



Article

Using a Prompt Sheet to Improve the Reference Interview in a Health Telephone Helpline Service

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Abstract

Objective - The study examined whether a prompt sheet improved the reference interview process for health information advisers working at NHS Direct, a 24-hour telephone helpline that provides confidential health care advice for the public in England.

Methods - A randomised control trial was conducted at eight NHS Direct sites across England in 2003-04. Newly recruited health information advisers (n=30), full and part-time, were randomly allocated to a control group (n=15) or intervention group (n=15), and 26

completed the study. Existing health information advisers were involved in the planning and design of the intervention. The prompt sheet included prompts for demographic information, reason for call, condition/treatment plan, existing knowledge of caller, special needs of the caller, handling a call empathetically, and conclusion. Testing of reference interview expertise was done at the end of basic training, and two months later, using the same questions. The ten test questions were based on common questions received by NHS Direct. A relevance framework for possible responses was drawn up for each question for scoring test responses, with more relevant responses scoring higher than less relevant responses.

Results - The average score of prompt (experimental) and non-prompt (control) participants increased on the second test, for each of the 10 questions. The prompt group improved significantly more overall than the control group. There was variation within the groups. Sixteen health information advisers showed a net increase in their score over all ten questions (10 experimental group, six control group). The post-test score for an individual on a particular question did sometimes decrease from the pre-test score, but all 26 improved on at least one question. Previous call handler experience did not appear to influence the extent of improvement, but length and type of experience in the post may have an influence.

Conclusion - The trial demonstrated the benefit of a simple and inexpensive prompt sheet for some, though not all, newly recruited health information advisers to improve their reference interview technique.

Introduction

Studies of reference interviewing may consider a variety of perspectives – theoretical principles of the process, expression of inquirer needs, setting, subject scope variations and training requirements. From the theoretical perspective, several studies have re-examined the questioning process within the reference interview (Tuai), the role of the librarian – as expert or therapist and non-expert (Stover), or simply as equal with the inquirer (Mabry). Strategies used in the process of questioning could follow the principles of the cognitive interview (Moody and Carter). Others have challenged the ‘funnelling’ process and note the problem of premature closure (Ross and Dewdney). The theoretical principles of the reference interview may be drawn from Speech Act theory (Searle) as suggested by Dewdney and Mitchell, to understand the function of what is being said. Alternatively, interview questions may be based on reflective listening, the empathic responding techniques as practised in counselling and

psychotherapy (Nelson-Jones). Basic ‘attending skills’ were adapted by Jennerich for use in librarianship and the 12 skills for successful reference interviewing include nonverbal skills (eye contact, gestures, posture, facial expression and tone of voice) and verbal skills (remembering, avoiding premature closure, reflection, paraphrasing, using encouragement, closing, giving opinions or suggestions, asking open questions) (Jennerich and Jennerich). For telephone interviews, the visual cues are absent and there is more emphasis on the voice, the tone, and a protocol for referral to other experts or for calling back (Ross, Nilsen and Dewdney 126).

Taylor referred to the levels of expressed information need of the inquirer as visceral, conscious, formalized and compromised. For services that provide health information to the public, the theories of information behaviour that seem particularly pertinent are the sense-making theory of Dervin and models of the information search process that recognise that the inquirer may stop

temporarily at a particular stage (e.g. in the formulation stage of the six-stage process of information seeking described by Kuhlthau). Wilson and Walsh stress the emotional aspects of information seeking and this is important for health information seeking, when inquirers may not wish to obtain all the relevant information at once, preferring to wait until they feel they can cope with the facts (Baker).

Recent discussion in the literature on setting considers how virtual reference services operate in chat or e-mail environments (Dee; Diamond and Pease; Lee; Ross, Nilsen and Dewdney 185). In academic libraries, reference services may now be reorganised to provide a variety of services to meet, cost-effectively, the different needs of users (Simmonds). The lack of desired functionality and management statistics may make use of commercial electronic reference software problematic for some universities acting in a consortium (Bains). An alternative approach is to redesign the home page of a library service, so that it can perform some of the functions of the reference interview (Bowman) particularly for students who may use the Internet as their first point of access for information.

