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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 1: Quantitative

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Abstract

Aims and objectives. This two-part paper aims 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 quantitative evaluation analysed usage rates and user registration with the objective of measuring uptake by previously disadvantaged staff, and to inform the subsequent qualitative survey.
Methods. User and usage data were analysed by type of NHS Trust, by type of user, and by what was being used. The evaluation assessed development in user registration and usage of both databases and journals over a two year period. Data were aggregated and analysed both monthly and quarterly.
Results. Usage levels increased, but uptake in both the mental health and primary care sectors was comparatively slow. Nurses and allied professionals used the service more than doctors. The increase in usage of full text journals over the usage of databases was marked.
Conclusions. Previously disadvantaged staff used electronic resources. A qualitative survey was needed to identify the main enablers and barriers to uptake.

Introduction

KA24 is a service started in 2002 to provide electronic access to a selection of databases and journals to all health care staff in London and the South East, regardless of profession or workplace. Previously, staff in social care, the voluntary sector and hospices were not able to access services available to NHS staff, and some NHS staff, notably those in the primary care and mental health sectors, had their access restricted by location. KA24 has a much wider remit, and complemented the services available at that time to professionals and the public through the National electronic Library for Health (NeLH). As one of the aims of the service was to make provision of information services more equitable, training and support was intended to focus on the groups previously less well served. Accordingly, the evaluation objectives attempted to assess whether a more equitable service had been achieved. These two papers describe how the quantitative and qualitative evaluations were undertaken, and how the findings were synthesised to inform future service plans.

Aims and objectives

The quantitative evaluation aimed to assess results in terms of usage and user registration. Its objectives were to:

- measure usage of information services by previously disadvantaged staff;
- inform the subsequent qualitative survey.

Methods

Statistics of users and usage, by profession, by organisation and by individual (user name/password) were analysed. User statistics were analysed as a percentage of workforce wherever possible, to enable realistic comparison between sectors. Similarly, usage statistics were compared between sectors and between professions by analysis in proportion to users. An online survey was conducted in October 2002, and this, plus the regular statistics on usage, formed the basis of First Year Evaluation report published in March 2003 [1]. Despite early success in attracting new users, it became clear that there might be some underlying problems in extending the service to new user groups, and an online survey conducted in May 2003 provided the basis of the qualitative evaluation.

