissatisfaction with telemedicine, and to explore communication issues in any depth (they claim that respondents who are 'satisfied' may be content because telemedicine didn't kill them, or that it was 'OK' or that it was a wonderful experience). From their review of patient satisfaction studies, Mair and Whitten conclude that it might be an oversimplification merely to ask people if they are satisfied with telemedicine. Instead, it could be more important to understand the context in which telecare is being provided.

The authors have published a number of articles on health information on DiTV. The ones most relevant to this study are those relating to an evaluation of the Living Health Channel, which was probably one of the most successful of the Department of Health funded pilots, and the evaluation of an interactive television nurse service on the aforementioned channel.[4,19]

Methods

The data presented here were obtained through a telephone questionnaire of Channel Health users. Ciber researchers designed the questionnaire and framed all the questions. The telephone interviews were conducted by Continental Research, a full-service market research agency specialising in the media, advertising, telecommunications/information technology (IT) and e-business sectors. Within the media, the company undertakes a large number of projects looking at new media, both in the TV and online areas. The interviews were carried out using CATI (computeraided telephone interviewing) software; this software enables interviewers to manage the interview and automatically prompts questions in the correct order. Interviews lasted between five and ten minutes.

The Continental Research sample database of Sky users was compiled from the responses to questionnaires sent out to a random sample of 30 000 Sky digital homes. Respondents were asked to identify which channels they had watched in the last month and which in the last week. A random sample of 279 Channel Health users were contacted from this database. Twenty-eight refused to take part in the survey, and there were 251 completed interviews. The interviews were carried out between 19 and 22 April 2002.

Respondents were asked to provide information about their use of Channel Health on Sky. Those who indicated that they had viewed *Bush Babies* were then asked further questions as to this use and the outcomes associated with using the television for health information. All respondents provided data on their viewing history, the frequency of *Bush Babies* programmes viewed and personal details (sex, age, ethnicity and marital status). They provided information about access to Channel Health. They were asked a number of questions: how many times they had viewed, how they found out about it, why they watched the programme and so on. Respondents were asked to say whether using the service had made a difference to them.

Results

Background of Channel Health users

More women than men responded to the survey: 64% compared to 36%, which is hardly surprising as we would expect women to be more interested in pregnancy; our studies elsewhere tell us that they undertake a major role as carer for partners, children and relatives.[20] Perhaps more surprising was the fact that the largest group of viewers – 44% – were aged between 45 and 64, an age at which most people would not consider becoming pregnant. Twenty percent were aged under 35, 21% were aged between 20 and 44, and 17% were 65 and over.

Respondents were classified into social class categories based on the occupation of the head of the household. Fifty-three percent of respondents, by far

the largest group, were social class C1/C2, 13% were classified higher as A/Bs, and one-third of viewers were classified in the lower social class D/E.

In terms of geographical location, Channel Health viewers surveyed came from all over the UK (excluding Northern Ireland) (see Figure 1). The biggest groups came from Yorkshire and Humberside (13%) and Scotland (13%) while only 2% of the respondents came from Greater London. (Greater London representing only 2% of respondents seems lower than might be expected. However, Sky digital penetration is lower than average in London due to the competition from cable in the London conurbation. The weighted data on each channel profile shows 4% of monthly viewers to Channel Health being in the London region, so 2% is low but not unduly so.)
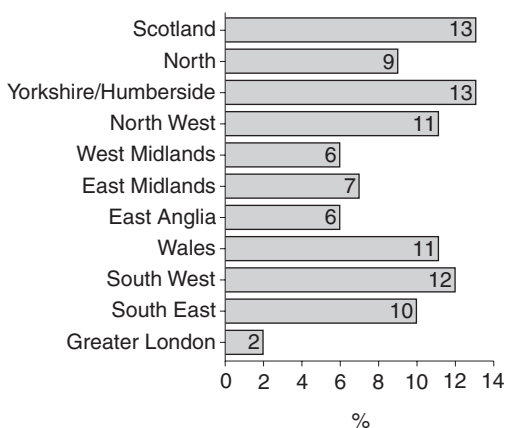
Figure 1 Percentage frequency distribution over geographical area

In terms of marital status, 66% of viewers were married, 9% lived with a partner and 25% were single. Unexpectedly, only 9% of Channel Health viewers interviewed said that they were pregnant or thinking about having a baby – though that was the main target audience for the programme.