The subject scope of the interview may influence the organisation and support required. In the health sector, a well prepared search strategy is required. For evidence-based practice and clinical queries, the PICO set of structured questions has been developed (Straus et al.). PICO stands for Patient and/or Problem, Intervention, Comparison intervention and clinical Outcomes. For clinical queries this type of structuring should work more effectively for searching in databases such as MEDLINE, but this may depend on the type of information the user is seeking. A comparison of a PICO structured reference interview form compared to a minimally structured form, in a before and after study

in six multidisciplinary health libraries in England (n=185 PICO requests, n=195 minimally structured requests) found that the EBM structured forms were associated with fewer items retrieved, and more precise search results (Booth, O'Rourke and Ford). The librarians generally preferred the minimally structured form, and in fact demanded that the PICO structured form include a free text box. For health policy and management information, a looser structure may be necessary, and a new mnemonic has been proposed as a search aid, ECLIPSE, which stands for Expectation, Client group, Location, Impact, Professionals, Service (Wildridge and Bell).

As far as training is concerned, most manuals on reference interviews include 'how to do it' recommendations on training staff in reference interview skills, and some of this advice is based on evidence. Ross, Nilsen and Dewdney (226) cite evidence that verification and follow-up increase the success of the reference transaction, and that the microskills training advocated by Jennerich helps librarians to ask more open and sense-making questions. The habit hardest to break may be that of asking too many closed questions.

Barriers to a successful reference interview may be related to expression of the question, and inquirers may be particularly reticent when discussing personal health topics. There are many reasons why such inquiries may not be successful for the inquirer (Table 1, synthesising literature from (mainly) Baker; Ross, Nilsen and Dewdney; Taylor).

The reference interview requires the librarian to demonstrate the following attitudes:

- Friendliness and approachability
- Courtesy, being polite
- Willingness to listen
- Patience
- Sensitivity to inquirer's needs

Problem	Notes	Implication
Ask undemanding question, not related to need	May relate to lack of confidence in the librarian, or viability of the question	Real need not expressed
Question expressed poorly	May not have sufficient vocabulary to express the problem precisely, or, conversely, use too much jargon	Real need not expressed precisely and completely
Lack of ease in asking question about personal sensitive issues	Health topics particularly problematic	Requires skills on the librarian's side to establish appropriate empathy
Unwillingness to reveal reasons for needing information	Health topics particularly problematic	May not be able to match need with appropriate information
Question may be too broad	Inquirer may feel more certain that the answer will be obtained	Danger of overload
Question may be too vague	Inquirer may be at too early a stage in the information seeking process	May require time for negotiation of question
Inquirer feels a 'failure' for having to ask	Inquirer may be aggressive or apologetic	Requires skills on the librarian's side to establish appropriate empathy

Table 1. Inquirer problems in the reference interview

- Confidence
- Persistence
- Sixth sense – in knowing that something is not quite right (Grogan; Ross, Nilsen and Dewdney).

The evidence for the negotiation process in reference interviews indicates the following types of question, for particular purposes:

- Open questions (to encourage inquirer to expand)
- Neutral questions (type of open question 'Tell me more about...' to help check the focus)
- Closed questions (when a specific answer is required, e.g. whether illustrations are required or not)

(Grogan; Jennerich and Jennerich; Ross, Nilsen and Dewdney).

Reflective listening, or active listening, employs the following techniques to ensure empathic understanding:

- Paraphrasing, to check that interpretation by the listener is correct
- Summarising, at the end, to check that the entire question has been answered, and that the interpretation is correct.
- Use of silence, to enable the inquirer to reflect themselves, without interruption (Jennerich and Jennerich).