Results

Detailed quantitative data are given in the First Year Evaluation Report [1] and in the Twenty Month Evaluation Report [2]. Overall user and usage data for two years are shown in Figures 1 and 2 respectively. As expected, there is a fairly steady climb in user numbers, with dips occurring at the end of the first year when many user names expired. Usage data are less consistent, but are also as expected from the nature of the service, with peaks occurring in October and November with the start of the academic year, and dips in the summer. The major drop in usage in February 2004 is presumed to relate to the roll-out of a national service on core content with similar resources, at that time. Overall, usage shows a rise over the two years comparable to the rise in user numbers.
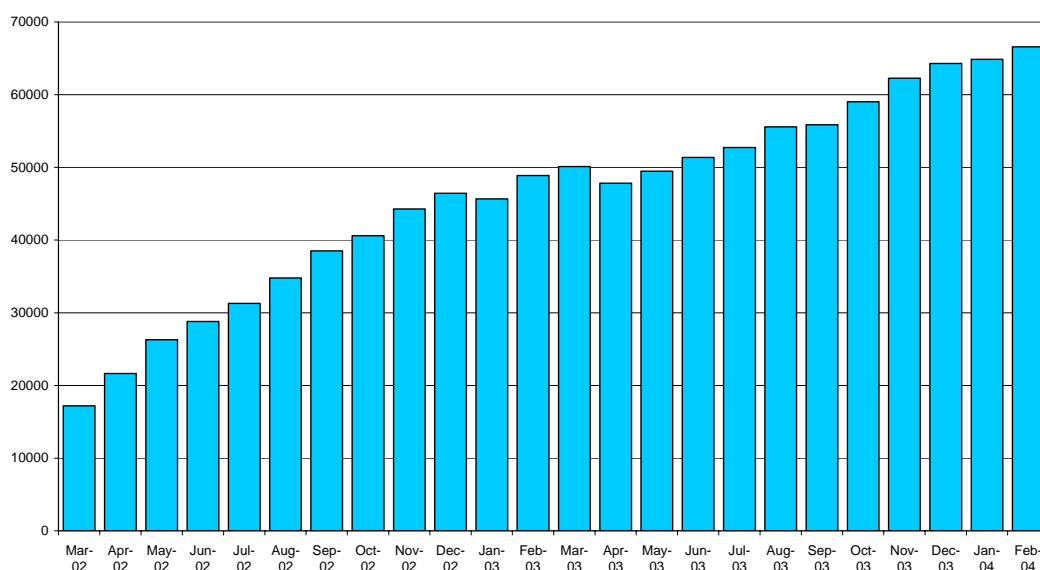
Figure 1. Registered users of KA24 for each month from March 2002 to February 2004
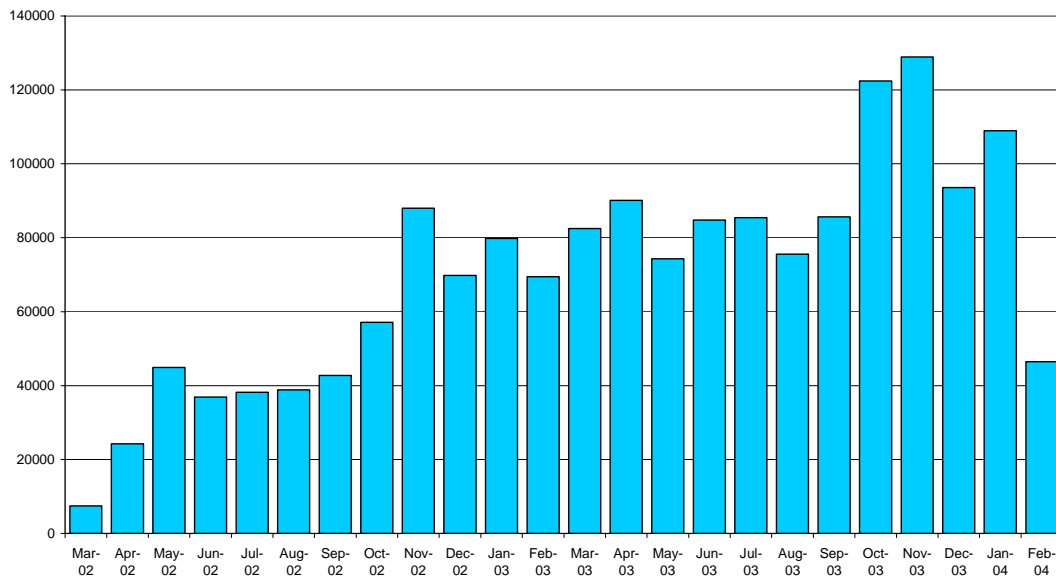

