

**Service Transformation E-Learning Project (STEP)**

# **E-learning literature search skills survey of librarians and healthcare professionals - Results**

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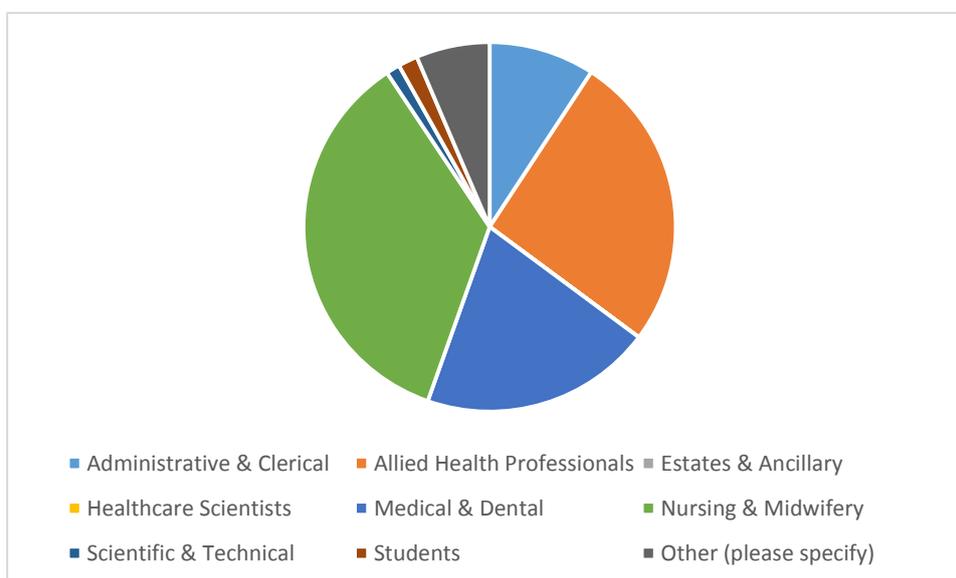
## 1. Literature search skills e-learning for healthcare professionals

One hundred and seventy-three responses were received.

### Q1. What is your staff group? (n=173)

Most responses came from Nursing and Midwifery (61) and Allied Health Professionals (45), followed by Medical and Dentists (35), Admin and Clerical (16), Students (3) and Scientific or Technical (2). Other (11) include Management (3), Training/Education (2), Clinical Psychologist (1), Academic (1), Corporate Services (1), Public Health Practitioner (1), Multisystemic Therapist (1), Clinical Lead (1) (see figure 1).

Figure 1: Healthcare professional staff group



|                                      |              |           |
|--------------------------------------|--------------|-----------|
| <b>Administrative &amp; Clerical</b> | <b>9.2%</b>  | <b>16</b> |
| <b>Allied Health Professionals</b>   | <b>26.0%</b> | <b>45</b> |
| <b>Estates &amp; Ancillary</b>       | <b>0.0%</b>  | <b>0</b>  |
| <b>Healthcare Scientists</b>         | <b>0.0%</b>  | <b>0</b>  |
| <b>Medical &amp; Dental</b>          | <b>20.2%</b> | <b>35</b> |
| <b>Nursing &amp; Midwifery</b>       | <b>35.3%</b> | <b>61</b> |
| <b>Scientific &amp; Technical</b>    | <b>1.2%</b>  | <b>2</b>  |
| <b>Students</b>                      | <b>1.7%</b>  | <b>3</b>  |
| <b>Other (please specify)</b>        | <b>6.4%</b>  | <b>11</b> |

**Q2. When searching for journal articles using a healthcare database (e.g. Medline, Cinahl, etc.), what are your main concerns? List up to 3 (n=153)**

A number of people simply listed knowing 'how to search' as a concern. Specific concerns raised by healthcare staff are ranked below (table 1). Above all, the main concern for healthcare staff was refining search results to reduce the amount of results obtained. Finding information that is relevant, accessing the full-text of articles located and the time it takes to conduct a search were also the main concerns. Access issues also related to where to find appropriate resources, remembering logins and frustration with the amount of steps required to simply login to the resources. Missing information and identifying relevant search terms were also mentioned, however, only one person mentioned use of thesaurus terms and when to explode or focus them. Knowing what resources would be relevant and ease of use ranked in the middle of the concerns with fewer people noting issues relating to the quality of the information, refining the search when too few results are retrieved and worries over the accuracy of their search. In addition, some listed specific databases or journals, presumably these were resources that they wanted access to.