Problem	Notes	Implication
Question accepted as face value	Question, although convincing, may need further checking	Inquirer's real needs not met
Librarian appears unapproachable (queues)	May require some service reorganisation	Inquirer does not use the service again
Intrusive questions	Questions need to appear relevant	Inquirer may cease to co-operate with the negotiation of the question
Lack of privacy in the setting	Sensitivity to needs important	Inquirer may not provide sufficient information to resolve question
Premature closure (false focus, Kennedy, Cole and Carter)	Time pressures may lead to inadequate reflective listening.	Partial answer at best

Table 2. Librarian problems in the reference interview

For telephone interviewing for health information it is important that a shared understanding is achieved between inquirer and the service provider (Table 2, based mainly on Jennerich and Jennerich; Ross, Nilsen and Dewdney; Taylor).

In summary, the guidelines for reference interviewing are based on some, often old evidence. Some of the guidelines and theory have been revisited when designing, and evaluating telephone and virtual reference services, but there is a gap in the evidence on the type of ongoing support required for reference inquiry staff. The purpose of this study was to examine how new recruits to a large telephone helpline service could be supported after initial training on reference interview skills, to ensure a high quality of service to the public.

Setting for study

NHS Direct is a national 24-hour NHS (National Health Service) telephone helpline providing confidential advice and information to the public in England. Calls are charged at the local call rate, and there is

an interpreting service for those whose first language is not English. There is a complementary online service, NHS Direct Online. An evaluation of NHS Direct by the National Audit Office found that NHS Direct was operating safely and that advice to callers errs on the side of caution. NHS Direct was encouraging inquirers to make more appropriate use of NHS services (National Audit Office).

When a call comes into the service, the call handler (assistant health information adviser) uses a screening protocol to immediately detect callers who need an emergency response. The remaining callers are divided into those who need nurse assessment (due to symptoms mentioned) and those who have an information need. Around 80% of calls involve symptoms and are therefore routed to a nurse. The remaining 20% may be referred to a health information adviser, if the assistant health information adviser is unable to deal with the inquiry. Typically, the assistant health information adviser will provide details about location of doctors or dentists. The

full reference interview process starts with the health information adviser, and in some cases the inquiry may be referred to an information team. If, during the course of the interview with the caller, the health information adviser judges that nurse assessment is required, the call will be transferred to a nurse.

This study focuses on health information advisers who come from a range of backgrounds, with no requirement for previous experience of working in the NHS. There are no minimum qualifications other than a 'good general education' required for this role. All receive training before starting to answer calls, but the extent of this training varies from region to region. Some regions provide mentoring support, or refresher training, and the format of the advisers' work varies

Study aims and objectives

Calls to the NHS Direct service continue to increase, resulting in pressures on the advisers to respond quickly but effectively. There are four ways in which the health information adviser's techniques could be enhanced: 1) extending the call assessment system to include information triage, with on-screen prompts to assist the adviser; 2) prompt sheet used manually; 3) specific and specialist group training; and 4) individual training. In practice, option 1) would be costly to design and deliver, and options 3) and 4) are part of ongoing staff development. The views of the health information advisers were obtained using a questionnaire (n=268, response rate 88/268, 32.8%), and the most popular option was refresher group training (option 3) followed by the prompt sheet (option 2). Although the prompt sheet was not the most popular option, it was the simplest option, and one which could be trialled easily. The objective was therefore to trial the prompt sheet in a randomised control trial of new recruits, to assess whether it was effective in enhancing the

reference interview technique of the advisers. The research work contributed to a dissertation for an MSc(Econ) in Health Information Management for the researcher (TP); the other authors are the course leader (CU), and the dissertation supervisor (JC).

Sample

At the time of the study (2003-2004) the structure of NHS Direct was changing, and that meant that no single site was recruiting sufficient new health information advisers to do a trial at one site, thus minimising potential variables in site support. Recruitment to the study was done over a period of months, in three waves, with 30 new health information advisers recruited voluntarily from eight sites. Random allocation was by a sealed opaque envelope type of system, allocation proceeding site by site. Two participants withdrew due to ill health, one left for other employment, and one was excluded on grounds of previous employment as a health information adviser. New advisers were judged to have the most potential for improvement in reference interview techniques and the trial was therefore limited to new advisers. It was not possible to exclude those who were working part-time (n=7 part-time staff completed the study) or might have had previous experience within NHS Direct in a call-handling role as an assistant health information adviser (n=5 experimental, n=10 control, had been call handlers). Where possible, the recruitment, pre- and post-testing was done in person by the researcher (TP), but some post-testing had to be delegated, under instruction, to the health information managers on site (Table 3).

