

An Evaluation of a Health Video on Demand Service Available to the Public via Interactive Digital Television

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The public is rapidly being furnished with digital health information of all kinds and on a wide and expanding range of platforms – kiosk, Web, digital interactive television and mobile device. Along with different platforms are different ways of providing information: text, graphics, audio records as well as two-way communication and video. This paper examines one of the very first attempts to provide the general public with health information and advice via a video on demand (VODs) service, downloadable from a digital inter-

active television (DiTV). This was the NHS Direct service on the HomeChoice channel available to cable TV-on-demand subscribers in the London area. The authors analyse questionnaire and records of actual video use to build up a picture of the impact the service has. Reported here are the initial results of a video on demand service. Data on users, use, satisfaction and the value of the service was investigated using a combination of log analysis and questionnaire survey methods.

Introduction

During the Eighties there were a variety of information ‘platforms’ in existence, most notably Commercial online, CD-ROM and OPACs, and therefore considerable debate in the professional press as to which was the ‘best’ or most ‘appropriate’ platform. This debate was largely conducted in regard to the use of information services used by information professionals or professional or academic end-users. The debate largely came to an end with the arrival of the all-conquering PC/World Wide Web platform combination. It has since, been re-ignited as a result of the emergence of whole range of new digital competitors – the touch screen information kiosk, the mobile device and, most recently, digital interactive television (DiTV). If anything the information fog we now find ourselves in is even thicker. Little or no research has been undertaken on how the newly information-enfranchised general public relate to these seemingly very different delivery platforms,

nor has much thought been given to their relative appropriateness or adequacy. This paper is one of a series published as part of an investigation into the rollout of digital health to the British consumer, funded by the Department of Health in the UK. From this series this is the third paper to be published in *Libri*. The others cover the role of the touchscreen health information kiosk (Nicholas et al. 2001) and characterising users of a digital interactive health channel (Huntington et al. 2002a). This particular paper takes this debate into the under-researched, but strategic, consumer information field, by examining the use of the most recent and heralded recruit to the consumer information cause – a video on demand service available via digital interactive television (DiTV).

DITV, perhaps the forerunner of WebTV, is not only a brand new platform about which very little is known, is also a platform in which much hope is invested. Possibly too much? There is a sense, amongst politicians certainly, that this is *the* platform. The argument goes everybody has tele-

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visions, everybody is familiar with them, and maybe most importantly it throws an ICT lifeline to all those who have been excluded from the digital revolution – the poor, socially excluded, elderly etc. Ciber at City University has been at the forefront in investigating the impact of DiTV on health information consumption. Studies have, indeed, shown that, users of such information services do benefit (Nicholas et al 2003) and that some types of users may well be more attracted to this platform (Huntington et al. 2002a) and, furthermore, those users do have problems in using these services. The study described here goes further and looks at specifically the characteristics of users of a video on demand service. Significantly it combines both log and questionnaire data together.

The provision of health information videos is something new, not only for the consumer but also to television. Video is considered to be a good mechanism to get across information on topics such as healthy diets, because it is capable of conveying more detailed information than text alone, in a format that is engaging to watch. In addition a video on demand service is, by definition, action based – users have to physically request, download and watch the information. There is more interaction than with the traditional text information service.

Aims and objectives

The study aimed to determine how a video on demand service was being used in a health context, what kinds of people viewed it, what they used the service for and how easy they found it to use. Specifically the following information was sought:

- Age and gender of viewers
- How people intended to use the channel
- Health topics consulted
- Whether the information was trusted
- Current health living practices of respondents
- How easy the channel was to use

Literature review

Very little, if any, academic work appears to have been undertaken on who digital TV users are, nor what they actually do with the interactive ele-

ment of it. Thus just one reference was found containing the words ‘digital and interactive and (TV or television)’, on all the information science databases hosted by Dialog [1] – and that concerned the nature of digital radio. The commercial world has looked, with its eye on potential new sources of advertising revenue. The Yankee marketing group (Yankee group 2001) identifies ‘key customer groups’ likely to take ITV services, including:

- ‘Aggressive Early Adopters’. This group is eager to acquire a second interactive device in the home, but not at the cost or space requirements of a new PC; and
- ‘Third Wave Adopters’. The mass-market group of ‘Internet users to come’. This refers to the potential users who may not be able to afford a PC, but have an interest in tapping the new basic interactive services available over ITV, such as e-mail, banking, shopping, and travel services.

Park et al. (2002), in a study of health programmes using self-administered questionnaire surveys, found some discrepancies in the perceptions of and needs for health programmes between audience and professionals. Nicholas et al. (2002a) found that DiTV logs provided more information on use than Web logs, because they contained a record of the user’s unique reference number. Further Huntington et al. (2002b) looked at the problems of comparing two DiTV services. The research identified returnees as being particularly important in making a comparison and developed the use of the metric over time. This development meant that the make up of new and return visits could be monitored from one period to another. Nicholas et al. (2002b) used this metric to develop the concept of “digital visibility” that describes the impact on use of the position of a service broadcasted by a DiTV provider that competes for the users’ attention with other alternative consumer interests.

Earlier studies concerning telemedicine and interactive video consultations have, however, been undertaken with regard to specific conditions, pre-selected participants, where the teleconferencing facility is often placed in a setting where travel is difficult. Brunk (2002), 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. Similarly, Swindell

and Mayhew (1996) provided 18 housebound elderly people with an 8-week teleconference offering practical information (nutrition, health and social services). Peer-to-peer support group video-conferencing facilities have also been set-up. Brown et al. (1999) provided a telephone and teleconferencing facility for a group of carers of patients rehabilitating from head injury. 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 (2000) described a system reaching 136 health professionals, which provided workshops and support to those training in palliative care.

Teleconferencing studies have highlighted safety (e.g. Oakley et al. 1997), efficacy (Dongier et al. 1986), and cost effectiveness (Wootton et al. 2000). There is also a large body of research into patient satisfaction (e.g. Clarke 1997, Callahan et al. 1998). Studies have tended to produce such positive results that Mair and Whitten (2000) 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. 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 (2000) conclude that it may be an oversimplification to merely ask people if they are satisfied with telemedicine. Instead, it may be more important to understand the context in which telecare is being provided. The paper reported here, by both triangulating data from various sources (interviews, questionnaires, computer logs and nurse consultation records) attempts to both understand the contexts of users' experiences, and obtain richer data about just what it is they find attractive about this form of medical consultation. Unlike other studies, it also draws its sample from actual service users – not subjects recruited for the purposes of the study and offered the facility.

Site backgrounds

The HomeChoice channel is available to cable TV-on-demand subscribers in the London area. The service is predominately a video service. Further the service is structured on one main menu before arriving at a screen from which the user can download a video.

The 'NHS Direct' via HomeChoice service consisted of two elements:

- limited text, images and
- 'on demand' short video programmes

Text Service

Text is displayed by overlaying the text on to a video background. The main text elements other than the opening video/text introduction and main menu were details of local hospitals. The hospital details were text and graphics overlaid onto a moving video background. The only other use of text was for the quizzes and questionnaires, and these again these were overlaid onto a moving video background.

Video Service

This was comprised of approximately 110 videos. However, videos are grouped into topics. A topic such as coronary heart disease will be covered by a number of short videos accessible independently and in the order decided by the viewer. They are thus, as far as possible, self-contained. The service is structured so that a video can be downloaded by accessing only two screens from arriving at the service.

Methods

The data reported in this paper were obtained from two sources: the transactional logs of the service, which were evaluated for the period January to May 2002 and an online questionnaire.