**Table 1: Concerns raised by healthcare staff when searching databases ranked in order starting with the greatest concerns.**

|   |  |
|---|--|
| <b>1. Refining searches – too many</b>                          | Make search more specific, reduce numbers found but still relevant<br>Narrowing down results without missing relevant articles<br>Having to sift through a lot of irrelevant results<br>If the search comes back with lots of articles, when/ how to narrow. |
| <b>2. Finding relevant information</b>                          | I get lots of stuff that isn't relevant<br>Relevance - need to be able to see abstract/summary not just title of article   |
| <b>3. Accessing full-text</b>                                   | Seamless access to articles that are available electronically<br>Unable to access many articles unless through library - many not available through Athens<br>Not being able to get a copy of something really useful  |
| <b>4. Time</b>  | The time it takes out of my clinical work<br>Takes too long - too many hoops to jump through<br>Searching in such a way that it takes less time<br>Wasting time searching inefficiently  |
| <b>5. Accessing resources/ remembering passwords</b>            | How to access the databases<br>Log in procedures<br>Actually getting into the system successfully (usually I can't)<br>Not remembering passwords<br>Getting into the journals without going through a thousand steps   |
| <b>6. Missing information</b>                                   | Capturing all the information required<br>Not missing key references   |
| <b>7. Identifying search terms</b>                              | That I have used the right terms to find the relevant information<br>Using the most appropriate words to get the best results  |
| <b>8. Identifying up-to-date information</b>                    | Finding the most up to date articles<br>Having to trawl through old information  |
| <b>9. Knowledge of resources – what databases are available</b> | Not sure of where to search<br>That I have searched the relevant databases<br>Which database to choose for initial search<br>Including grey literature   |
| <b>10. Ease of use</b>  | User friendliness of the search interface<br>Easy and user friendly interface<br>I have used a university library access system recently and found it so much easier to navigate than the NHS Athens login   |
| <b>11. Quality of the information</b>                           | Unsure if material is reliable - is it "reputable", ethical, peer reviewed<br>How to know articles are reliable (good) for level 7   |
| <b>12. Refining the search – too few</b>                        | No results from searches<br>Getting limited results due to search criteria being too specific  |

**13. Errors/accuracy of search**

Making errors

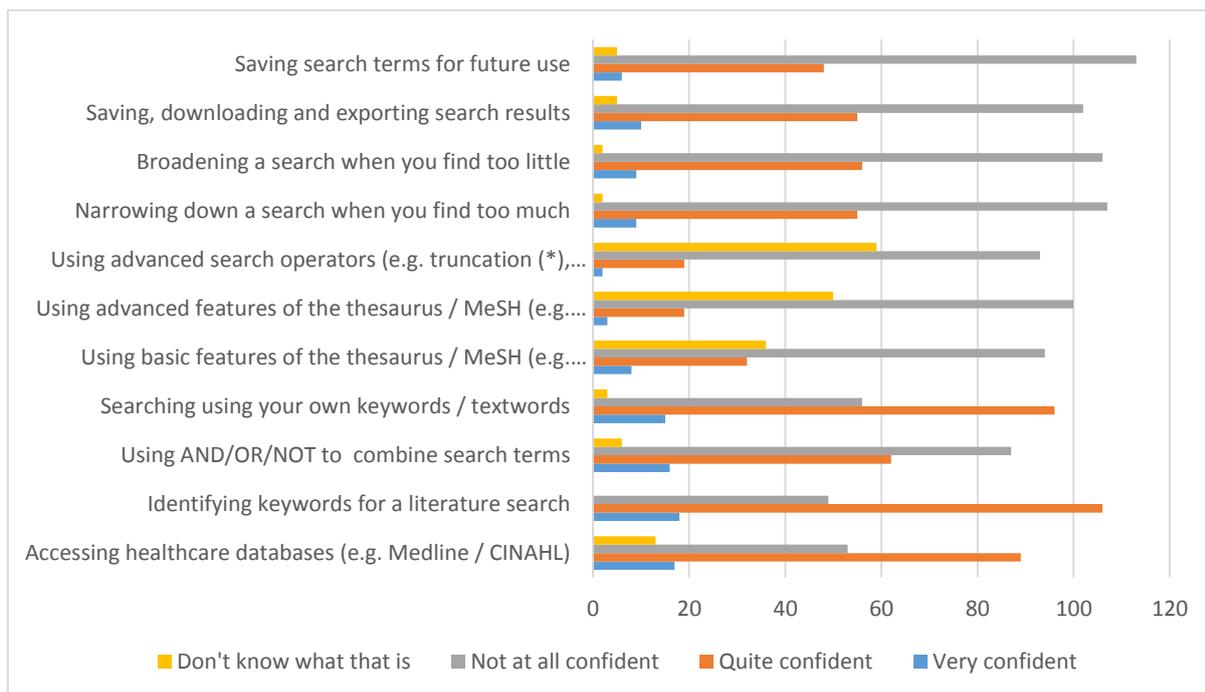
**14. Other - Confidence  
Combining search terms,  
bibliography,**

