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Evaluation of the KA24 (Knowledge Access 24) service for health and social care staff in London and the South-East of England. Part 2: Qualitative

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Abstract

Aims and objectives. The aim of this two-part paper is to identify the main transferable lessons learned from both the quantitative and qualitative evaluations of the KA24 (Knowledge Access 24) service of online databases and selected full text journals for health and social care staff in London and the South-East of England. The objectives of the qualitative evaluation were to assess the enablers and barriers to usage, and to assess the impact of the service on patient care.

Methods. Telephone interviews (n=65) and a questionnaire survey (n=296) were conducted with various types of user, in various Trust settings. Some non-users were also contacted. Selection of interviewees and questionnaire recipients was not random, and aimed to cover all groups of users representatively.

Results. Results show that policy goals were being delivered, with indications of changes to clinical practice, and improved clinical governance. Promotion, training and support needs to be extensive, and tailored to needs, but users are not always aware they need training. The sharing of passwords cast doubts on the reliability of some usage data.

Conclusions. Digital health library services, delivered at the point of care, are changing the way some clinicians practise. A combination of qualitative and quantitative evaluation methods are needed to assess digital library services.

Introduction

This paper describes the qualitative evaluation that was conducted after the quantitative evaluation¹, and focuses on the type of clinical and educational benefits that users perceived.

Common assumptions are that evaluation involves a comparative judgment of the value of an intervention or programme against criteria² and that programme evaluation involves the systematic collection of data about the activities and outcomes of programmes. Evaluation may be formative, with an emphasis on ongoing learning and adjustment, or summative, which measures the outcomes at a chosen endpoint. Formative evaluation of a health digital library service, and associated training and support, might examine whether, and how the users felt more confident and competent, and what their views on benefits were. Summative evaluation might simply be concerned with the changes in the quantity of usage of the service, or it could try to measure the overall changes in confidence and competence among some user groups. Increasingly, digital library evaluations cannot ignore general Internet

searching among the public and evaluations may consider how Web information seeking behaviour affects attitudes towards use of digital libraries, and collections of specialist materials³. Some digital library evaluations focus entirely on the process of development of a digital library, taking a longitudinal perspective on the research.⁴ A review of the methods that could be used to evaluate digital libraries in the health sector concluded that none of the models reflected the full complexity of information behaviour in the health sector.⁵ An associated review of some of the digital health library initiatives (e.g. the review of the pilot NeLH⁶ and the business scorecard approach developed for the Medical Libraries Association⁷) concluded that dimensions of timeliness and efficiency, performance and reliability, need to be accompanied by evaluation of the clinical outcomes, information on benefits and the users' effort.⁸ Inputs, processes, outputs and outcomes should encompass measures of extensiveness, efficiency, costs, quality and effectiveness. Inevitably, this could take time and resources, and in the KA24 evaluation the quantitative evaluations were conducted at different times to the qualitative evaluation.

Approach to qualitative evaluation

Aims and objectives

The aim of the KA24 evaluation was to examine patterns of usage, to explore reasons for high and low usage, and to examine how the benefits of use related to policy objectives. The quantitative evaluation assessed what was happening in terms of usage, the qualitative evaluation explored how quality and utility were defined from the user perspective, and related the perceived benefits to organisational aims.

The qualitative evaluation objectives were to:

- re-assess the enablers and barriers to KA24 use.
- assess the impact of the service on patient care (in terms of improved clinical competence, improved governance arrangements, and quality of patient care)

Methods

In the online survey conducted in May 2003, respondents were asked if they were willing to be contacted for interview, and if so, to provide contact details. These formed the basis of a qualitative survey conducted during the summer of 2003 by a small team (Jane Durbin and Christine Urquhart) from the Department of Information Studies, University of Wales Aberystwyth. The evaluation was done independently, but the team consulted with the KA24 project team regularly. The plan agreed after a teleconference in June 2003, involved:

- interviews with 30 daily users, 10 first time users, 10 infrequent and less experienced users (to be drawn from around 100 who had agreed to be contacted in the online survey - 40 acute hospital staff, 40 primary care and 20 mental health/specialist trust). A group of 10 non-users would be included for interview if these could be identified. (Target total 60 interviews)
- questionnaire to be sent to a group including those not registered for KA24 (700 in sample, drawn from all the workforce development confederations covered by KA24, and including a range of types of trust for each).
- interviews with librarians (5-10) responsible for training and publicity

The sampling was a convenience sample, although care was taken to include a range of sites, and type of occupational role. Non-users were identified in two groups: those

who had registered as users but whose user names had never been used (selected at random from the usage data); and those who had never registered (selected at random from NHS e-mail data and then by exclusion from the user data). Selection was done by the KA24 team, and permission for the release of personal data to the evaluation team was obtained from each individual.