Figure 2. Usage sessions of KA24 for each month from March 2002 to February 2004

However, one of the purposes of the evaluation was to see whether KA24 is achieving its aims of reaching previously disadvantaged healthcare staff. To assess this, user and usage data were analysed by sector and by profession. The results by sector are shown in Figures 3 and 4. User figures are for February 2004 and are shown as a percentage of workforce[3] (September 2002 statistics, the latest available at the time), and usage data are shown as total sessions for the sector over two years divided by users as at Feb 2004.
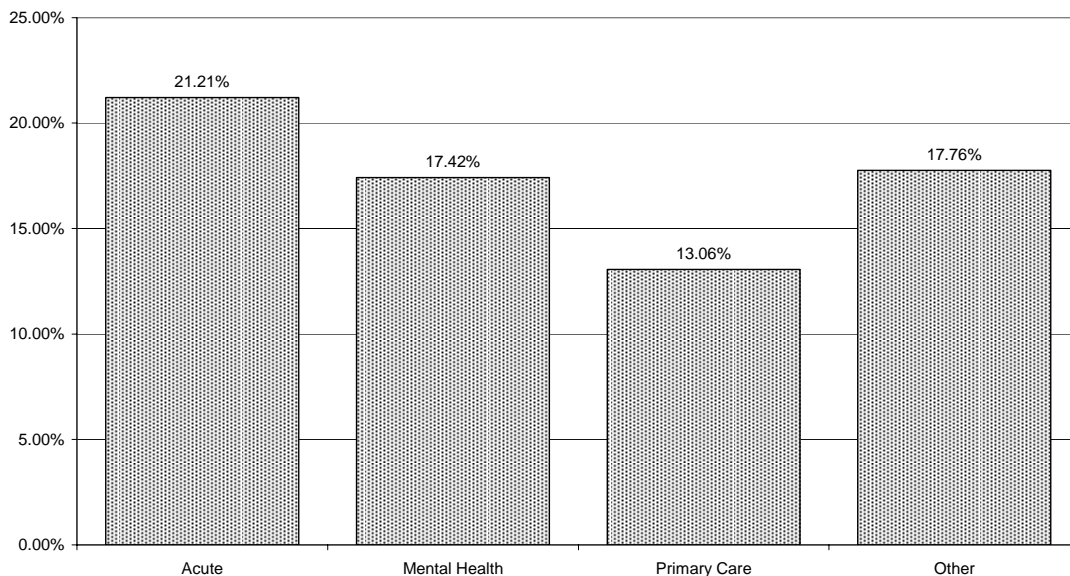

Figure 3. User registration as a percentage of workforce, by sector. Non-NHS staff are included in other users
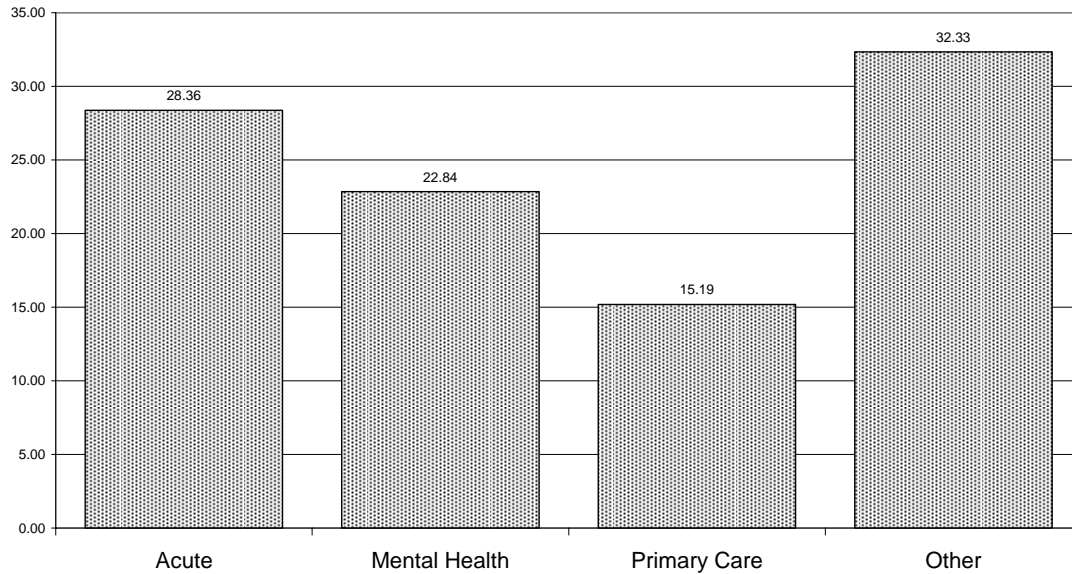
Figure 4. Usage sessions per registered user, by sector. Non-NHS staff are included in other users

Proportionally fewer staff are registered to use KA24 in the mental health and primary care sectors, and they use the service less than staff in the acute sector.