When asked how often they watched Channel Health, 56% said they watched it at least once a week, 20% watched at least monthly and 24% watched infrequently; overall quite a high degree of repeat viewing. Women were found more likely to be frequent viewers of Channel Health: 61% of women said that they watched at least once a week while only 47% of men said that they did so (Chi-squared=6.2, df=2, P=0.045). There proved to be no relationship between viewing patterns and age and social class.

Who watched *Bush Babies*?

Twenty-seven percent, or just over a quarter, of Channel Health viewers had watched *Bush Babies* (see Figure 2): 71% said that they had not and 2% said

they could not remember. Channel Health was estimated to have a monthly reach figure among Sky viewers of approximately 13%, so given a Sky audience base of five million then the audience for *Bush Babies* was estimated to be about 175 500 households or just about 3.5% of all Sky users (assuming all Sky users receive Channel Health).
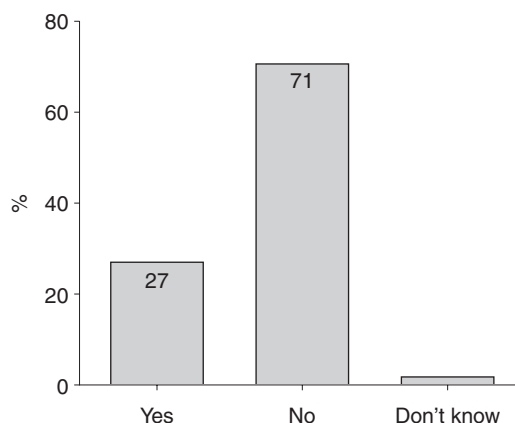

Figure 2 Did you watch any programmes from the Channel Health TV series called *Bush Babies*?

Whether someone watched *Bush Babies* or not was modelled in multivariate models (logistic regression). Models were fitted to the incidence of viewers watching *Bush Babies*, whether they had heard of the service and whether the viewer had used the text service. The independent terms included were marital status, age, gender, if the viewer was pregnant, how often they had watched Channel Health, social class and geographical location. This last variable was not significant in any of the fitted models. The results are given in Table 1.

Marital status, age, gender and pregnancy

Interpreting the coefficients, it seems that respondents who were single, older or male were less likely to view the programmes, while younger, married or cohabitants and females were more likely to watch the programme. This is what one might have expected. Females, clearly *the* target group for this programme, were about twice as likely to view the *Bush Babies* series as men (see Table 1, Model 1). In addition women were one and a half times more likely to have heard of the service (see Table 1, Model 2). For those men who did watch the series, there was suggestive evidence that they were more likely to say that the information found was useful for someone else – a friend or relative – 36% of men said this compared to 15% of women.

Table 1 Modelling the likelihood of viewing *Bush Babies* among Channel Health viewers

	Model 1 Likelihood of viewing *Bush Babies* (video)			Model 2 Likelihood of hearing about *Bush Babies*			Model 3 Likelihood of using the text service		
Marital status									
Married	161								
Living with a partner	22	0.70	(0.53)				104		
Single	64	0.54†	(0.40)				56	0.26†	(0.7)
Age									
44 and under	97			97					
45 and over	150	0.27***	(0.34)	154	0.38**	(0.29)			
Gender									
Male	89			91					
Female	158	1.90†	(0.37)	160	1.68t	(0.32)			
Are you pregnant?									
No							150		
Yes							10	16.1	(0.80)
View Channel Health									
Once a week	138			141					
Once a month	50	0.33*	(0.46)	50	0.35**	(0.40)			
Rarely	59	0.29**	(0.42)	60	0.29**	(0.37)			
Social class									
A/B	34								
C1/C2	130	2.44†	(0.56)						
D/E	83	2.78†	(0.59)						
Geographical area	NS				NS			NS	

Levels of significance (Wald's statistic): †$P<0.1$; *$P<0.05$; **$P<0.01$; ***$P<0.001$; NS, not significant

Single users were half as likely to watch the series compared to married couples and four times less likely to use the text service. Figure 3 gives the breakdown of people who had watched any of the *Bush Babies* service by marital status. Surprisingly, 41% of viewers living together said that they had seen the programme compared to 29% of married couples and 20% of single respondents. Furthermore, viewers living with a partner were more likely to say that the programmes were useful for them – 55% said this compared to 37% of those married and 8% of single viewers (Chi-squared=6.1, $P=0.05$ [1 cell with low count]).

Figure 4 charts the percentage frequency distribution of those who watched any of the *Bush Babies* programmes by age. Users aged 45 and over were three to four times (see Table 1) less likely to have viewed any of the series compared to users under 45.