Confidence I am doing it correctly and in the most effective manner  
Setting up reference lists

**Q3. How confident are you in your search skills in the following areas? (n=173)**

Most people were least confident about saving searches (113), narrowing down a search (107), broadening a search (106), saving and exporting searches (102), using advanced features of the thesaurus (100), using basic features of the thesaurus (94), and combining searches with AND/OR (87) (see figure 2). People were quite confident about identifying keywords (106), searching using own keywords (96) accessing databases (89). Few people were very confident in any aspects of search skills. Most people were unaware of advanced search operators and thesaurus terms.

**Figure 2: Health professional confidence in search skills**



|   | Very confident | Quite confident | Not at all confident | Don't know what that is |
|---|----------------|-----------------|----------------------|-------------------------|
| Accessing healthcare databases (e.g. Medline / CINAHL)  | 17             | 89              | 53                   | 13                      |
| Identifying keywords for a literature search  | 18             | 106             | 49                   | 0                       |
| Using AND/OR/NOT to combine search terms  | 16             | 62              | 87                   | 6                       |
| Searching using your own keywords / textwords   | 15             | 96              | 56                   | 3                       |
| Using basic features of the thesaurus / MeSH (e.g. identifying and selecting thesaurus terms)           | 8              | 32              | 94                   | 36                      |
| Using advanced features of the thesaurus / MeSH (e.g. exploding, focus, headings)                       | 3              | 19              | 100                  | 50                      |
| Using advanced search operators (e.g. truncation (*), proximity operators (adj/NEAR), phrase searching) | 2              | 19              | 93                   | 59                      |
| Narrowing down a search when you find too much  | 9              | 55              | 107                  | 2                       |
| Broadening a search when you find too little  | 9              | 56              | 106                  | 2                       |
| Saving, downloading and exporting search results  | 10             | 55              | 102                  | 5                       |
| Saving search terms for future use  | 6              | 48              | 113                  | 5                       |

**Q4. Is there anything else not covered above, that you would like to learn about in order to improve your search skills? (n=20)**

A quarter of those who responded said that they wanted to know how to access full-text journal articles (table 2). A similar number also wanted more information on the different scope between the available resources.

**Table 2: Additional learning requirements**

|  |   |
|--|---|
| <b>1. Access full-text articles</b>  | <p><b>Obtaining the actual articles in full</b></p> <p><b>Once I have located the articles, how do I access the full text online?</b></p> <p><b>How to get hold of papers to read</b></p>   |
| <b>2. Resources</b>  | <p>Where to go to search for articles other than Athens and google scholar</p> <p>searching NICE</p> <p>To understand the databases &amp; have a quick ref guide to what they can do not keep trying to decide which one or to have to search all.</p> <p>To have a clearer idea of what searching databases there are, the difference between them</p> <p>Google Scholar</p> |
| <b>3. Other: Accessibility, Athens, Search alerts, Quality, Bibliographic software</b> | <p>How do I determine who the "experts" are in a particular subject? Whose opinions and research should I be reading? Whose work is valued academically?</p> <p>Being dyslexic makes things hard</p> <p>Using bibliographic software to collate the findings</p> <p>Use of Athens as a portal</p>   |

**Q5. What would encourage you to use these e-learning modules (e.g. accessibility, time needed to complete, type of learning activities such as videos, quizzes)? (n=148)**

Accessibility of the content was listed as the most required element of e-learning modules (table 3). For example, respondents wanted to be able to access the resources at any time, outside of work, via mobile devices. Accessibility issues also related to ease of access to locate the relevant material and making materials available in different formats. Keeping the modules short would encourage people to use them more. Making the modules user friendly in terms of structure to improve ease of use would also encourage use and reduce the time required. Activities to suit different learning styles were mentioned by a large number, most suggesting videos, but also anything interactive, (e.g. quizzes, examples with exercises and podcasts). Some also wanted downloadable short search skill guides to keep for reference purposes. Respondents also wanted to be able to save their progress through the module to return to at a later date. A small number requested initial support being available when accessing the modules for the first time.