Some professions, notably nurses and allied health professionals, were also previously disadvantaged in information provision. Realistic analysis of user registrations by profession was not possible because workforce data were not available in sufficient detail. However, analysis of usage sessions per registered user by profession (Figure 5) is possible, and shows that doctors use KA24 less than the previously disadvantaged groups. The lower usage by managers was expected because KA24 contains little material specifically for this group.
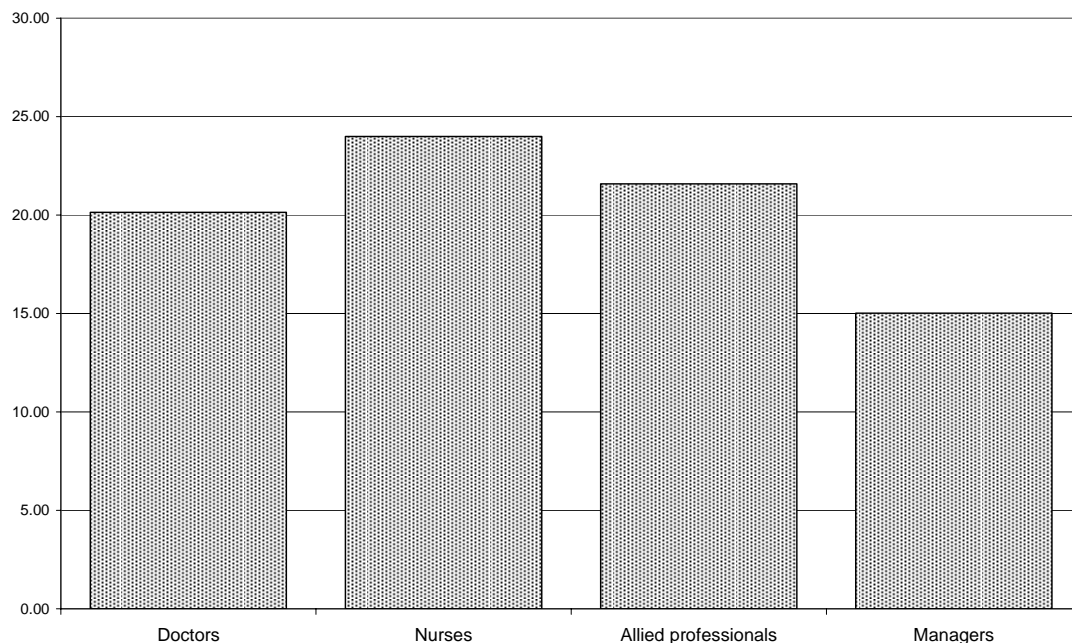

Figure 5. Usage sessions per registered user, by profession. Other usage has been excluded from this graph because it includes usage in libraries and by information professionals and is therefore disproportionately high.

One of the quantitative evaluation criteria set by the KA24 Project Board was for each trust to reach the average for its sector in the previous quarter in two values: the percentage of the workforce registered; and the percentage of registered users who are active users of the system. The idea was to target the under-average trusts in publicity and training, and was based on the assumption that other variables were similar for all trusts within the same sector. Data were cumulated for each quarter, and an average value for each trust obtained. This value was then compared to the cumulated figure for the next quarter. The percentages of trusts that achieved the targets are shown in Figure 6.
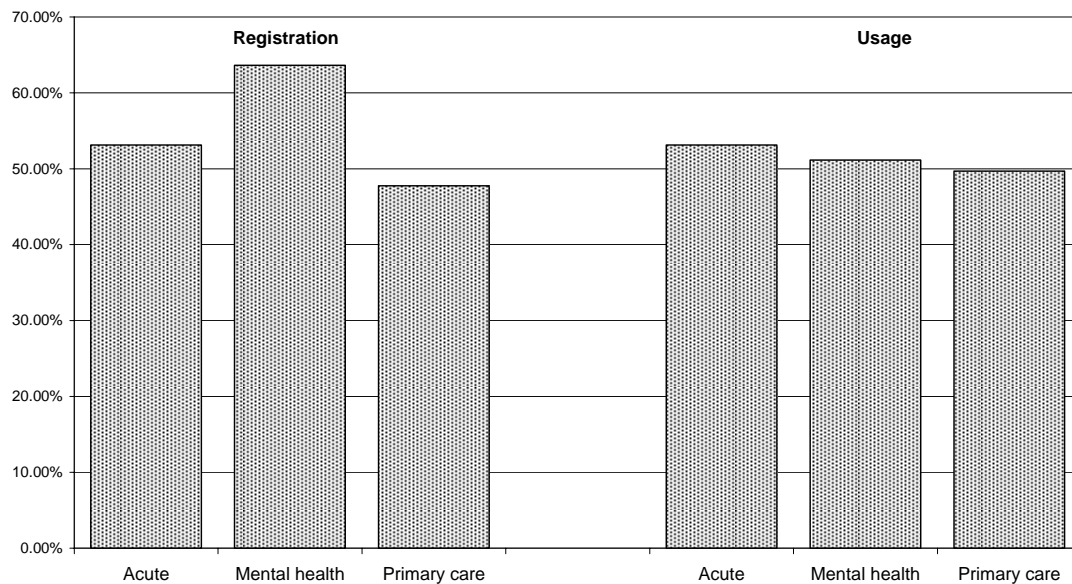