Log files are machine-generated records of user activity. DiTV and VOD logs are similar to those of other digital platforms and a detailed explanation of how the data is analysed can be found in a number of articles published by the authors (e.g. Nicholas et al. 1999). Generally speaking VOD logs

Figure 1: Percentage frequency distribution over gender

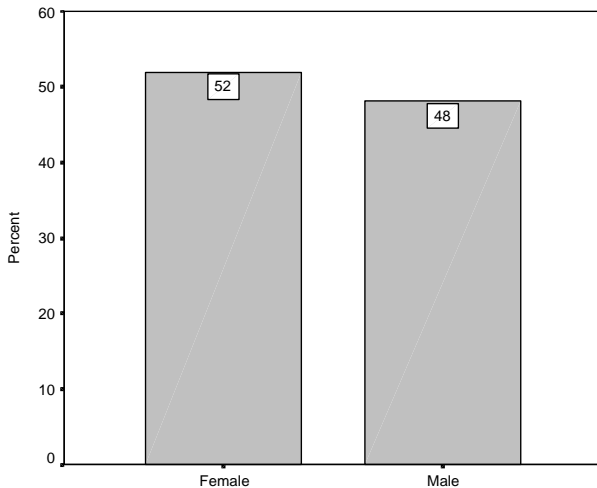


Figure 2: Percentage frequency distribution over age

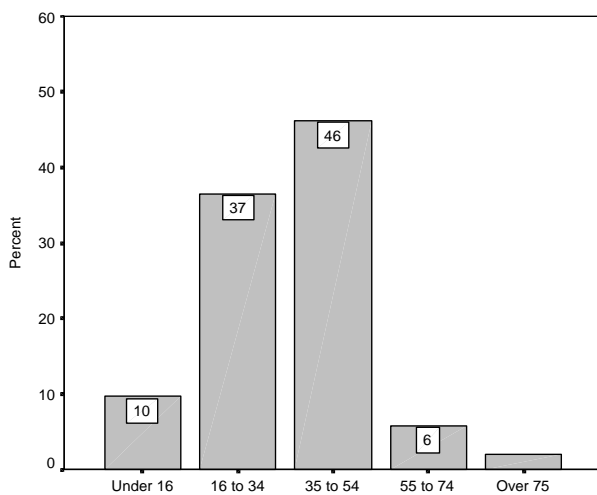
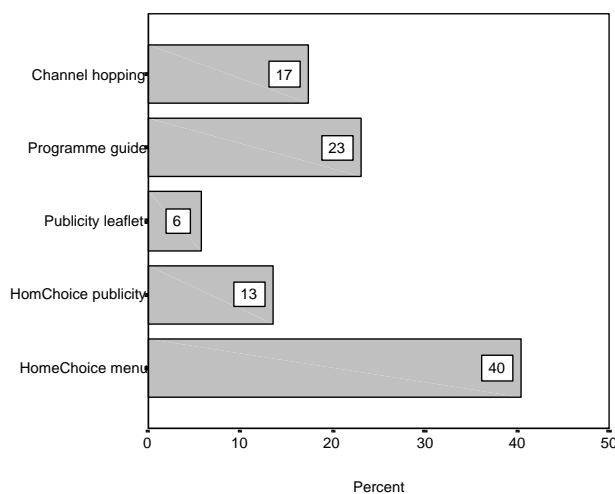


Figure 3: How did you first find out about the NHS Direct Service (answer one only)?



are relatively refined and accurate by comparison with, say, the logs of a web site. The logs record the user identification number, date and time information as well as video or screen viewed. During the period there were approximately 1,759 visitors, HomeChoice has a potential subscriber base of about 10,973.

A questionnaire was placed on the service for the month of May 2002. Fifty-four users out of the potential of 1,759 who used the service responded to the questionnaire. The questionnaire represents a 3% sample of all users to the service however only 299 users were recorded as having used the service in May and the sample represents 18% of these users.

Results

Characteristics of sample

The logs disclose nothing personal about the users of the service. To obtain this information we need to turn to our questionnaire data. Figure 1 shows that the majority of respondents who had used the service was in fact women (52%). Users had a middle age to young profile; most users, 46%, were aged between 35 and 54 (Figure 2). In fact older users were not particularly represented; 92% of respondents were aged below 55. Further, male users under 35 outnumbered female users in this age bracket. Fifty-four percent of users under 35 were male compared to 46% who were female. This suggests that younger male users may well prefer a video-based information service compared to a text service.

In terms of how users found out about the service the menu proved to be the most popular way of finding the service. Most users (40%) found it by clicking on a HomeChoice menu, 23% found the service via the guide and 17% by chance hopping between channels.

Figure 4 gives the reason for viewing the health information service. Half of subscribers reported using the service for general interest, 33% reported using the service for educational purposes while a minority, only 13%, reported that they viewed a video with regard to their health problem. Only 1 in 8 users were searching in what Bates (2002) would term an active and directed way or in what Wilson and Walsh (1996) would term as an active search. Those aged under 35 were more likely to

Table 1: Breakdown of the number of views to each transaction view type

View group	N	%
Opening video	3,102	19.2
Main Menu	5,345	33.1
Text pages	1,634	10.1
Videos	6,057	37.5
Total	16,138	100.0

report viewing for educational purposes; 50% did so. Those aged 35 and over were more likely to report using the service out of general interest; 60% of 35 to 54 year olds and 75% of those aged 55 and over said so. However, 20% of those aged between 35 and 54 reported using the service for their health problem – this age group made up three-quarters of users using the service for this reason. This group can be defined as having particular directed health search goals as they are likely to be responsible for the health of others including children and may well be experiencing health problem for themselves for the first time.

Use and users

User transactions were allocated into 4 groupings by type of views. These are views to the opening video, views to the main menu, views to text overlays and views to videos. Table 1 gives the breakdown of the number of views to each group.

It is estimated that just under four in ten (38%) of transaction views related to NHS Direct medical videos which were downloaded by the consumer. Twenty percent of use related to the opening video, 33% of use to the main menu and 10% of use to text pages. Half the users just seem to have entered the service looked at an opening video or menus and then left.

Figure 5 gives the daily plot of all user transaction views, while Figure 6 gives the weekly plot of views to NHS Direct videos only. Transaction views climbed at service inception to approximately 1,200 daily. And probable results in users checking on the availability of the new service. However, given a HomeChoice subscription base of approximately 10,900 this represented a small proportion of potential users (11 to 13%). Views then fell sharply in the following days to about 150 daily users and have, except for a peak around the 21st of February, remained at about 75 to 125 transaction views a day.

Figure 4: What is your main interest in using NHS Direct?

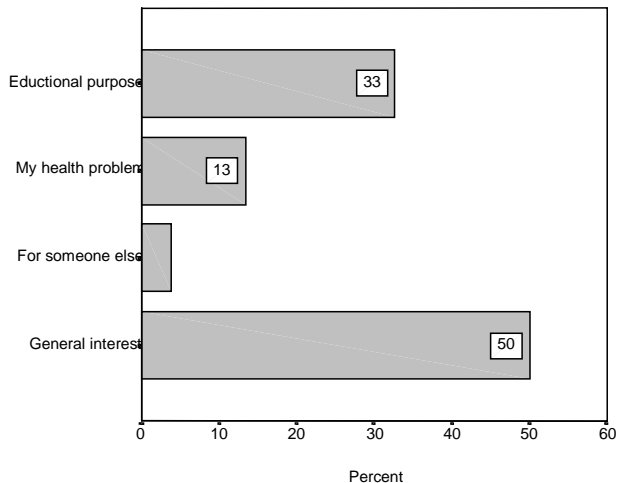


Figure 5: Daily plot of all user transaction views.