The interview schedule was intended to cover the main points requested for the evaluation, on processes and fit with policy objectives:

- publicity and registration – is this an easy process? (Question 1)
- expectations – is the target marketing and promotion correct? (Question 2)
- experience of use – where is additional support required and are there priorities for usability improvements? (Question 3)
- benefits realisation – just how does the service benefit patient care and clinical governance, and what are the barriers (Question 4)
- working patterns – is KA24 fitting into work practice/routines – whom else do users ask, and where else do users look ? (Question 5)
- training and support – does this appear effective? (Question 6)
- perceptions of confidence and competence – do some users value additional support or mediated searching? (Question 7)

The questionnaire was intended to complement the interviews, by examining:

- reasons for registering but not using the service
- reasons for not registering
- good and bad experiences of using the service
- support required.

Interviewees were contacted by telephone and a time for interview was arranged. Interviews were recorded, with the interviewee's permission, and the interview transcribed.

The number of interviews obtained was 65 in total (56 for users, 9 for library managers) (Table 1). Response rate for the questionnaire survey was 42.8% (296/700).

Category of user	Totals	Daily user	Infrequent	First time	Non-users	Library managers
Consultant	5	2	1	1	1	
GP	1	0	1	0	0	
Practice Nurse	0	0	0	0	0	
Junior doctor	7	4	2	1	0	
Hospital Nurse or Midwife	11	2	3	5	1	
Community Nurse or Midwife	1	0	0	1	0	
Allied Professional	10	6	3	0	1	
Scientific or Technical	4	2	0	1	1	
Researcher	2	0	0	0	2	
Manager/admin	4	2	0	1	1	
Information Professional	20	11	0	0	0	9
Other						
TOTAL	65	29	10	10	7	9

Acute n=36 Primary Care (PC) n=11 Mental Health (MH) n=6 Other n=3 (including Ambulance, Social Services, HE-related)		Acute n=20 PC n=4 MH n=3, Other n=2,	Acute n=7 PC n=3	Acute n=5 PC n=2, MH n=2 Other n=1	Acute n=4, PC n=2, MH n=1	
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Table 1 Distribution of interviewees by role and type of usage

Site (WDC)	Total questionnaire respondents	Total interviewees, of which:	Daily users	Infrequent	First time	Non users	Librarians
Thames Valley (BOB)	40	6	1	2	1	1	1
Hampshire & Isle of Wight (HIW)	22	6	2	0	2	0	2
Kent Surrey & Sussex (KSS)	78	12	5	2	1	2	2
North West London (IWL)	51	16	9	2	3	1	1
North Central London (NLC)	15	8	3	1	2	1	1
South East London (SEL)	39	12	6	2	0	2	2
South West London (SWL)	25	2	2	0	0	0	0
North East London (TPM)	26	3	1	1	1	0	0
Totals	296	65	29	10	10	7	9

Table 2 Distribution of interviewees and questionnaires by area (WDC)

Category of user	Number received	Percentage of total (%)
Consultant	17	5.8
Junior doctor	24	8.1
Hospital Nurse or Midwife	74	25.0
Allied Professional	7	2.4
Pharmacist	63	21.3
Manager/admin	17	5.8
GP	29	9.8
Practice Nurse	6	2.0
Community Nurse or Midwife	6	2.0
Scientific or Technical	5	1.7
Researcher	18	6.1
Information Professional	12	3.0
Student nurse/medical student	13	4.4
Clinical attachment/observer	3	1.0
Other unspecified	2	0.7
TOTAL	296	

Table 3 Distribution of questionnaires by role

Results

Qualitative sampling and response

The 738 online survey responses that indicated willingness to participate in interviews were grouped into daily users, infrequent users (using KA24 less than once a month), middling users (using KA24 on a variable basis, somewhere between a couple of times a week to once a month), and first time users. Comparison of the subgroup with

the entire group (Table 4) indicated that the subgroup pattern of purposes was similar to that of the total group, with the exception of research purposes (proportionally smaller in the subgroup) and the mixed purposes (including patient care) (proportionally higher in the subgroup). The staff profile of the sub-group is also very similar to that of the whole group. The subgroup of volunteers for the qualitative study, seems, therefore, to be reasonably representative of the main group of respondents.