Figure 6. Percentage of trusts that achieved the target of the average for their sector in the previous quarter, in percentage of workforce registered (left) and in percentage of registered users who were active users (right)

The success rate was low (about 50%), mostly as a result of the unexpectedly high spread of values within sectors that put the average for that sector out of the achievable range of many trusts. Generally there was a loose correlation between trusts with high investment in libraries and those that achieved high registration and usage values.

The quantitative data also showed which resources were being used. The KA24 service was conceived as a database service, with the addition of selected full text journals. Analysis of the data showed that initially usage patterns reflected this, but that there was a significant change over the two years: the increase in usage of databases in year two over year one was 5.24%, whereas that of full text journals was 45.41%.

Discussion

The quantitative evaluation identified trends in uptake and usage, and raised questions about the reasons and the processes (promotion, training and support) behind them. It informed the qualitative study which is discussed in Part 2 of this paper, and the

overall conclusions for the evaluation are considered there. The discussion in this paper considers the implications of the usage patterns found in the evaluation.

One of the difficulties in assessing the success of digital library services is the lack of yardsticks for success of the services. The general pattern of service use may follow the Pareto rule, that 80% of use is by 20% of the users, and the enthusiastic 20% often have research interests. An evaluation of the pilot National electronic Library for Health[4] suggested that usage was skewed, with very frequent use by a minority of users and infrequent use by most users. It seems reasonable to assume that usage is likely to be dominated by those with research interests, or those who are on educational programmes, as educational and research purposes have traditionally been the main reasons for using library-based resources.

Few evaluations of networked health library services in the UK have examined the number of sessions per user, and the KA24 experience notes the problems of evaluating services in the early stages when there may be fluctuations in usage, and possible problems in access to IT, or service reliability that may affect usage patterns. Average usage per user is under one session a month, but that average may include a very active minority, with a large number of users making far less frequent use of the service. An evaluation of a service aimed at mental health and social care staff in the South West (SWICE-R), found that usage varied by month and by Trust,[5] with many interviewees were very appreciative of the training they had received in the SWICE-R project but they had not used the resources much, if at all, in the months after training, citing time restraints. These problems indicate the difficulty of deciding how to set up usage statistics for meaningful tracking, and assessing the timescale in which changes could be expected. In the initial stages identification of promotion and training needs is important. Usage statistics might (depending on the ways the password authorisations are set up) be aggregated in different ways to make identification of trends easier.