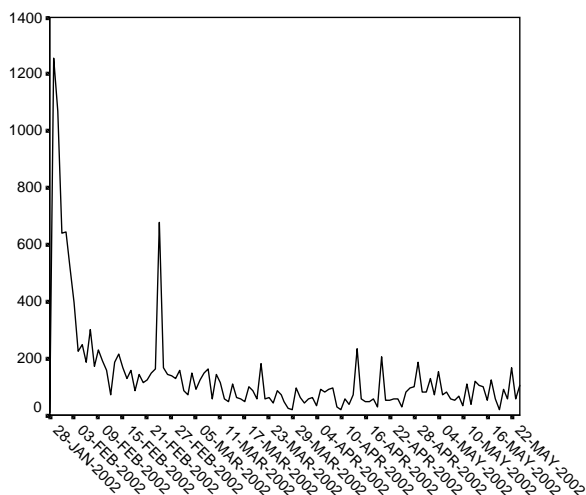


Figure 6: Total number of video views per week of operation

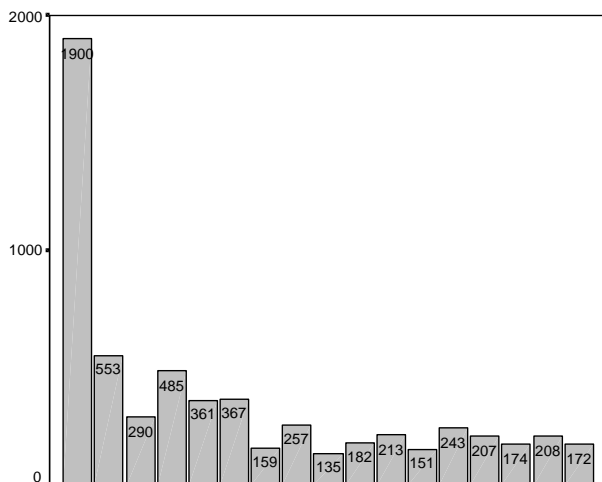


Figure 7: Percentage frequency of Videos viewed by day of week

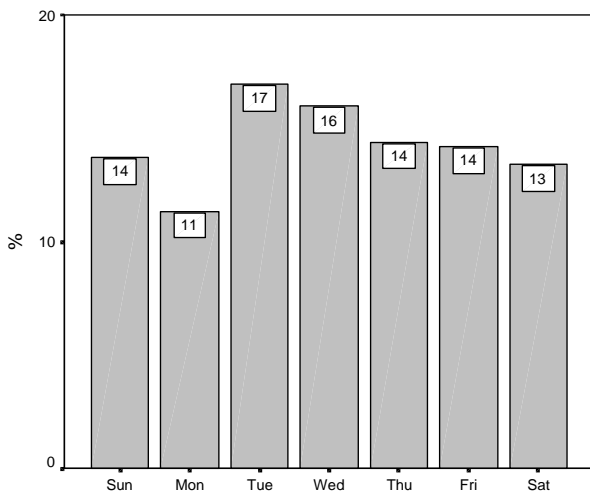


Figure 8: Percentage frequency of Videos viewed by hour of the day

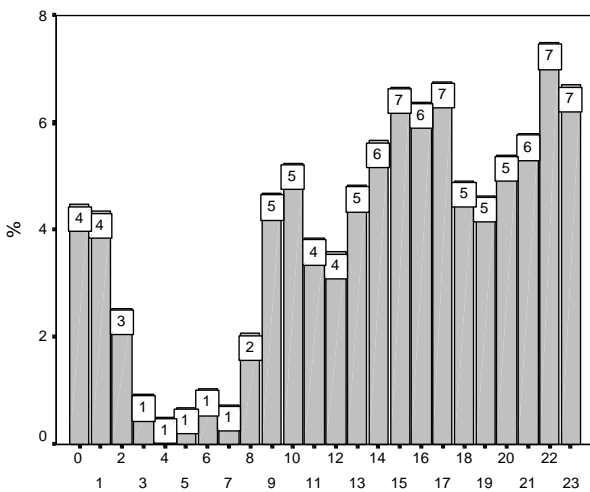


Figure 6 gives the weekly views to NHS Direct videos. Apart from the high number of transaction views in January, February recorded the greatest number of transactions with about 420 weekly views. Views to videos in March were about half this: about 220 views per week. Weekly views in April and May were similar at approximately 190 weekly video views, a figure marginally lower than that recorded for March. It seems that the service had reached its likely long term use figure of the video service by April and this was approximately 200 videos a week or a daily average of about 30 videos were downloaded from the server a day.

Figure 7 gives the percentage frequency of videos downloaded and viewed by day of week –

Figure 9: Percentage frequency of Videos viewed by day of week by age

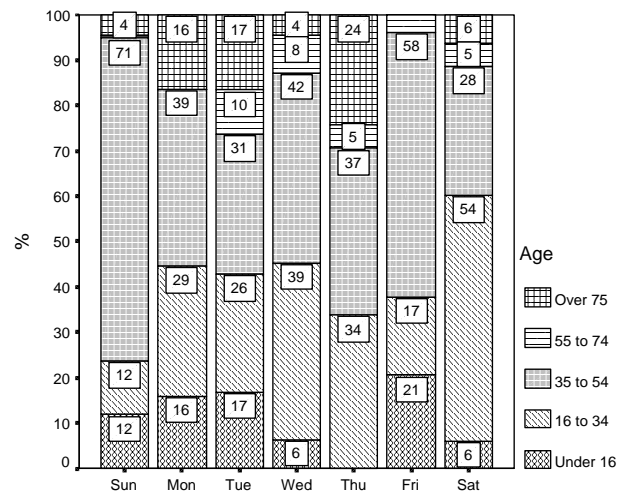
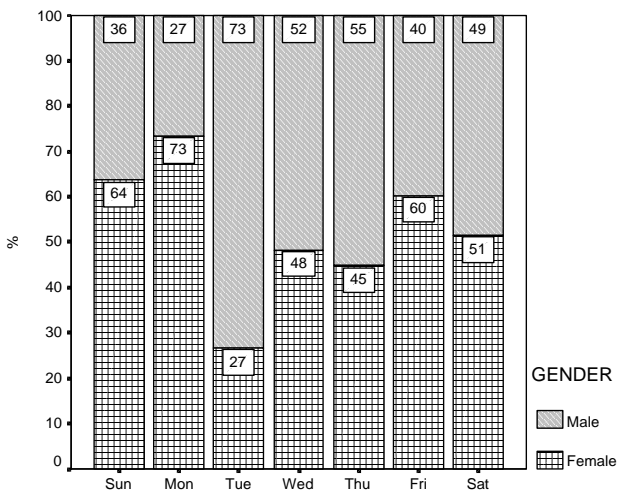


Figure 10: Percentage frequency of Videos viewed by day of week by gender



Tuesdays and Wednesdays seemed to be the popular days. Afternoons and early evenings appear to be key viewing times (Figure 8). Twenty-six percent of videos were viewed between 2pm and 5pm. There are a surprising number of views to videos in the early morning between 12pm and 2am.

Figures 9 and 10 give the age and gender distribution of video use across day of week. These figures and the following two are based on combining log data with questionnaire data and represent approximately 5% of all users. The over 75s seemed to make the greatest use of the service on Thursday and Tuesday, while 35 to 54 age group preferred using the service on Sundays and Fridays, they make up 71% and 58% of use respectively on these two days.

Table 2: Breakdown of session by main type of transaction viewed

Session by type of requests	Sessions	
	N	%
Download a text page & no video	177	6%
Download a video but & no text	1,105	40%
Download a video and text	425	15%
Has not viewed either Video or text (viewed opening screen/menu only)	1,048	38%

Figures 11 and 12 give the age and gender distribution of video use across time of day. The 16-to-34 age group appears to make all early morning views (Figure 11) and these users – after midnight at least – tend to be men (Figure 12). Young males view at a time convenient to them selves. The pattern of distribution of female use may reflect other demands on their time for example use by females is particularly low around lunchtime, tea-time and around 9pm.

User sessions

There were 2,755 user sessions in the four-month period. A user session is recorded when a user accessed the NHS Direct at least once on a particular day. Table 2 breaks down sessions into four session types:

- sessions where users actively downloaded a text screen but no video
- sessions where users actively downloaded a video but no text
- sessions where users actively downloaded a view a video and text
- sessions where users did not download any information content, that is, neither a video nor information text was viewed and only introduction and menu pages are viewed.