Participants withdrew from site 4 (one), site 7 (one) and site 8 (two withdrawals), leaving 26 who completed.

Ethics

The aims and objectives were explained to the eligible health information advisers,

Site number	Allocation to prompt sheet (n=15)	Allocated to control group (n=15)	Visits by researcher
1	4	2	Both pre- and post-test
2	3	1	Both pre- and post-test
3	1	2	Several visits, pre-test only
4	0	4	None
5	0	1	None
6	2	1	Pre-test only
7	2	2	Both pre-test and post-test
8	3	2	Pre-test (one participant tested later)

Table 3. Site and participant allocations

noting that the researcher had to identify the responses to allow comparison of pre- and post-responses for the analysis. However, no respondent was identifiable outside the study. As this was categorised as an audit for NHS purposes, full NHS research ethics approval was not required. The study followed the ethical guidelines of the Department of Information Studies, University of Wales Aberystwyth.

Methods

A prompt sheet was devised by the researcher (TP) by first considering the stages of a call, and the type of questions, and subject areas that should be covered. The prompt sheet was piloted with a group of six health information advisers, of varying experience. The revised sheet was circulated to five experienced health information advisers, two of whom were involved with the pilot, and minor amendments made.

The prompt sheet reminded the advisers to check:

- What is the caller's inquiry (specific illness, diagnosed/suspected or a worry, tests/surgery – done or planned), drugs (dosage, period taken), complementary therapies?

- Who is the call about (self, partner, family, who else is involved – GP, social worker etc)
- How (recent or longstanding is the illness, how much is already known, how did they find out?)
- Why (have they called today – specific need?)
- Outcome (to read, send, further research required?) Remember to quote sources
- Organisations (phone number, address, website)
- Special needs (urgent, and by when, particular requirements)
- Conclusion (restate what NHS Direct will do now (and/or when)

The same questions were used at pre-test (after initial training but before taking calls from the public) and post-test. Questions were designed to be sufficiently diverse to capture the required range of expertise, and ten questions were devised, with the help of the six health information advisers in the pilot. The assessment matrix comprised pre-determined categories and content of responses (highly relevant, relevant, potentially relevant, minimal relevance) and responses outside that list had to be considered on their merits. The question

topic chosen to pilot the assessment matrix was a common inquiry topic, asthma, and the matrix (and scoring system) examined to ensure that the questions (and scoring framework) could differentiate performance. Emphasis was placed on the type of information the adviser would need to obtain. The responses from the six advisers in the pilot could be allocated among the relevance categories, and the majority of the advisers' responses fell into the highly relevant category, as expected.

The questions chosen for the pre- and post-test were based on experience of the type of topics received at NHS Direct and the type of detail initially offered by an inquirer. The type of calls (about drugs, meningitis, treatment options, and cancer) would be covered in training, and novice health information advisers should provide adequate responses. The ten questions chosen were:

1. My friend has a breast lump and is worried
2. I have been told my child's skin problem is eczema and I need more information
3. I saw the GP about some menopausal symptoms but am worried about taking the HRT he prescribed
4. A work colleague has been diagnosed with meningitis and I want to know more about the illness
5. My teenage son has acne, and I'd like to know more about treatment
6. I'm taking Prozac and want to know more about it
7. I'd like some information on knee replacements
8. I have cancer
9. I'm on Warfarin

10. The GP is going to arrange tests

The five experienced health information advisers were asked for comments on the ten questions, but no suggestions were received. The scoring system gave higher scores to highly relevant responses, but the total possible score varied with each question as the number of questions that could be asked varied, as did their relevance. For every question, existing knowledge, specific concern, and information need should be assessed, and status of diagnosis is usually very important. Callers may be asking for information for themselves, although posing the question as for a friend, and it is often potentially relevant to establish that. Table 4 provides an example score framework for question one.