Previous and related research by the team based on data collected by Channel Health identified the three variables, marital status, age and gender, as
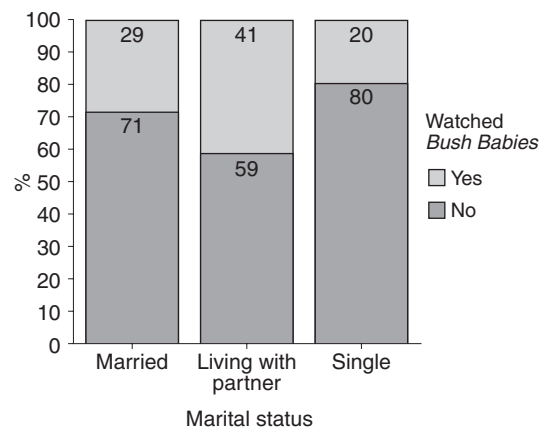
Figure 3 Did you watch any of *Bush Babies*? – by marital status
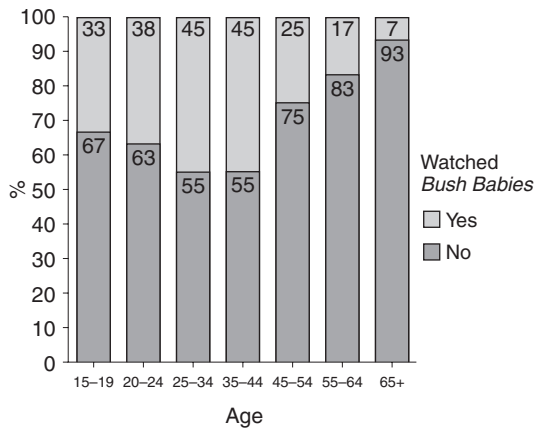
Figure 4 Did you watch any of *Bush Babies*? – by age

determinants in a linear regression model fitted to the amount of time the programme was viewed. This was repeated here but this time relating the data with the number of *Bush Babies* programmes the respondent had viewed. The results of both models are given in Table 2. Unlike the City University study, just over one-third of the respondents of the Channel Health study said that they were pregnant or a new mother.

Both models include marital status and gender as predictors – female users in a relationship tended to watch more of the series. The City study found that the amount of time spent viewing Channel Health was important while the Channel Health study pinpointed age as a key variable.

Neither model includes an income or class variable and, significantly, whether the respondent was pregnant. Perhaps surprisingly, being pregnant was not a predictor of either whether a Channel Health viewer

Table 2 Modelling the number of programmes watched

	City University study No. of programmes watched	Channel Health study No. of hours watched
Marital status Married /with a partner Single	−1.40* (0.54)	−1.36*** (0.30)
Watch Channel Health Once a week Once a month/rarely	−1.04* (0.50)	N/A
Age 44 and under 45 and over	Not significant	−0.602*** (0.12)
Income level	N/A	Not significant
Social class A/B C1/C2 D/E	Not significant	N/A
Gender Male Female	1.1* (0.54)	0.5† (0.27)
Are you pregnant? No Yes	Not significant	Not significant
Number of children	N/A	Not significant
Age of youngest child	N/A	Not significant
Geographical area	Not significant	N/A
R	0.47	0.40
R-squared	0.22	0.17

Levels of significance (*t*-statistic): †$P<0.1$; *$P<0.05$; **$P<0.01$; ***$P<0.001$

saw a *Bush Babies* programme or the amount of the programme watched. It suggests that the service did not attract pregnant women so much as women who were in a relationship and who were maybe thinking about having a baby. Further research needs to clarify whether these users were 'aspirational' users and whether pregnant women were not using the service because they preferred to get their information elsewhere or because they were just not aware about it.

Whether the respondent was pregnant was found to be a predictor of whether they used the text service (see Table 1). This suggests that all those viewing the films did not necessarily go on to use the text. Those who were pregnant did, however. This may say something about the information content of the films. Films may attract more casual information-seeking users, they appear to be less demanding of the user. Note, however, that due to the low numbers using this service this model was unstable, and future research needs to clarify the relationship.