The most popular type of session was where users actively downloaded a video but no information text: about 40% of sessions were of this kind. The second most important session grouping – and this made up over 1 in three of user sessions (38%), were sessions that neither viewed an information text screen or a NHS Direct video (Table 2). That is just over one third of user sessions did not get past the main menu screen and hence no information videos or text were downloaded. These are “bouncer” or “dud” sessions and are a significant indication of none use of the

Figure 11: Percentage frequency of Videos viewed by hour of the day

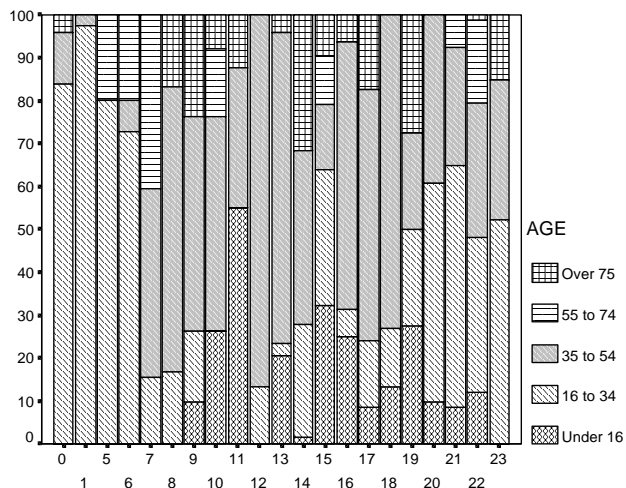
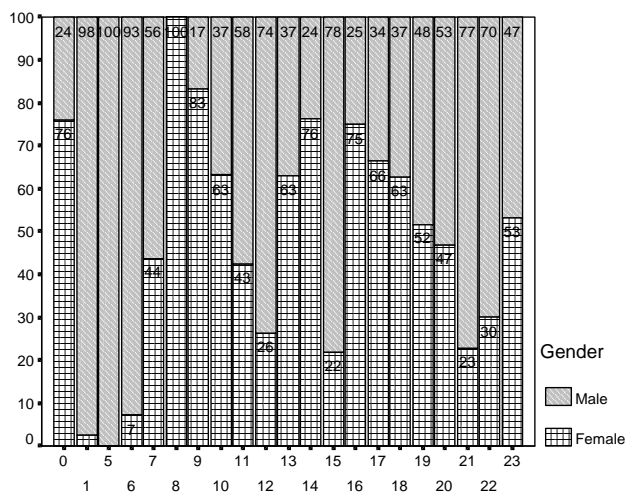


Figure 12: Percentage frequency of Videos viewed by



service. The “dud” session ratio metric for this service seemed high.

Fifteen percent of sessions viewed a text and a video and only 6% of sessions viewed a text only page.

Figure 13 gives a breakdown of session type by month of operation. The percentage of those users just reaching the menu screen and then abandoning their interrogation of the system has increased over the five-month period of operation. In February 38% of sessions could be classified as “dud” sessions however by May this percentage had increased to 47% – approximately a 10% increase in absolute terms. Users seem to abandon their session soon after expressing a desire to use it by entering the service. This may reflect a diffi-

Figure 14: Average (Median) No of pages viewed in a se

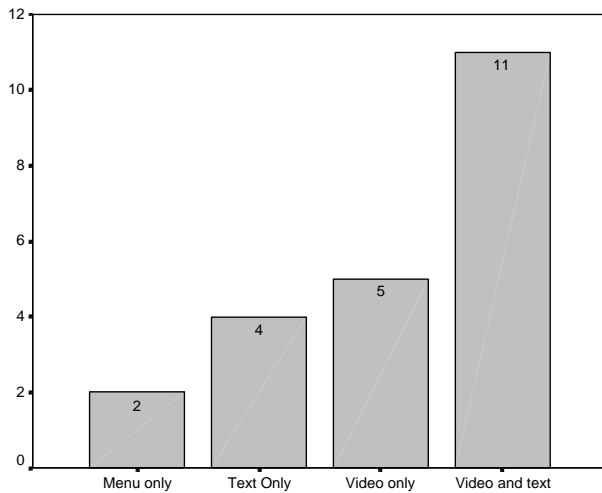
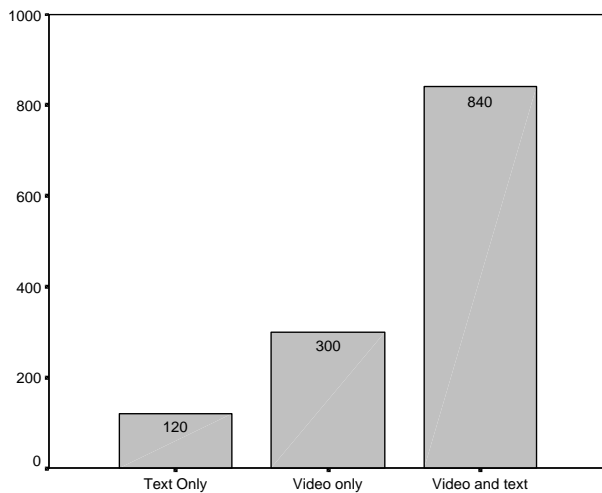


Figure 15: Average (median) time spent on a session



culty in using the service, a frustration over the limited number of videos available or, alternatively, reflect users who just want to be aware of the service. As stated earlier about 1 in 5 users found the service by channel hopping these users might just have enter the service just to see what is there and then jumped out. The user would have understood the availability of the service but perhaps these users did not have any need to use it. Further, as indicated by the questionnaire, a minority of users was using the service for their own medical complaints and this may have had an impact on user motivation.

Figure 14 gives the average (median) number of transaction by session type while figure 15 gives the average (median) length of session again by session type. Those users downloading both text

Table 3: No. of topic videos viewed by user sessions and by users

	Sessions where a videos was watched		All transaction views	
One only	600	39.2	492	17.9
2	257	16.8	367	13.3
3	171	11.2	451	16.4
4 to 5	196	12.8	490	17.8
6 to 10	189	12.4	580	21.1
Over 11	117	7.6	375	13.6

Table 4: Reach

	Approx. subscriber base	No. of users in period	Approx. reach figure
All pages	10,973	1,759	18%
Video Only	10,973	1,070	10%

and videos, as expected, recorded the longest sessions. These sessions recorded 11 transaction views (including views to menus) and had an estimated session length of approximately quarter of an hour. Users watching just a video had approximately 5 transaction views and their sessions lasted about 5 minutes. This is about one-third the time spent on a session as those watching text and videos – though these longer session users may well have watched 2 videos. Users viewing a text only service downloaded 4 transaction views and on average had session of about two minutes. Finally users who did not manage to download either a video or a text overlay viewed just two transactions however their session time could not be calculated.

Figure 15 gives the grouped number of videos seen by user session for videos only and for all transaction views. By far the largest number of sessions where a video was viewed saw just one video being viewed: this was true for 40% of such views. Two videos were viewed for 16% of sessions and 44% of session watched 3 or more videos.

Reach

During the period end of January to end of May 2002, the NHS Direct service was seen by just under under one in five (18%) of HomeChoice subscribers (Table 4). However only 1 in 10 subscribers (10%) actually downloaded and viewed a video.

Table 5: Return visits within period January to May

Visits	N	%
Once	1268	72.1
2 to 5	452	25.7
6 to 15	37	2.1
Over 15	2	.1

Among these users of the service, further analysis indicated the extent to which they were repeat users or one-off users. As Table 5 shows, just under three in every four users of the service (72%) were one-time users over the period. A quarter, 26%, of users visited between 2 to 5 times, 2% visited 6 to 15 times and about 1 user in thousand visited over 15 times.

Additional analysis showed that 21% of users who had conducted a dud session, that is users who only viewed a menu page (there were 38% of these users), made at least one other attempt at using the service. That is about 79% of users making a dud session did not return to the service. This seems to confirm a type of user who again wants to be either aware of the service or are just browsing it in an active undirected way. They are not coming back and hence could not be described as monitoring (passive directed). We might expect that for a new service users would dip into the service in a passive and active undirected way so as to register the service for a use sometime in the future when they might need to use it. Alternatively browsing to see if there is anything there that might relate to their information needs now (see Bates 2002).