In the pre-test, the experimental and control group participants were given as much time as they wanted to answer the questions, up to a 25 minute maximum for all ten questions in a written test. After testing, the advisers were divided into their groups, and the control group returned to their duties, while the experimental group was given brief instructions on the prompt sheet, in which they were requested to consult the prompt sheet regularly, and notified that they would be asked to complete an evaluation sheet on the use of the prompt sheet at the end of the study. The experimental group subjects were asked not to discuss or share the prompt sheet with other staff. In practice, it was difficult to assess whether compliance with use of the prompt sheet was thorough, or whether the experimental groups shared the prompt sheet with the control group. The same questions were asked at post-test, approximately two months later, under the

Highly relevant (score 3)	Relevant (score 2)	Potentially relevant (score 1)	Minimal relevance (score -1)
Diagnosed?	Type	Self or other	Medicines
GP/consultant involvement	Gender	Age	Other medicines
Symptoms	Treatment/care plan	Co-morbidity	Menstrual cycle
Duration of episode/timescales	Medical history	Prognosis knowledge	
Tests	Family history	Support	
Existing knowledge			
Specific concern			
Information need			
Possible score =24	Possible score = 10	Possible score =5	Total possible score = 39

Table 4. Assessment matrix for question one

same timing and test conditions as the pre-test.

Results

Results are presented for the 26 participants who completed the trial. For the pilot asthma question, the average score was 12.3, and the question scores in the trial were similar.

Changes in overall performance

The average scores obtained across pre-test and post-test, and across all questions ranged from 7.9 to 14.4. On average, scores improved from pre-test to post-test, and without exception the average scores improved for each question (Table 5). The mean score per question at pre-test was 9.6 (standard deviation 1.66), and the mean score post-test was 11.1 (standard deviation 1.61). The post-test and pre-test scores were significantly different (t-test, $t=12.5$, $\text{dof}=9$, $p<0.01$). Making a more conservative assumption that the t-test conditions of normal distribution are not satisfied, and that non-parametric testing should be applied, the pre-test and post-test scores remain significantly different (Wilcoxon

signed ranks test, $T=0$, $n=10$, $p<0.01$, one-tailed test).

Differences between the experimental group (prompt) and control group were examined in various ways and are described below. The experimental group improved more than the control group on eight of the ten questions. The control group improved more than the experimental group on only two questions (question 4 and question 10) and the difference for question 10 was small (Table 6). Question 5 showed the most improvement of all the questions and the majority of the improvement was from the experimental group. The experimental group's overall improvement on the questions was significantly better than that of the control group (Wilcoxon signed ranks test, $T=4$, $p<0.05$, two-tailed test). To assess whether the improvement was due to an increase in the number of potentially relevant responses, at the expense of the highly relevant responses, the differences in total 'highly relevant' scores of the experimental group and the control group were compared. Over ten questions, the experimental group's score for highly

		Pre-test	Post-test	Difference
Q1	Breast lump	10.4	11.7	1.3
Q2	Childhood eczema	10.7	12.3	1.6
Q3	HRT/menopause	9.1	10.1	1.0
Q4	Meningitis	8.2	9	0.8
Q5	Teenage acne	7.6	9.7	2.1
Q6	Prozac	10.3	11.9	1.6
Q7	Knee replacement	7.9	9.5	1.6
Q8	Cancer	13.2	14.4	1.2
Q9	Warfarin	9.1	10.8	1.7
Q10	Tests arranged by GP	9.3	11.2	1.9

Table 5. Average scores for each question, pre-test and post-test

		Experimental (prompt)	Control
Q1	Breast lump	22	11
Q2	Childhood eczema	30	13
Q3	HRT/menopause	19	8
Q4	Meningitis	5	14
Q5	Teenage acne	49	6
Q6	Prozac	34	7
Q7	Knee replacement	36	4
Q8	Cancer	19	11
Q9	Warfarin	28	18
Q10	Tests arranged by GP	23	26

Table 6. Difference in increase in scores at post-test

relevant responses increased from 1083 to 1272 (an increase of 189 points, equating to 63 additional aspects noted) and the control group increased from 1110 to 1215 (an increase of 105 points, or 35 additional aspects). For the relevant responses, the score for the experimental group changed from 102 to 154 (an increase of 52 points, or 26 additional aspects noted), and the control group increased their score from 116 to 128 (an increase of 12 points, 6 additional aspects).