Importance of the television in the home environment

Respondents who viewed Channel Health monthly or less frequently were approximately three times less likely to view *Bush Babies* (see Table 1). Furthermore, these occasional viewers were less likely to watch the complete series (see Table 2). Figure 5 plots the average number of *Bush Babies* episodes viewed by frequency of Channel Health viewing. Users who rarely watched Channel Health saw just under two episodes while those viewing Channel Health at least weekly saw approximately 60% of the series. Given how the broadcasts were spread out we might expect this. However, previous research by the team suggested that, where the television is a focal point of the home, these users will be significant utilisers of DiTV information as they are familiar with accessing and

using the platform.[21] There was, however, no relationship between use of Channel Health and use of *Bush Babies* and whether the user found the service by 'channel flicking'. We might expect channel flickers to be familiar users of the system.

Respondents were more likely to say that the service was useful for them the more of the series they watched. Approximately 60% of viewers who had watched at least half or more of the series reported that the programme was useful for them.

Figure 6 confirms what we might have expected: that frequent viewers of Channel Health were more likely to say that the information found on pregnancy helped them in dealing with the doctor.
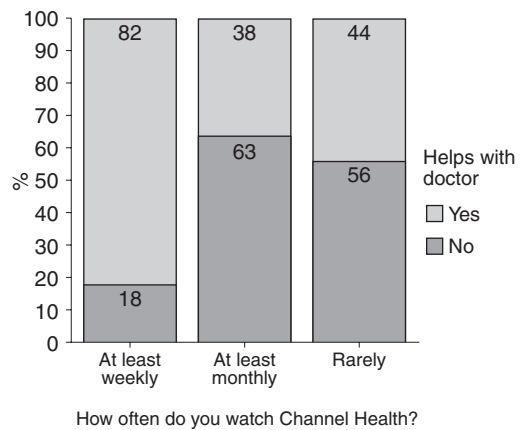
Figure 6 Does the information help you in dealing with the doctor? – by frequency of Channel Health viewing

Social class

Social class was identified as a predictor of whether or not the person viewed *Bush Babies* (see Figure 7).
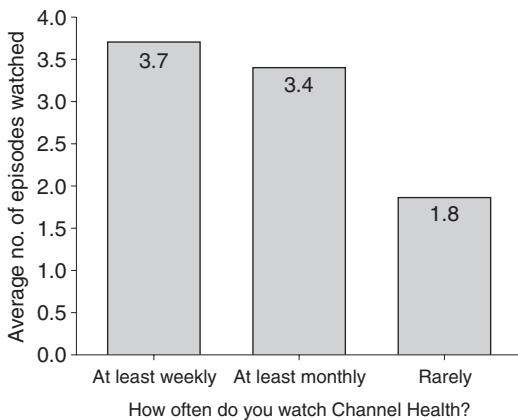
Figure 5 Average number of *Bush Babies* episodes viewed by viewing frequency of Channel Health
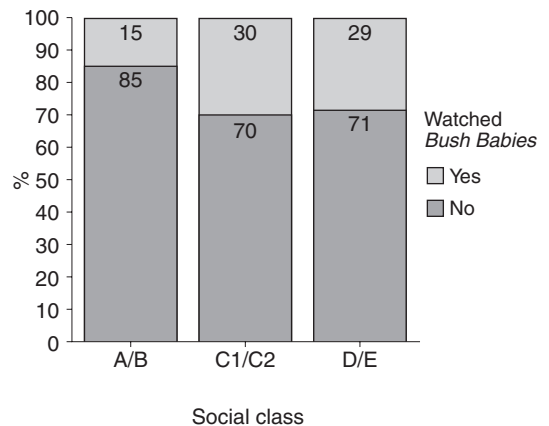
Figure 7 Did you watch any of *Bush Babies*? – by social class

Viewers from middle and lower social classes were two to three times more likely to have viewed the service compared to respondents classified as coming from a higher class. This confirms previous research by the team, which found that respondents from wealthier areas were half as likely to use a DiTV text information service compared to those people who came from less affluent areas.[22] This is encouraging in that it supports the argument that DiTV throws an information and communication technologies health lifeline to those who have been excluded from the digital revolution that the internet has occasioned – the less well off and potentially socially excluded.