For all users that viewed the service more than once (28%), the average number of days between visits was found to be about 45 days or a month and half.

Video service

From the main menu, users access content presentation screens per topic and on selection of any of those topics a video was played. Figure 16 displays accesses to the various menu items. Nearly one third of views were made to the conditions section, 20% to healthy living, 16% to first aid, 15% to hospitals with A & E, and 6% to blood donating.

Figure 17 gives the same information but for questionnaire respondents who were asked what

Figure 16: views menu content presentation screens as a % of all introductory videos accessed

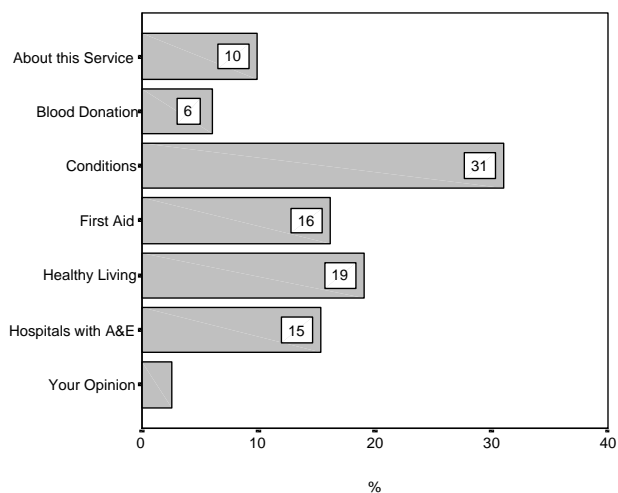
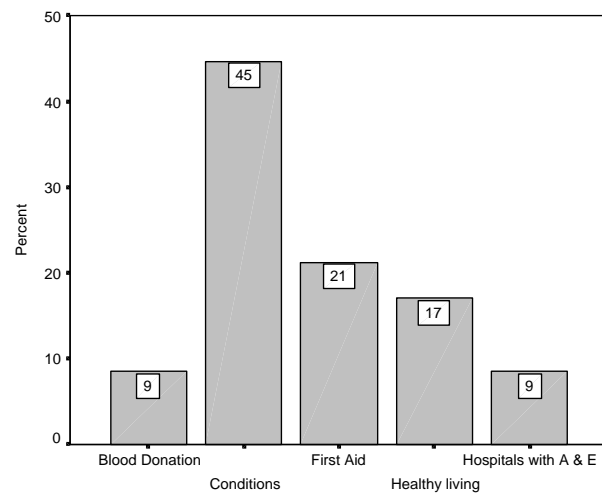


Figure 17: From which NHS Direct section did you choose the video you have just watched? (Questionnaire)



video section they had just watched. The questionnaire gave five sections from which users could select. The most popular section that users claimed to have watched were videos linked to medical conditions – 45% of respondents chose a video from this section (Figure 17). The two next most popular sections were first aid (21%) and healthy living (17%). Given the smaller number of categories the questionnaire responses seem by and large to reflect actual usage suggesting that the questionnaire responses do reflect actual use.

There were approximately 93 videos out of the 110 available that the users actually downloaded and watched. Figure 18 gives the ranking by

Figure 18: Accesses to topic videos as a % of all topic videos accessed

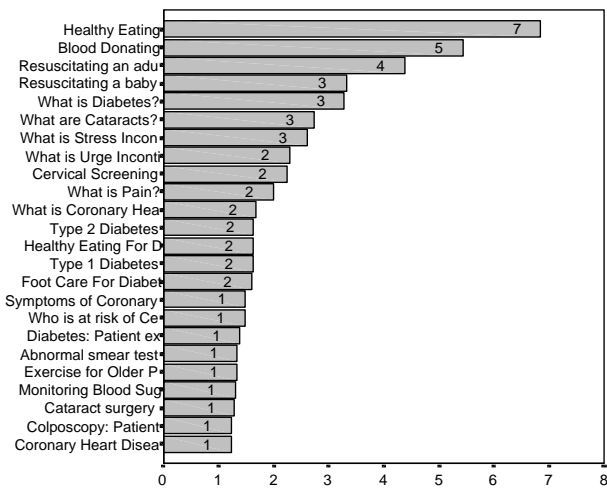


Figure 19: Use of videos by subject

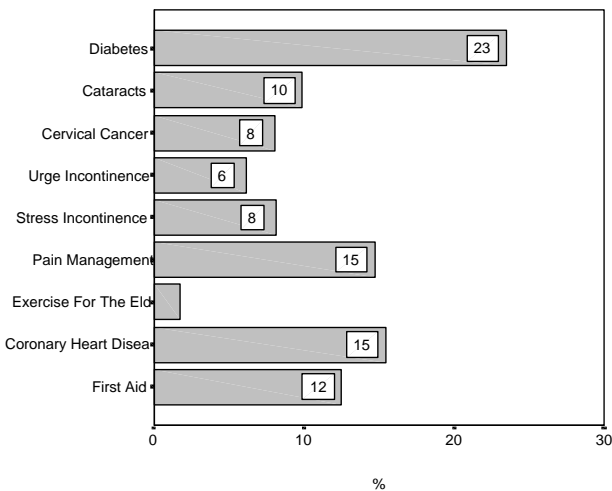


Figure 20: Average view times and stated duration times of videos by section

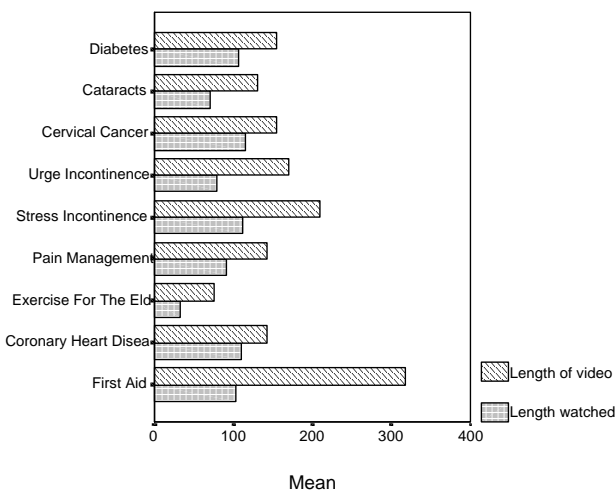
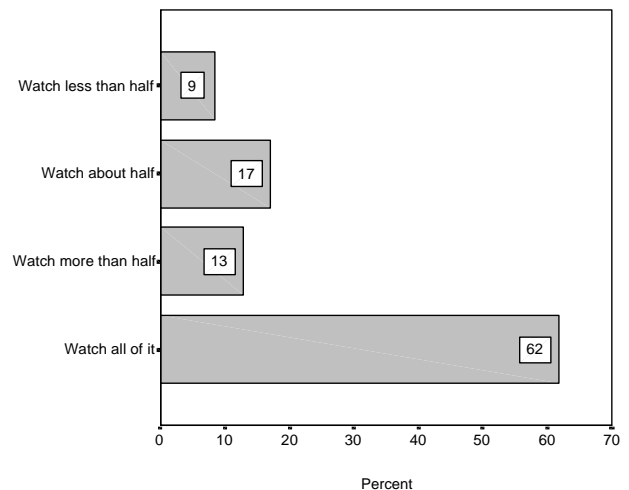


Figure 21: For the last video you watched on the NHS Direct service did you?



number of views of the top 25 videos. The most popular videos downloaded were “Healthy eating”, “Blood donating” and “Resuscitation” of an adult and a baby. These four videos account for 19% of all videos downloaded. The prominence of blood donating reflects the importance that this is given in the main menu.