Reason for using KA24	Grand total n=3709 (%)	Totals n=738 (%)	Daily users n=48 (%)	Variable and occasional users n=479 (%)	Infrequent users (less than once a month) n=57 (%)	First time users n=154
Directly related to patient care	509 (13.7%)	103 (14.0%)	15 (31.3%)	78 (16.3%)	10 (17.5%)	0
Research	715 (19.3%)	117 (15.9%)	5 (10.4%)	101 (21.1%)	10 (17.5%)	1
Coursework	566 (15.3%)	101 (13.7%)	7 (14.6%)	82 (17.1%)	12 (21.1%)	0
CPD	217 (5.9%)	46 (6.2%)	4 (8.3%)	30 (6.3%)	12 (21.1%)	0
More than one reason, including patient care	688 (18.5%)	180 (24.4%)	10 (20.8%)	160 (33.4%)	10 (17.5%)	0
More than one reason, not including patient care	133 (3.6%)	21 (2.8%)	3 (6.3%)	17 (3.6%)	1 (1.8%)	0
Other	66 (1.8%)	14 (1.9%)	3 (6.3%)	10 (2.1%)	1 (1.8%)	0
No answer	815 (22.0%)	156 (21.1%)	1 (2.1%)	1 (0.2%)	1 (1.8%)	153 (99.3%)

Table 4 Profile of reasons for using KA24 (online survey, May 2003)

Profile of usage (from the online survey)

Of the 48 daily users, 52.1% needed the information when they last used the service for a reason which included patient care (Table 4). Most (83.3%) had obtained the information they wanted, and most (91.7%) find the KA24 service very useful. Of the 57 infrequent users, the reasons for using KA24 were spread across patient care, research, and formal education, with 35.0% of the searches related to patient care. Over half (54.4%) had found the information they wanted. Unsurprisingly they were less enthusiastic about the service than the daily users, with only 49.1% claiming it was very useful. The 'middling' users' pattern sat in between, with 49.7% wanting information for reasons that included patient care, and most (72.0%) had obtained the information they wanted. The majority (79.3%) of 'middling' users find the service very useful.

Profile of the non-users.

The non-users were (as might be expected) rather more difficult to contact. Some were not in fact 'non-users' as they had mislaid their registration details and were using the services under someone else's password, or else were using their university access rights to obtain some of the journal articles they required. One had left the area. In the interim some had in fact used the service although at the time the sample was drawn up they had registered but not used the service.

Overall profile

The online survey respondents (n=3709) were dominated by the more experienced user group with 67.8% of responses coming from experienced users (had used KA24 five or more times), 11.9% from less frequent users, 19.4% from first time users (and 0.9% provided no answer to this question).

Educational benefits

The full results of the qualitative analysis are available in the evaluation report.⁹ Results here are presented by benefits to the service in terms of clinical governance (education and the links to improved clinical practice). Interviews revealed that the big advantage of KA24 is access to full text journals, rated higher than access to databases by the majority of health professionals. The daily user group divided into three groups: the librarians, the drugs information professionals/pharmacists and the clinical staff. Of these:

- Clinical staff stressed the attraction of access to full text journals (12 mentions, 1 mentioned databases as well)
- Medicines information staff stressed the importance of EMBASE access (6 mentions, with 1 mentioning full text journals as of equal importance).
'Definitely and the main thing is the access to EMBASE, and to use the OVID interface....one thing we have found very helpful is the access to the full text journals.'
[pharmacist]
- Librarians were more likely to view the advantages of more databases and full text equally (7 expressed no particular preference, 1 mentioned full-text as the main attraction and 1 mentioned access to more databases as the main attraction.

Although KA24 started off as a database service, with access to full-text journals as an add-on, it seems that for the clinical community, core content to them would mean access to full text journals, not databases.

The importance of educational benefits was confirmed by the questionnaire findings. The main groups of questionnaire respondents were junior doctors (25.0%), hospital nurses and midwives (21.3%), allied health professionals (9.8%) and GPs (8.1%), and the pattern of benefits (Table 5) shows the importance of KA24 services for coursework and updating. .