There was indicative evidence to show that social class D/E were less likely to report that the programmes had been useful for themselves. This might be because of the larger share of single people in this social group (see Figure 8), or because this social group has problems in assimilating information in this format. There are too few cases in this dataset to analyse this further.
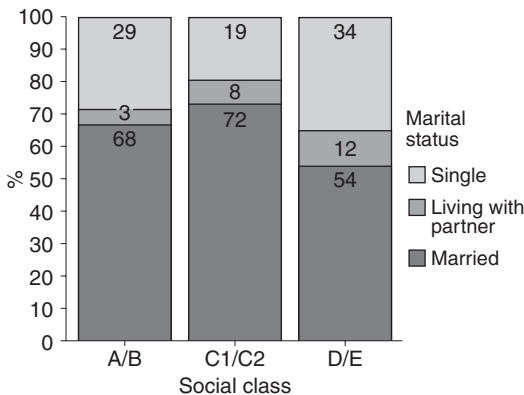
Chi-squared = 9.3, 4 df, *P* = 0.05

Figure 8 Marital status of viewer by social class

Viewers who had watched *Bush Babies*

Fifty-seven percent of respondents had found *Bush Babies* by channel flicking. There were no distinguishing variables associated with channel flickers (see Figure 9). Twenty-six percent of those who had seen *Bush Babies* had viewed three episodes and 57% had viewed three episodes or fewer (see Figure 10).

Most viewers (53%) said that they watched *Bush Babies* out of interest or for educational reasons (see Figure 11). Only just under a quarter of users said that they watched because the information was useful to them.

Those in class D/E were least likely to say that the information would be useful to them: 17% of this group said the information would be useful for them
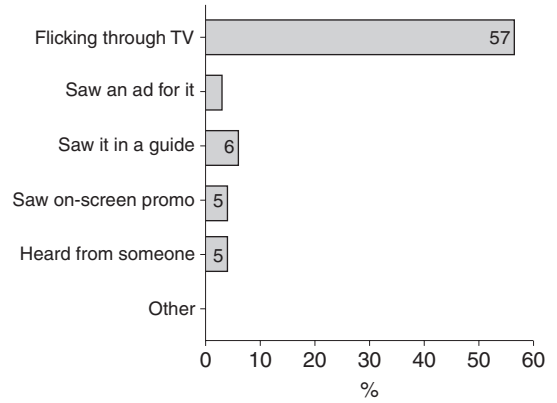

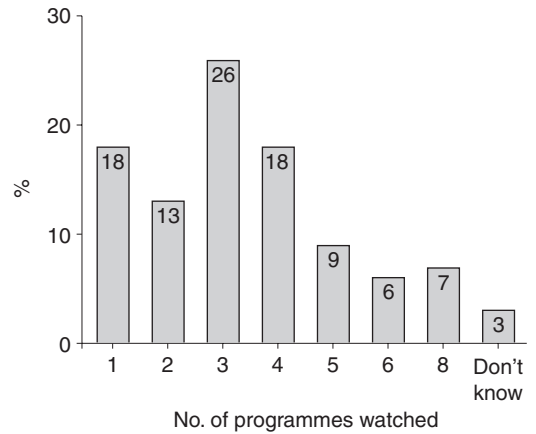
Figure 9 How did you find out about *Bush Babies*?

Figure 10 How many of the eight programmes in the series of *Bush Babies* did you watch?
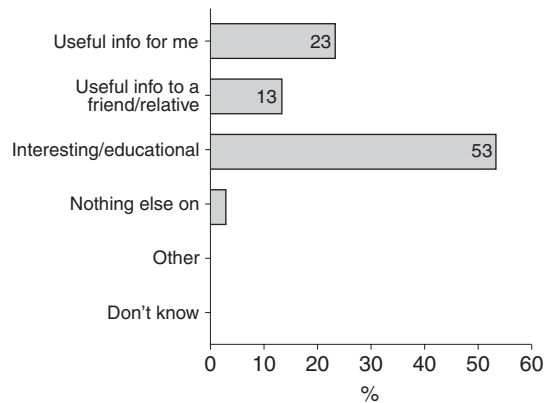

Figure 11 Why did you watch the programme?

compared to 40% from other groups (Chi-squared=4.9, *df*=2, *P*=0.086). Furthermore, those living with a partner said that the videos were useful to them (Chi-squared=6.1, *df*=2, *P*=0.048 1 cell degraded): 56% of cohabitants said this compared to 37% of married

and 8% of single users. For those viewers who were pregnant, 83% said the information was useful to them compared to 29% who were not pregnant (Chi-squared=6.9, *df*=1, *P*=0.017 [Fisher's] 1 cell degraded). Viewers who were not pregnant were more likely to say that the programmes were interesting and educational: 85% of non-pregnant users said this compared to 50% of pregnant users (Chi-squared=4.4, *df*=1, *P*=0.07 [Fisher's] 2 cells degraded). Males were more likely to say that the information was useful to a friend or relative compared to females: 36% compared to 15% (Chi-squared=3.14, *df*=1, *P*=0.087). Those under 45 were more likely to say that the information was useful to them: 45% said this compared to 15% of those aged 45 and over (Chi-squared=6.4, *df*=1, *P*=0.017).