Videos were reclassified into subject groups and these are given in Figure 19, not all videos could be successfully classified, however, it does give an indication. Diabetes videos followed by pain management and Coronary Heart Disease were popular subject videos, they accounted for approximately 23%, 15% and 15% of video views.

Length of videos

Figure 20 is an attempt to compare average view times with stated duration times of videos by section. In all sections it seems that some users have cut short their video view and have not viewed to the end of the video. This was particularly true for the First Aid video and the incontinence videos (urge and stress), which might not have provided easy viewing. Users, in the online questionnaire, were asked how much of their selected video they had watched (Figure 21). Two thirds said that they had watched all of the video they had last downloaded while 75% of users said that they had watched more than half. A quarter of

users said that they had cut short their viewing and had watched only a half or less of the video that they had selected. There is suggestive evidence that men are likely to watch all of the video compared to women. Nearly three quarters of men (73%) said that they had watched all of the video however only half of women said that they had done so. Perhaps the demands on their time meant that many women could not view a complete video without being called away. Alternatively women may have greater health information knowledge and may be cutting short videos that were not giving them any new information.

In terms of video length, 65% of users said that the length was just about right (Figure 22) a quarter of users said that the video was too short and 10% said it was too long. Those aged between 35 and 54 were least likely to report that the video was about the right length – only 48% of users from this age group thought so. Forty percent of these users thought that the videos were too short. As mentioned earlier this group was the most important age group using the service for their own health conditions and perhaps had the most need for the information.

Gender and video views

By linking video view logs to on-line questionnaire responses a breakdown of video use by age and gender proved possible (Figure 23). Women tended to download videos on cervical cancer, while men were almost exclusively viewers of exercise for the elderly (perhaps they have been told to do more exercise by their doctor). More women than men viewed videos on coronary heart disease – about 58% more, while more men than women have watched the first aid videos and pain management videos. This reflects information need and we might expect this pattern of use.

The over 75's seemed to be particularly (but unsurprisingly) interested in coronary heart disease videos while the under 16's (surprisingly) seemed more interested in first aid and cervical cancer (Figure 24). The age group 55 to 74 seem interested in pain management, stress incontinence and coronary heart disease videos. The 16 to 34 and 35 to 54 age groups were interested in diabetes videos.

Figure 22: What did you think about the length of the last NHS Direct video you watched?

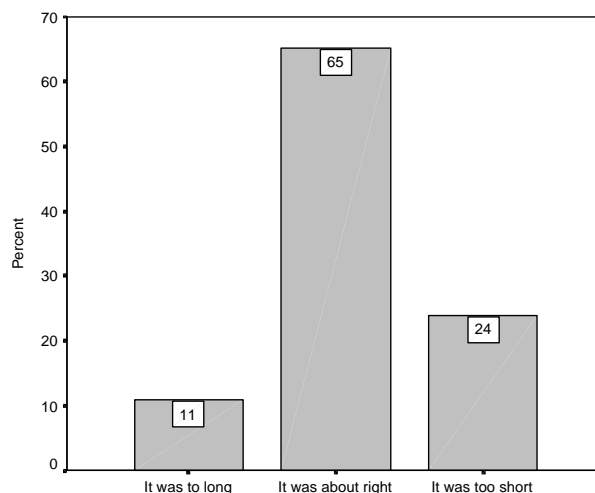


Figure 23: Use of videos by subject and gender

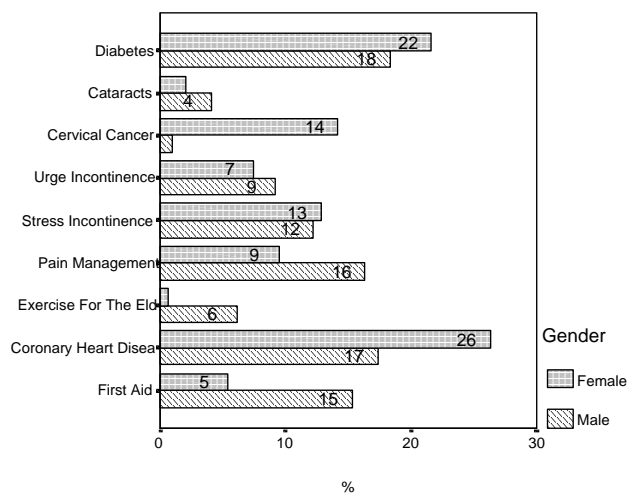


Figure 24: Use of videos by subject and age

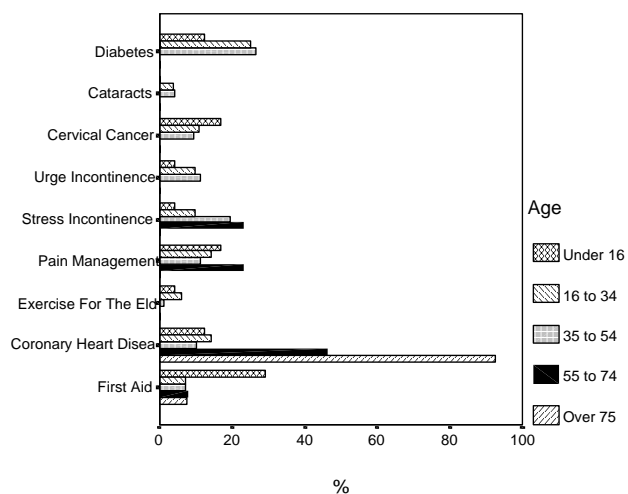


Table 6: Video sections, availability and use – January to May 2002

Video section	No of video available in section	Total videos viewed
Acupuncture	2	64
Bypass Surgery	3	88
Cataract	4	369
Cervical Screening	5	361
Childhood Eczema	3	78
Coronary Heart Disease	8	530
Cryoanalgesia	1	50
Diabetes	9	796
Donating Blood	1	329
Epidural	1	55
Facet Joint Injections	2	61
Foray For Health	10	288
Healthy Eating	2	415
Hypertension	1	Non found
Medication	1	70
MMR	1	69
Prostate Cancer	1	20
Resuscitating	2	466
Stress Incontinence	3	262
Stress And Relaxation	3	143
Tens	1	71
Testicular cancer	5	No views
The clinic		57
Ulcerative Colitis	7	120
Urge Incontinence	4	228
What Is Pain	1	121

Topic videos

Table 6 lists the topic videos, the number of videos available to view under a topic and the total number of videos watched. As stated earlier the most popular topic videos watched in the period February to May 2002 was “Diabetes” followed by “Coronary Heart Disease” – however each of these topics had a series of videos available under the heading. For example there were 8 videos available under Coronary Heart Disease. Among topics where only one video on the topic was available, Donating Blood (329 downloads) Tens (downloaded 71 times) and MMR video (downloaded 69 times) were popular.

Some videos were not viewed at all for example the testicular cancer video and the hypertension video and perhaps a name change of the former might persuade users to view this video. Clearly users were put off obtaining information on this sensitive topic.