Table 5 Benefits of using KA24

Benefit opinion	Percentage in agreement (%) n=296
Frequently need to use KA24 for work	25.0
Don't need to use KA24 for work	2.7
Occasionally use KA24 for CPD/coursework	28.4
Occasionally use KA24 for clinical guidelines / clinical governance	20.6
Occasionally use KA24 for general updating	19.9
Occasionally use KA24 for care of patient	17.9
May need to use KA24 in future	30.1
Use KA24 for research-related purposes	29.4

Clinical impact

As Table 5 indicates, KA24 is also being used to support clinical governance and evidence-based practice, but perhaps not embedded within clinical practice as use is mostly occasional rather than frequent. Benefits to clinical practice are, however, being realised, and some changes were being made to practice. Previously, the time required to consult a database prevented a doctor from doing this in a short consultation, but providing accessible information is changing the way in which clinical practice is being conducted, as some interviewees among the daily users noted.

'Yes to the point sometimes I will leave the patient for a minute or two to access a certain article and come back and talk to parents, that is the way life is changing in the hospital and patient care is evolving.' [doctor]

'You can access for study or the latest literature on it very quickly, even whilst the patient's with you or maybe whilst they're getting changed for treatment.' [allied health]

Information obtained from KA24 underpins clinical decisions, both current and future.

'What I find gets discussed in our management decisions.' [doctor]

'We've got a couple of research groups here and each person will take a topic and investigate it...I think just being able to do from the computer's actually made a huge difference...to be able to collect that stuff immediately.' [junior doctor]

Even one first-time user, a community nurse, had noted that the search had helped patient care planning.

'About informing a proposal I'm doing for case finding in the elderly.'

A few daily users (junior doctors in particular) have a very clear idea of their ideal search environment.

'It would be nice also to have the different databases that are accessible through KA24 interlinked with each other so you can get a reference if they are full text available from another source, but I'm not sure if that's possible, like for example through Proquest you have access to full text journals and if there's a link with OVID, so if you're searching OVID then you get a hint that full text is available through Proquest.' [junior doctor]

Pharmacists working in drug information services have a structured approach to use of KA24, which is not their first port of call.

'We have a structure for the way we answer things, we tend to start with general sources like the British National Formulary, and the manufacturer product information and then we move on to background literature.'

Pharmacists cited a range of other resources used as well

'Wide range of paper resources in department and in library, as well as other databases such as Pharmline and the American IDIS service.'

'I've also got a paper database, basically I've got books, I've got reference books in the department, journals as well and a lot of paper information that I've collected on specific subjects. I've also got access to other things on CD-ROMs, like the Micromedex database. I've got access to specialist databases from like the Committee of Safety of Medicines, we are very well resourced actually.'

To become embedded in practice KA24 services need to answer questions clinical staff may be asked. The value-added aspects of journal and database services may deserve some attention.

'There was another site which had maps for vaccinations, you typed in the country a person was going to and it came up with a list of vaccinations they needed, the practice nurses were really wowed by that and used it immediately.' [librarian]

Digital library development

Promotion

Library staff appeared to be informing potential users about the service, and information sheets in the library are also used. Supplemental advertising such as flyers, or posters were mentioned (though rarely) – there may be a subconscious registering of information in a payslip but it seems likely that general campaigns such as putting information in payslips has to be accompanied by more direct promotion. Most libraries saw only one new user a day, which implies that clinical champions or contacts need to be used to persuade staff to use the service. Examples of enthusiast departments identified in the survey include:

- practice development units
- clinical audit
- research projects (including systematic review projects) / research nurses
- clinical governance
- medicines information/pharmacies

Clinical champions act as if they were doing academic detailing:

'I'm in medical and clinical audit and so whenever we have consultations with doctors they sit at my side and the first thing we do is examine a topic, examine the critical literature...I do find when we ask the doctors "are you registered with KA24" they would say "What's that?" I demonstrate via access through my own system... the next thing I do is I email immediately our library manager and say this is ...please bring them up to speed, make sure they're registered...most health professionals are flooded with so much...really...the best way is to promote is by direct working encounters.' [manager]

Some users come across KA24 through continuing professional development activities:

'People who go to journal club or something or they're students and it's part of their course, or they've been told by somebody to come in.' [librarian]