Those who had watched *Bush Babies* were asked how useful the information they found was to them. Most viewers, 60%, found the programmes 'quite useful'. Only 19% of users found the series very useful and 21% said that the programmes were either not particularly useful or not useful at all. Those viewing Channel Health at least once a week were more likely to report that the programmes were very useful compared to those who watched the channel less regularly: 24% compared to 6% (Chi-squared=10.5, *df*=2, *P*=0.005 1 cell degraded).

Respondents were further asked if the series would help them in their dealings with doctors or nurses. Although 28% said that the series would not help, nearly three-quarters (69%) of viewers thought that the series would help them in dealing with their doctor. This is a significant finding. The two main reasons given as to how the service would help was that it was 'informative' and would help them in
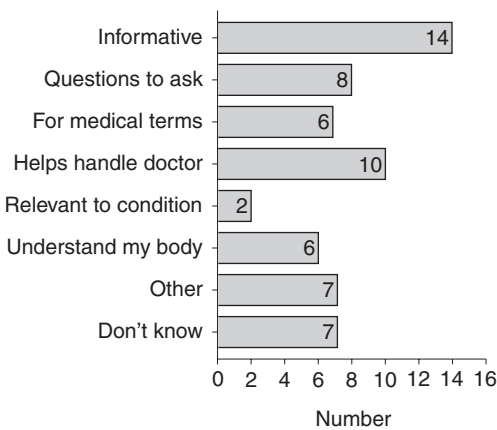
doctor: 82% of people viewing Channel Health at least weekly said it would help them compared to 41% of those who viewed it less frequently (Chi-squared =10.01, *df*=1, *P*=0.004 [Fisher's]).

Viewers who did not watch *Bush Babies*

Figure 13 gives the breakdown for those who had used the service, those who had heard of the service but not used it, and those who had neither heard of nor used it. Sixty-three percent of respondents had not heard of it so did not view it (the programme being lost in the digital fog that is multi-channel broadcasting), 27% had viewed at least some programmes, while just 8% had heard of it but not viewed it. By far the largest category, 55%, of this last group had not viewed it because it had no interest for them (see Figure 14). Twenty-three percent said that they had not viewed it
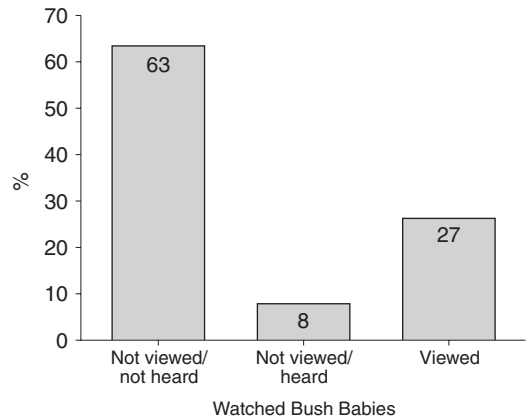

Figure 13 Did you watch any programmes from the Channel Health TV series called *Bush Babies*?

Figure 12 How do think it would help you in your dealings with doctors or medics?

handling their doctor's appointment (see Figure 12). Regular Channel Health viewers were more likely to think that the series would help in dealing with the
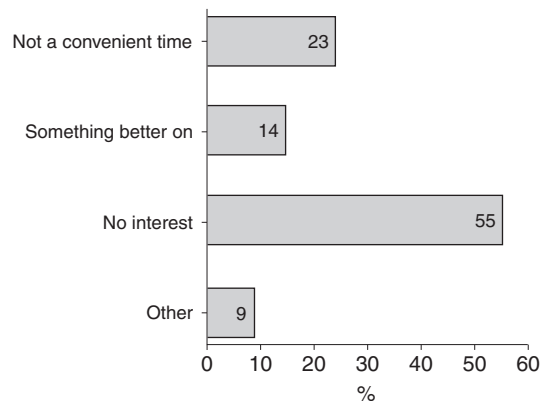

Figure 14 Why did you not watch this programme?

because it was not shown at a convenient time, while 14% said that there was something better on another channel. Respondents aged over 45 tended to say that the series had no interest for them – 77% of this age group said this compared to 29% aged 44 and under.