Some videos have proved very popular. Thus there were 530 views of Coronary Heart Disease videos and 796 views to the Diabetes series. There

Figure 25: Coronary Heart Disease videos watched in the series

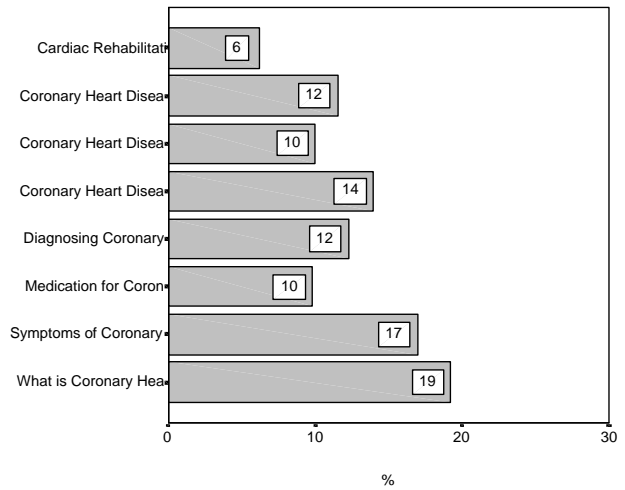
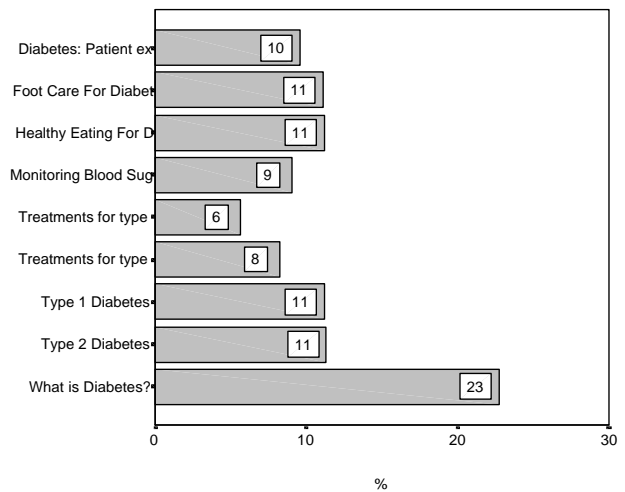


Figure 26: Diabetes videos watched in the series



were 8 videos available under Coronary Heart Disease and 9 for Diabetes. All of the 8 Coronary Heart Disease videos were watched (Figure 25) – the most popular in the series being the What is coronary heart disease? video (accounts for 19% of coronary video views) and the video covering symptoms (17%).

Further, all of the diabetes videos were viewed (Figure 26) – the most popular in the series being the What is diabetes? video (accounts for 23% of Diabetes video views).

Enough video topics?

Users were asked if they thought that there were enough videos available. Most users, three quarters of users, thought that the range of videos on

offer was not enough (Figure 27). We have learnt elsewhere that the digital information consumer likes choice. And argues that the service should be expanded. This may account for the poor return rate of users to the service and the relatively high number of “dud” sessions. There is suggestive evidence that those users under 55 were more likely to report that there were not enough topics covered. Only 23% of those aged under 55 thought that the videos covered enough topics compared to 50% of those aged 55 and over who thought so.

When asked how many of the NHS Direct videos might be of interest to users now or in the future 40% said that they would be interested in watching most of them. Sixty-one percent said that they would watch half or more of them. However twenty-one percent said that they would watch only a few of the videos (Figure 28).

Ease of use

Users were asked how easy it was to use the service. Over two-thirds of users found it very easy to navigate to the NHS Direct service from the HomeChoice main menu (Figure 29). However the questionnaire was only answered by those users who had found the service and we might expect that these users would find the HomeChoice menu structure easy. Clearly users have built up a prior knowledge in using DiTV channels and menu systems. It is a technology that they are familiar with and use albeit for entertainment. Users however do appear willing to use their knowledge and DiTV with the intention to meet their information consumption needs.

How helpful

Of most interest surely is how the information found benefited the user. A series of questions probed how users were helped. These include how detailed and interesting the user found the video, how helpful the video was in taking the user through information stages of the topic, if the video answered the users questions and if the video helped the user to manage their medical condition.

Just under three quarters of users thought that the video they had just watched was both detailed and interesting, which is a positive statement on the service. However 1 in 5 users found

Figure 27: From what you've seen of the range of videos available in NHS Direct which one of the following do you agree with

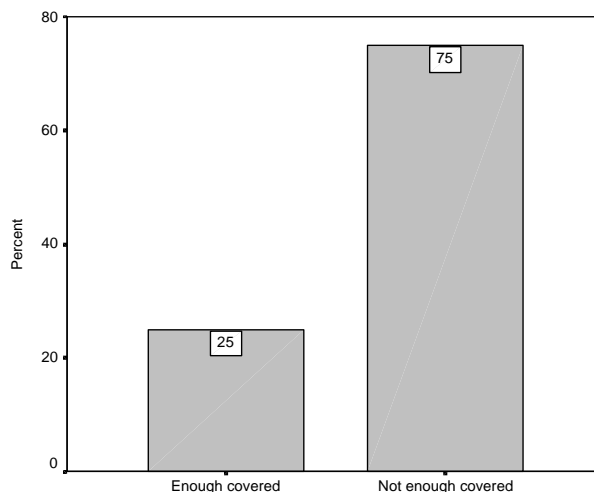


Figure 28: How many of the NHS Direct videos might be of interest to you now or in the future?

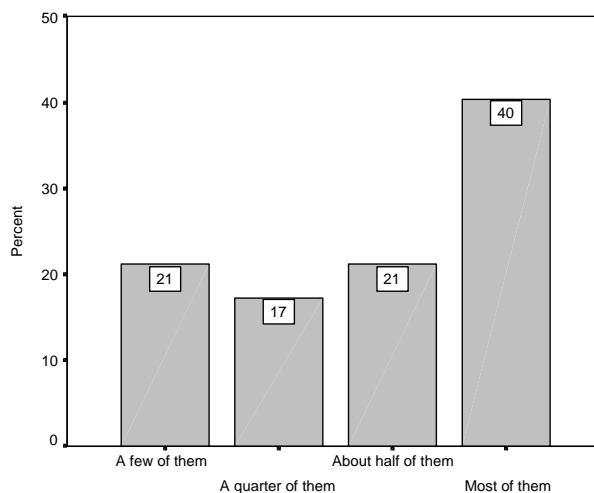


Figure 29: Did you find it easy to navigate to the NHS Direct service from the HomeChoice menu?

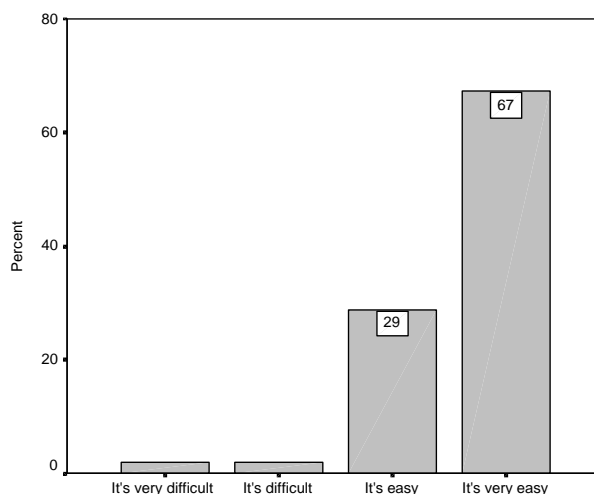


Figure 30: How would you describe the video you last watched on NHS Direct?

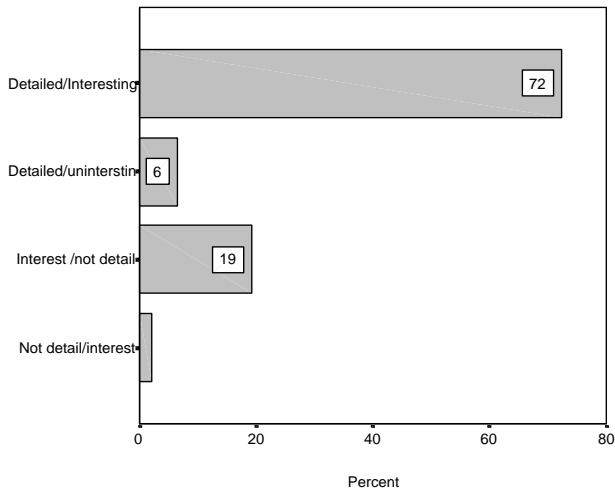


Figure 31: How helpful was the NHS Direct video you last watched in taking you through the necessary information stages of the topic in a step-by-step manner?