Training and support

Those who had received training from the library had found this useful, but a large proportion of the interviewees did not see the need for formal training, particularly when this is difficult to undertake with the variable nature of their clinical workload. Nearly one in ten of the questionnaire respondents did not see the need for training at all. Around half the questionnaire respondents had received some sort of the training, usually informal training from the library on an 'as and when' basis. Interestingly, and probably a reflection of the amount of searching done at home, questionnaire respondents used the online guides within the databases as much as advice from colleagues. Working through tutorials was not as popular as specific advice when required, presumably. Adding up the figures from the questionnaire survey suggests that there is a training gap. If 50% have received some training, 10% are not

interested at all, and around 10-20% are making use of online guidance or colleagues' advice, then that leaves 20-30% who might appreciate some training.

One of the main advantages to the users of using KA24 is saving time, over other means of obtaining the same information:

'It's made the information so much more accessible, I would have to be phoning other people to do searches for me because previously before we had this if we wanted to do an EMBASE search or a MEDLINE search I had to get somebody else to do it for me because I didn't have access, but now I've got access to so much and it's absolutely...saves time because I can do more on my own.' [allied health practitioner]

Time saving is a benefit and several interviewees expressed interest in some assistance or advice on 'shortcuts' or more advanced features they could use to save time and obtain a better focused search. Libraries might promote 'help-desk' support more, as that would give them better insight into the routine problems (and successes) experienced in their locality.

There were many similarities across all the groups (daily users, first time, infrequent, and non-users) in general feelings of competence and confidence in searching. It cannot be assumed, therefore, that a first-time user is a novice searcher, nor that infrequent users see themselves as such. The number of regular Internet users across the interviewees was startling, and confirmed by the questionnaire data which indicated that nearly three in four of the questionnaire survey respondents used the Internet at least once a week. KA24 is likely, therefore, to be viewed as a search engine, although a special type of search engine.

Nearly two thirds of the questionnaire respondents could access the Internet from home, and nearly half from their own PC at work. A third had access to a shared PC, or a public PC at work. Only 6% reported problems in access to a PC at work, although some staff in mental health trusts reported they had no option but to use the KA24 service from home.

The analysis indicated that it might be more appropriate to target training and support according to the type of activities or purposes, rather than the competence and confidence of the users. For example, several groups of users could be identified from the interview data:

- A) Novices, possibly using KA24 to help in coursework, with less confidence using computers (often nurses)
- B) Internet-savvy, using KA24 for coursework and also some research at work (often allied health professionals)
- C) Research active/researchers/ audit or practice development, using KA24 on a regular basis for work, likely to have had (or to have) experience of HE facilities
- D) Infrequent or occasional users who use KA24 for clinical practice or personal research interest as a supportive activity, and may use other resources (could include GPs)
- E) Information professionals (including medicines information and library staff)
- F) Junior doctors (often have good ideas for service enhancements)

Overcoming barriers

Although more training and support may encourage more uptake of the service, it is no guarantee that habits will change. Analysis of the comments of the infrequent users showed that some were attracted to the service by the range of resources, but, equally, easily put off if they could not obtain the journal they wanted.

'The thing I find most useful is the full text articles and I think the main frustration is when you're blocked from getting them, things like the cardiac ones.' [hospital-based allied health professional]

Among the infrequent users, there was little evidence that there were changes in the way they were practising in the clinical setting, although their use of the research evidence might be changing. Those who could search from work were more likely to comment that the service provided support for evidence-based practice, but this group did not, as a whole, make sufficiently frequent use of the service for KA24 usage to be embedded in practice.

'Mainly for researching clinical articles, finding better support and sometimes I use the books for educational and clinical practice support, evidence based that sort of thing.' [hospital-based allied health professional]

'I needed to look up some evidence for our project.' [primary care allied health professional]

The wish list was for more journals and having the entire library digital:

'I'd like it all to be full text then I'd never have to go to a library again, all from the comfort of my home, but I'm still satisfied with the service.' [hospital doctor]

Although this group may not use KA24 regularly they were all regular Internet users, and expectations of the database and journals are likely to be governed by their experience of search engine searching. Among this group, one commented on changes in general information behaviour:

'It [KA24] is becoming that way [first port of call]. I do like books and the business of doing a search....if I want quick up to date information on a particular condition I might just go on the textbook of medicine and look it up there...we have resources in the department but now I think I can look this up tonight on KA24.' [hospital nurse]

Among the 'non-users', some had plans to use the service for a specific, focused purpose, or had used it in that way (since the time the sample was devised).