Changes in individual performance

Sixteen health information advisers showed a net increase in their score over all ten questions, and ten of these were from the experimental group, six were control. The post-test score for an individual on a particular question did sometimes decrease from the pre-test score, but all 26 improved on at least one question. Fifteen (9 experimental, 6 control) improved at post-test on five or more questions.

HIA #	Prompt (experimental)/Control	FT/PT	Previous call- handler?	Net score increase	Site
4	Prompt	FT	N	75	1
14	Control	FT	Y	67	4
18	Control	FT	Y	52	6
28	Prompt	FT	Y	50	8
10	Control	PT	Y	42	1
8	Prompt	PT	Y	41	3
6	Prompt	FT	N	38	2
3	Prompt	PT	N	31	1
1	Prompt	FT	N	25	1
11	Control	FT	N	18	2
25	Control	FT	Y	16	3
5	Prompt	FT	N	10	2
15	Control	FT	Y	10	4
7	Prompt	FT	N	8	2
29	Prompt	FT	Y	5	8
17	Prompt	FT	Y	2	6

Table 7. Characteristics of the 16 health information adviser (HIA) 'improvers'

The group was too small to permit proper statistical analysis of some of the factors that might also affect improvement. For example, some of the participants had previous experience as a call handler, and some would have more time to practise as they worked full-time rather than part-time. Of the sixteen 'improvers' who had shown a net increase in score over ten questions, seven had not had previous call handling experience, and nine had (Table 7). A Mann-Whitney U test indicated that there was no significant difference ($n_1=7$, $U_1=29.5$, $n_2=9$, $U_2=33.5$) between those with previous call handling experience and those without. A similar Mann-Whitney U test for the effect of full time or part-time was just significant ($n_1=13$, $U_1=6$, $n_2=3$, $U_2=13$, $p < 0.05$) as $U=6$ just meets the level for significance. While plausible, this would need further testing with a larger sample. The data indicated that some sites were not represented among

However, only one participant was recruited from site 5. For site 7, it is possible that there were some site-specific conditions, as all three of the participants there were in the top scorers at pre-test, but none were in the top 16 improvers.

The characteristics of the 22 of the 26 participants were examined to assess whether there was a possible ceiling effect operating among some of the participants (Table 8). This would occur if participants were already skilled to a high level after initial training, and might be indicated by high pre-test and post-scores, but no improvement. Only four health information advisers (HIA 5, 17, 21 and 22) fall into this group. Another four (HIA 6, 10, 11 and 14) scored well at pre-test, post-test and were in the top 13 improvers. Five (HIA 7, 16, 19 20, and 30) feature only in top pre-test group, but do not appear to have improved much.

HIA#	Top 13 pre-test	Top 13 post-test	Top 13 improvers
1			Y
3		Y	Y
4		Y	Y
5	Y	Y	
6	Y	Y	Y
7	Y		
8		Y	Y
10	Y	Y	Y
11	Y	Y	Y
14	Y	Y	Y
15			Y
16	Y		
17	Y	Y	
18		Y	Y
19	Y		
20	Y		
21	Y	Y	
22	Y	Y	
25			Y
28		Y	Y
29			Y

Table 8. Characteristics of individual changes among health information advisers (HIAs)

Five were in both the top group at post-test and among the top improvers. Four of these had received the prompt instructions.