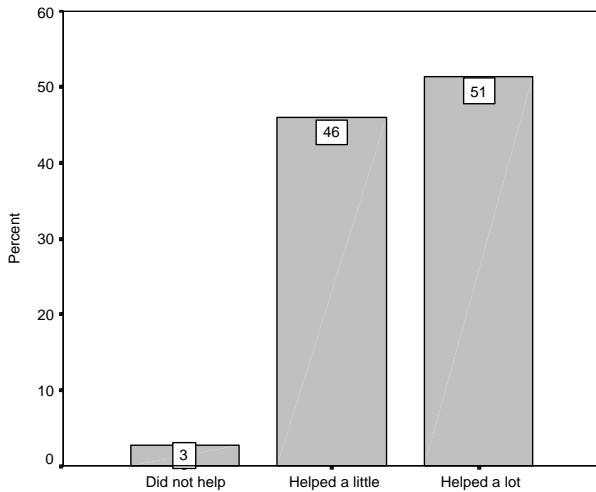


Figure 32: For the last NHS Direct video you watched did it answer questions that you would otherwise have put to a doctor or nurse?

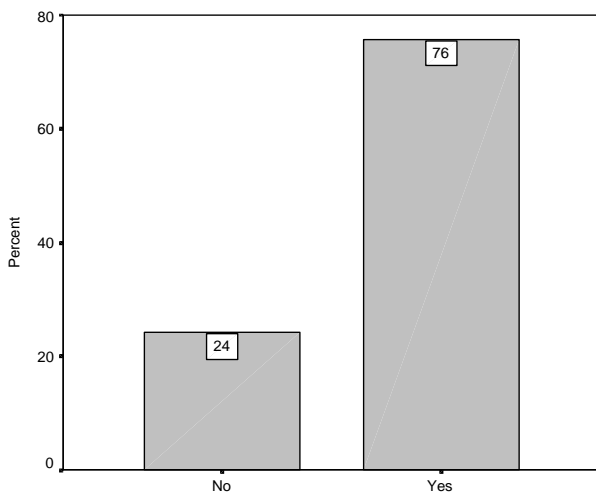
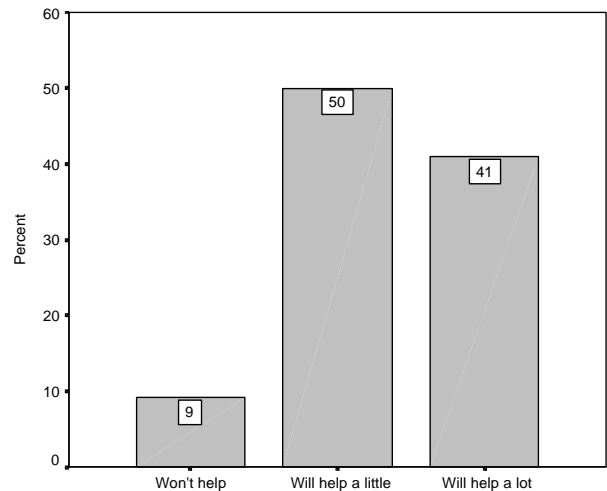


Figure 33: In general do you think that NHS Direct videos would help you to manage your medical concerns?



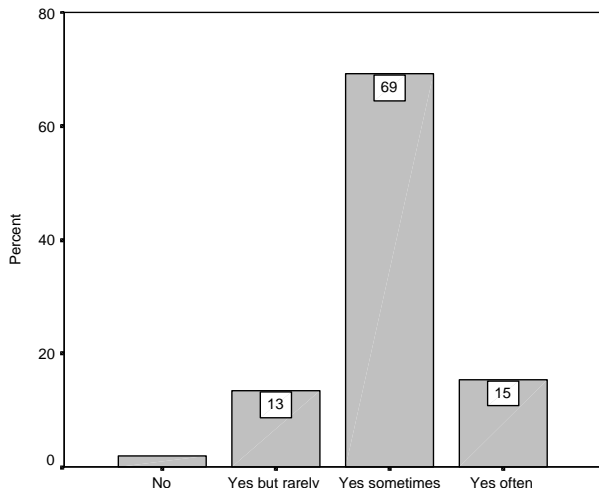
the video was not detailed enough while 6% of users thought that the video was not interesting (Figure 30).

Users were also asked if the video they had just watched took them through the necessary information stages of the topic in a step-by-step manner (Figure 31). Twenty-one percent of respondents said that this question did not apply for them and they have been excluded. Of the remaining 51% said that the video had helped a lot, 46% said that it had only helped a little and 3% said that the video did not help.

An important metric of outcome is if the videos had answered questions that they would otherwise have put to a health professional. Figure 32 looks at responses to this question. Thirty percent of users did not think that the question was relevant to them and these have been excluded. Of the remaining, three-quarters of users said that the videos had answered their question, which clearly suggests less pressure on the short time that users might spend with a health professional. Twenty-five percent felt that the videos did not answer their questions however.

Users were also asked if the NHS Direct videos would help them to manage their medical concerns (Figure 33) Six percent of respondents said that the question was not applicable and have been excluded. Forty-one percent of users thought that the videos would help a lot and most users, 50%, said that the videos would only help manage their medical concerns a little, while just under 1 in ten users said that the videos would

Figure 34: Do you think that you will be using the NHS Direct service again?



not help. There is suggestive evidence that men think that the videos will help them less in managing their medical condition compared to women. Seventeen percent of men thought that the videos would not help them. Further a smaller proportion of men thought that the videos would help a lot: 35% of men said that the videos would help a lot compared to 47% of women who thought so.

Lastly people were asked if they'd use the service again (Figure 34). Most users just about 7 users in ten said that they would revisit but only sometimes, 15% said that they'd often use the service and 13% said that they'd only use the service rarely. About 3 percent of those who answered the questionnaire said that they would not revisit.

Conclusion

There proved to be marked differences between the types of person using the DiTV service and in the patterns of their use – and not always in the ways expected. The main conclusions are:

- Users had a middle age to young profile. Most users, 46%, were aged between 35 and 54. Furthermore, 20% of this age group reported using the service for their health problem. This age group were also identified as wanting longer videos. Forty percent of these users thought that the videos were too short and 50% of those under 55 thought that the range of videos should be expanded.
- 1,025 people used the service and they made 16,138 transaction views of which 38% related to video views.

One in five of the population of potential users accessed the system while 10% had downloaded a medical video.

- Men between the ages of 16 and 34 made up most of early morning use. Videos may be one method to increase health awareness among men under 35 – a group who traditionally avoid health information.
- Approximately 38% of sessions were identified as sessions where only a “menu item” was viewed – these maybe though of as dud sessions. Further 79% of users undertaking a dud session did not return to the service. In part this percentage may reflect the proportion of users who had found the service by channel hopping.
- Of the 55% of sessions conducted where at least a health information video was downloaded, 61% saw more than one video viewed. Users are clearly happy at stitching together two or more videos and watching these.
- During the 5 month period 72% of users made one visit only while 28% returned at least twice.
- Nearly one-third of views were made to the conditions section, 20% to healthy living, 16% to first aid, 15% to hospitals with A & E, and 6% to blood donating.
- In terms of subject videos diabetes videos followed by pain management and Coronary Heart Disease were popular subject videos, they accounted for approximately 23%, 15% and 15% of video views.
- For topics were only 1 video on the topic was available Donating Blood (329 downloads) Tens (downloaded 71 times) and MMR video (downloaded 69 times) were popular.
- Women tended to use videos on cervical cancer while men are almost exclusive users of exercise for the elderly. More women than men viewed videos on coronary heart disease – about 58% more, while more men than women have watched first aid videos and pain management videos.
- Only two-thirds of users said that they had watched all of the video that they had downloaded. Views to the First Aid video and the incontinence videos (urge and stress) seem in particular to be cut short.
- Three-quarters of users said that the videos had answered questions however only 51% said that the video had helped a lot while 46% said that it had only helped a little.

The research found evidence to support Bates' (2002) model on information seeking and searching. This model classified searching into four strands according to how active the user is to acquire information and how directed or un-directed their behaviour is. For this study the proportion of users engaged in active directed searching was relatively small, approximately 13%.

Notes

1. Not including technical databases such as Inspec.

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