Aggregation by…	Advantages	Disadvantages
Professional group	Could be used to consider whether usage of specialist resources justifies costs, or whether there are training issues.	Difficult to assess how best to lump and split; some professionals have hybrid responsibilities (clinician/manager). Will conceal mediated searches by librarians on behalf of clinicians
Trust	Can compare across type of Trust to identify any particularly high or low usage sites; can compare between types of Trust to assess whether primary and community settings require more support.	Comparisons have to take into consideration the ways of working and the availability, and reliability of IT resources
Time – e.g. using quarter years rather than months	Evens out the likely peaks and troughs in different months to be expected	As above

	with infrequent use by the majority	

Table 1 Aggregation of usage statistics

Aggregation assumes that different platforms report usage statistics in the same way. This was not a problem with KA24 in the form discussed in these papers, as all items came through a single supplier, but it must be considered for the results of the KA24 evaluation to be applicable elsewhere. Most publishers are now producing COUNTER compliant statistics. Release 2 [6] (which became valid on January 2006) makes two changes to the content of usage reports:

- Publisher and platform of the database or journal is included
- Counts of successful requests for html and pdf full text articles listed separately

Vendors are required in most cases to provide aggregated usage figures for an entire consortium as well as individual reports for each consortium member. The protocols to be used for recording and reporting usage when an intermediary aggregator or gateway is involved have been collected together, to avoid duplication of counting by the publisher that owns the content and the aggregator/gateway that provides access to it. The complication for many NHS settings is that some users have temporary or permanent authorisation to use resources provided by higher education, and other users are restricted to resources available to the NHS. This is confusing for both user and provider. A more sophisticated approach to authorisation, Shibboleth, may resolve some of these problems. One of the projects funded by JISC is the IMPETUS project [7], a collaborative project between the University Hospitals of Leicester, University of Leicester and De Montfort. If this works, it may offer some solutions to the problem of inter-institutional sharing of resources between NHS and HE institutions.

Monitoring of usage statistics can be more helpful for strategic planning but it is difficult to assess changes in practice from the usage statistics alone. Surveys can provide indications of the preferences for full-text and databases and services that provide easy access to full text, and De Groote and Dorsch[8] note that use of resources varied among their user groups, with different reasons cited for accessing resources. A review of user needs surveys, conducted for a larger user needs analysis[9] for the National Library for Health involved desk research, to provide an overview of previous needs surveys (n=55) conducted or commissioned by UK health librarians since 2000. Most surveys had covered clinical staff, with nurses leading the list, but only two surveys had included support to ambulance staff. Many of the findings focused on the barriers to use such as:

- Lack of awareness, compounded by confusion over entitlement to services
- Lack of protected time for study – using information services is not regarded or deemed to be 'working time' well spent.
- Perceived lack of skills and confidence
- Physical barriers – poor IT infrastructure, connections, passwords
- Remoteness of libraries from workplace

Trying to assess which enablers are effective may require qualitative research. The VIVOS project[10] found that users new to database searching could be appreciative of the service, but their usage was relatively infrequent and they were likely to be put off easily by difficulties in accessing the service. Continued support for these

'discoverers' was necessary, but this would not have been apparent from studying the usage statistics alone. Similarly, the impact of a clinical librarian service can be tracked, partly, from changes in attitudes among team members[11] and the usage statistics might reveal some patterns, but assessing the reasons for those differences requires qualitative research, and the success of journal club activities would not be immediately apparent from usage statistics.

Conclusions

The quantitative evaluation for KA24 indicated that usage patterns increased, and that some groups of staff who had traditionally had poor access to library services were accessing the electronic services. The most notable usage pattern was the increase in use of full text journals over the two year period. Usage statistics may be aggregated in different ways, and the quarterly scheme used in KA24 did seem to be effective in identifying some trends in usage by different types of hospital Trust setting (acute, primary care, mental health). User surveys may help to identify the main barriers to uptake of services. Assessing the type of training and support required by staff is best done by qualitative research with interviews of staff to assess the clinical and educational benefits.

Key messages

A quantitative evaluation will show trends, but cannot positively identify the reasons behind them.

Usage figures of digital library services will possibly be dominated by a small number of intensive users.

Targets based on earlier sector averages may not be achievable if the spread of initial values is high.

A combination of quantitative and qualitative techniques is needed to evaluate digital library services, and to inform future policy decisions.

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