Viewers who had used the Maternity Guide

Viewers could watch either the Maternity Guide (text only), *Bush Babies* (video only), or both. Seventy percent had just viewed a video, 23% had viewed text and a video, while 7% had just viewed text. In all, 8.8% of Channel Health users used the Maternity Guide.

Users of the Maternity Guide were asked when they last used it (see Figure 15). Fifty-nine percent of those viewing the text service had viewed it between 1 week and a month ago (see Figure 15). Users were also asked how they found the service. Most (68%) had just found it by browsing, while 14% saw an on-screen promotion, 4% saw an advert and 14% had found it by some other method.
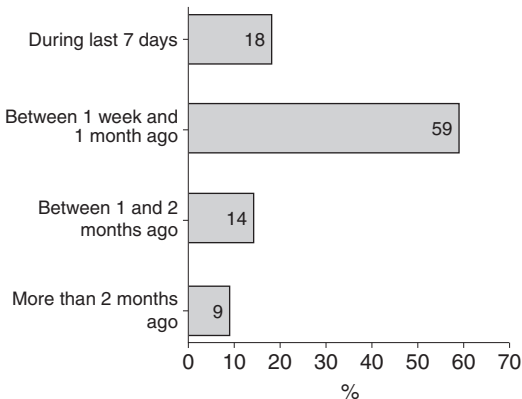
Figure 15 When did you last use the Maternity Guide?

Eighteen percent of respondents who had looked at the Maternity Guide said that their main reason for using it was because they were pregnant, 23% said that they used it for a friend or relative, while 55%, by far the largest group, said that it was for general interest only (see Figure 16).

None of those using the Guide who were pregnant found the service very helpful in their dealings with their doctor (see Figure 17). Half of these users said that the Guide was quite helpful and half said that the guide was either not very helpful or that it did not help at all. Furthermore – again in regard to pregnant Guide users only – 25% said that the information found was reassuring, 50% said it was quite reassuring and 25% said that it was not reassuring (see Figure 18).
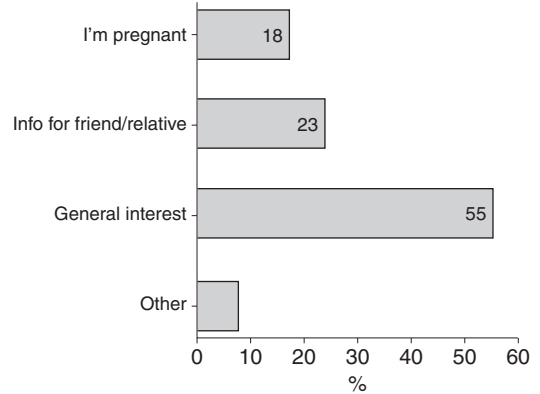
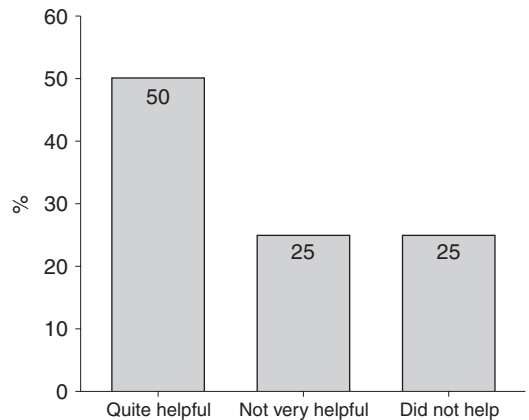**Figure 16** What is your main interest in using the Maternity Guide?

Figure 17 And how helpful was the information that you found in the Maternity Guide in your dealings with your doctor? – pregnant viewers only
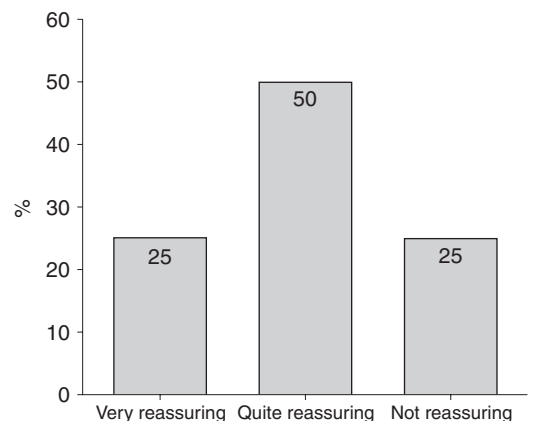
Figure 18 In terms of the information that you read about in the Maternity Guide, would you say this was …? – pregnant viewers only

In terms of the range of topics offered by the Guide, 90% of respondents who had used it were either very satisfied (46%) or quite satisfied (45%). Further, these respondents were asked how useful the text service was; about a quarter (23%) of users said that the service was very useful, half (55%) said it was quite useful, 18% said that the service was useful in parts and 5% said it was not useful.