'I'll use it primarily to look up articles on PsycInfo and whatnot for research we are doing at my job.' [researcher, primary care]

'I was planning to do a systematic review so it was for researching...yes I used it and found about 2000 articles...Now we've got all the results I may use it occasionally for a specific problem or a specific article...maybe twice a week or nothing for two to three weeks.' [doctor working in mental health]

Discussion

The evaluation methodology illuminated the problems of trying to define groups of users. While it is possible that the service usage data can be divided into usage patterns by frequency, the qualitative survey showed that one password did not necessarily correspond to one user. It was difficult to assess the true scale of this practice, as participation in the qualitative survey was voluntary. For training and support, frequency of usage might not provide good clues for targeting trainees for sessions. The qualitative evaluation did, however, differentiate some other user

groups, and help to profile patterns of need, and training needs. The interviews also helped to clarify where service champions might be found.

Cullen^{5 8} suggests that the controlled trial design of evaluation is not sufficient if some of the benefits need to be appraised. In this setting, working across a large number of NHS Trusts, a controlled trial design would certainly have been very difficult to apply, and the problems of password sharing would make quantitative analysis of usage statistics unreliable. Abels et al.⁷ (MLA recommendations) stresses the importance of finding criteria that link to organisational goals. Experience with KA24 project evaluation showed some advantages to staged evaluation. The initial quantitative evaluations were concerned, quite naturally, with the efficiency and technical perspectives as well as the clinical impact. Questions emerged about the processes (promotion and the training and support) and these required a qualitative study. It was not possible to do a full observational ethnographic study, but the interviews did give a better indication of the way KA24 services fitted into the use of the Internet at work and at home for all sorts of purposes. The interviews did not quantify how much time use of the service saved the interviewees over other ways they would have found the information, as was done for the pilot NeLH evaluation⁶, but both interviews and questionnaire findings indicated that service users valued the time savings as a benefit of the service. More importantly, the interviews revealed how clinical practice might be changing, in the patient-professional consultation and in audit of clinical processes. Such changes may be slow, although identifying preliminary changes in attitude towards clinical governance might be much easier. Research¹⁰ on ward-based digital libraries notes the attractions of electronic journals for many professionals, but the information and IT hoarding by senior staff observed in that study was not mentioned by any of the interviewees in the KA24 evaluation. Easier availability of KA24 to users over the Internet has probably made hoarding irrelevant, and for some professionals, at least, it seems to be acceptable to incorporate searching into routine clinical practice, rather than searching after work.

Conclusions

The qualitative and quantitative evaluation findings were complementary, and the qualitative findings illustrated how the service was changing practice. The generalisability of the KA24 evaluation findings is limited by the small number of interviewees, and the difficulty of obtaining a true random sample of opinion. It was difficult to find interviewees within the time period specified for the evaluation, and the evaluators had to rely on interviewees' subjective opinions on clinical benefits, which could not be checked against other records. Future surveys could focus more on the time savings, but these would have to be subjective estimates. The qualitative survey findings complemented the ongoing quantitative evaluation and clarified some of the enablers and barriers, as well as revealing aspects of service usage that would be hard to reveal with the quantitative data alone. Evaluation should be holistic, measuring effectiveness, efficiency and user-defined quality, from the way the service fits into the user's work, home and education environments.

Key messages

Implications for policy

Evaluation of digital library services should combine qualitative and quantitative approaches but evaluation may be a staged process.

Digital health library services, delivered at the point of care, are changing the way some clinicians practise.

Extensive promotion, training and support services are necessary for the users whose needs were previously unmet by the traditional library services, and who may be unaware of their training needs.

Implications for practice

Beware of password sharing when profiling users and usage from transaction log analysis.

Full-text journals are more attractive than databases to many users, and provision of full text journals is a major selling point in promotion.

Training and support strategies should be tailored to activities and types of professional, as well as the levels of perceived competence.

¹ Cumbers, Barbara, Urquhart, Christine & Durbin, Jane. Evaluation of the KA24 (Knowledge Access 24) service for health- and social-care staff in London and the south-east of England. Part 1: quantitative. *Health Information & Libraries Journal* 2006; 23 (2): 133-139.

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