Discussion

The findings of this study indicate the effectiveness of the prompt sheet in improving the reference interview skills of new recruits to the telephone helpline service. Several of the training methods advocated for reference librarians, such as peer coaching (Ross, Nilsen and Dewdney) or class training are costly in terms of staff time. In the NHS Direct setting, initial training followed by use of the prompt sheet appeared successful in improving the quality of the reference transactions. The results also suggest that there are individual differences as some staff did not improve,

whereas others improved significantly. This individual variation, together with the small sample size, limits the generalisability of the findings. Some of this improvement may be a result of factors beyond the control of the study such as discussions with managers, following an audit of calls. Experience may help, but the prior experience of being a call handler did not seem to affect the scale of improvement, although more experience in the health information adviser post at NHS Direct may be an influence. However, the study did not measure the actual number of hours worked by the participants, nor was it possible to assess the type of inquiries that were handled by the participants over the period between pre-test and post-test. The impact of the prompt sheet intervention may be limited to a short period after initial

training. Another factor that needs to be taken into consideration is the degree of flexibility in duties, as health information advisers may sometimes help out with call handling duties. The main limitation, as already mentioned, was the small number of participants.

The final version of the prompt sheet was structured but not as detailed as earlier versions and this may have contributed to the success of the intervention. Other studies (Booth, O'Rourke and Ford; Wildridge and Bell) also indicate that librarians may prefer a looser structure, rather than following a rigid protocol for the reference inquiry.

Performance at a test may not be a good judge of performance in routine inquiry work, but to test otherwise would have been very difficult. Sites for NHS Direct are geographically dispersed, and observation would have been time consuming. In addition, there is no guarantee that observed performance is identical to performance when not observed. Comparison of performance against different questions, from different inquirers would be unreliable. On the other hand, supplying written answers is not the same as conducting a reference interview, and some health information advisers may be better, or worse at the interaction, and sequence of the interview, moving from response to next question, than their written responses might indicate. The pilot test, with the experienced health information advisers, indicated that the score would very rarely exceed one third of the total possible score.

The ten questions used were typical of NHS Direct inquiries. There seems no particular reason why question 5 (on acne) should have shown the most improvement in the quality of response, but there was sufficient range in responses to suggest that the

questions were effective in differentiating performance. The questions and scoring worked as might be expected for the range of skills among the participants. Even if some participants were already 'highly skilled', the questions and scoring helped to identify overall improvement (or not), and the different weighting given to highly relevant responses helped to differentiate between good and very good performances.

Research indicates that those seeking health information vary in their attitudes towards the timing and the quantity of information required. Some want to know everything as soon as possible and others prefer not to know everything immediately (Baker). The responses to the questions were scored on the assumption that most inquirers wanted a full response, although some information is often sent on later. An audit of calls would be necessary to decide whether some callers genuinely do not want a full response at the time, and how health information advisers can assess when the inquirer has obtained sufficient information for their particular needs. By sending more information separately, the health information adviser provides a compromise that may work well.

Conclusion

The findings of the study are particularly relevant to call centres or health information services that handle a large number of inquiries. The findings indicate that a simple prompt sheet helps most health information advisers to structure their reference interviews with clients, to ensure that all relevant aspects of the inquiry are covered. The prompt sheet is not a substitute for initial training, but probably helps to consolidate training. There were some indications that there are some differences in practice among the NHS Direct sites and these may affect the degree of improvement that may be obtained for some individuals. Although the experimental group's

improvement was significantly better than that of the control group, the findings in no way indicate that individual performance is consistently better. There were differences within the groups that suggest that some people may have a better aptitude for inquiry work. Individual responses to some inquiry topics vary and some health information advisers may handle certain inquiries better than others.

Further research might assess how the prompt sheet was used, and how frequently it was used. There was no objective means of assessing compliance with use of the prompt sheet by the experimental group, and it was not possible to be sure that control group had not accessed the prompt sheet. Research with a larger cohort, at one site, might help to ensure that experimental and control groups are kept separate, as far as possible, to reduce 'contamination'. Audit of live calls would provide another perspective of the performance, and the nature of advanced expertise, as the written test only provided an indicator of true performance in the conversational turns of a reference interview.

Declaration of interests, and authorship

During the study the first author (TP) was a health information manager at one of the NHS Direct sites. The paper was prepared by CU, in collaboration with TP, and with comments from JC.

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