When asked whether they preferred text or video health information or both, 9% of users said that they preferred to read their health information, 23% preferred videos, while 68% said that both were equally important. This indicates a slight preference for videos, but a strong message that both are needed.

Conclusions

The *Bush Babies* television series tells the stories of seven women, in varying stages of their pregnancies, all living in or around the Shepherds Bush area in London. There were eight programmes, which took users through the nine months of pregnancy. The series was spread over a six-month period and in all the eight programmes were transmitted four times. They attracted a sizeable audience for a specialist health topic with over a quarter of Channel Health viewers in this study having watched *Bush Babies*. It is estimated that about 175 500 people (3.5% of all Sky users) watched the service. This is considered a good response given the unusual and occasional nature of this service. Note that most users (57%) had found the service by channel flicking: not a particularly good method for identifying and return viewing of an irregularly scheduled programme.

There proved to be marked differences between the types of people using the service and the patterns of their use – and not always in the ways one might have expected. As expected, people who were single, older or male were less likely to view *Bush Babies*, while younger, married or cohabitants and females were more likely to watch the programme. More unexpectedly, perhaps, the fact that the person was pregnant was not a predictor of whether they watched a *Bush Babies* programme or the number of the programmes in the series watched. However, whether the respondent was pregnant or not was found to be a predictor of whether they used the companion text service (Maternity Guide) or not.

A strong relationship was found between frequency of television viewing and the viewing of *Bush Babies*. Infrequent Channel Health viewers were approximately three times less likely to view *Bush Babies*. The service had a strong attraction to people from the middle and lower social classes, and they were much more likely to have viewed the programmes. This confirms previous research by the team, who found that respondents from wealthier areas were half as likely to use a DiTV text information service compared to those people who came from less affluent areas.[1]

Clearly the overall usefulness of the service is difficult to quantify. It was an occasional service targeted at a specific group. However, the audience was considerably broader in character than this group, as about half of all users who watched at least one programme watched out of general interest or for educational reasons. Only 23%, a much smaller proportion, said that they watched *Bush Babies* as the information was directly useful to them. Perhaps surprisingly, respondents were very positive about the programmes as two-thirds reported a useful health outcome. However, there were reasons to suppose that this represented a more general satisfaction as only just under two-fifths (39%) of respondents said that they had viewed three or more programmes in the series, though this might in part result from the occasional nature of the service and reflect difficulties in following the episodes. Equally, it could be argued that some users were not so interested, or so helped, as to come back and see the full series.

In general, those in the target group were more likely to say they were helped, as were respondents who viewed more episodes. Furthermore, frequent viewers of Channel Health were more likely to have seen more episodes, and were more likely to report greater usefulness and satisfaction.

The number of viewers using the text service, which was at the time of the broadcasts a relatively new and innovative type of service to Sky users, was generally small. However, there was evidence that the target audience – pregnant women and married women under the age of 44 – were more likely to use this service, and that they reported positive and useful outcomes as a result of using it. Further, in general most users preferred a television or video service with a text service, rather than a text-only or video-only service.

There were three main reasons people gave for not viewing *Bush Babies*. Firstly, just over half of those who had heard of the service but not viewed it, had not viewed it because it had been of no interest to them. Second in importance, nearly a quarter said that they had not viewed it because it was not shown at a convenient time – an important consideration for an occasional service. This argues that this type of specialist programme may best be broadcast as a downloadable programme that users can watch when it is convenient for them. Research by the authors argues that users prefer to view health-related programmes at a time and place convenient for them; this usually means when they have privacy to view the

material.[22] Fourteen percent said they did not watch it as there was something better on another channel.

Most people were happy with just the video component of the service. Seventy percent of respondents who had used *Bush Babies* just viewed a video, 23% viewed text and a video, while 7% just viewed text. Clearly, using multimedia formats, and, in particular, text and moving images, might not appeal to the majority of potential users, and information providers, having the choice of DiTV or other electronic medium, will need to decide whether there are any true benefits to be had from offering an array of formats in which to disseminate their message.

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CONFLICTS OF INTEREST

None.

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