**Table 3: Elements to encourage use of e-learning modules**

|                               |  |
|-------------------------------|--|
| <b>1. Accessibility</b>       | <p>Accessibility of the e-learning modules as you don't always get time to go through them at work</p> <p>Access to the learning modules at home as this is where I do most of my background research into a topic</p> <p>Instant online access</p> <p>Ease of access to the 'bit' that I want to know about without having to trawl through lots of other elements. Step by step approach or flow chart.</p> <p>Accessibility – would be great if can be done from home on various platforms without having to jump through too many hoops when required, i.e. possibly before doing a CPD module, especially if you haven't studied for some time</p> <p>I can access via my tablet or phone</p> |
| <b>2. Time/length of time</b> | <p>Not time consuming. It will feel like a chore to spend a long time learning about searching literature.</p> <p>Time needed to complete.</p> <p>Something concise</p> <p>Bite sized chunks of learning</p> <p>Time set aside specifically at work (removed from other colleagues so I can concentrate on the learning)</p> <p>max 15 mins to complete</p>  |
| <b>3. Videos</b>              | <p>Videos would improve my retention as I am a visual learner and i can keep returning to remember what to do</p> <p>Videos with sound can be difficult for me to access.</p>  |
| <b>4. Activities</b>          | <p>I would prefer a little text or instruction, followed by summary and quiz, the more varied the better.</p>  |
| <b>5. Ease of Use</b>         | <p>The training should take you through the process step-by-step - a workbook style approach would be good i.e. using examples that you work through start to finish</p>   |
| <b>6. Summaries/ guides</b>   | <p>Summary of presented information</p> <p>Quick reference sheets for reminders on how to do certain things i.e. expanding, filtering, terms to use etc.</p> <p>Straightforward guides with step by step examples</p> <p>Easy step by step instructions that can be printed off for future reference</p>   |
| <b>7. Quizzes</b>             | <p>Quick feedback eg with quiz</p>   |
| <b>8. Save progress</b>       | <p>Ability to save progress and return to the module at later time,</p>  |
| <b>9. Simplicity</b>          | <p>Straightforward guides with step by step examples</p> <p>Modules providing clear simple instructions</p>  |
| <b>10. Examples</b>           | <p>Clear examples, without lots of text to read</p> <p>Mixed media learning, lots of examples and 'testing out'</p> <p>Guided practise</p> <p>An example of running through a sample search might be useful</p>  |
| <b>11. Help</b>               | <p>Allocated session, perhaps in library or classroom to introduce the modules. If you are accessing</p>   |

e-learning and are not confident (like myself) it is very easy to become disillusioned and not continue with the module. It would be helpful to have someone on hand to guide learning initially.

**12. Podcast**

Relevant podcasts on MH issues.

**13. Certificates/ CPD**

Certificate of completion as evidence for CPD  
CME points

**14. Other: Flexibility,  
focused, face-to-face**

I would rather have a face to face session. I might not get round to an on line one as it is not easy to find time and a computer.  
One to one with a real person!

## 2. Literature search skills e-learning for librarians

One hundred and thirty-nine responses were received.

### Q1. What do you think are your users' main concerns about their literature searching skills when searching bibliographic databases? List up to 3. (n= 139)

In addition to the more generic response of 'how to search', the most popular response noted by just over a third of librarians was that their users' main concerns were retrieving too much information and knowing how to narrow down the search results (table 4). Another notable issue was that users may not be aware of the available resources and their scope. Following this, librarians suggested that users may not be aware of how to select search terms. Fewer than 30 librarians noted other concerns which include access to full text, broadening the search, missing information, accessing resources, combining search terms, a lack of confidence in searching, knowledge of thesaurus search skills, retrieving relevant information, advanced search skills and the perceived level of complexity in the search process. Fewer than 10 librarians mentioned concerns relating to time, refining searches with limits, required skills and knowledge, ease of use and accuracy of search strategies.

**Table 4: Librarians perceptions of users' concerns with literature searching skills**

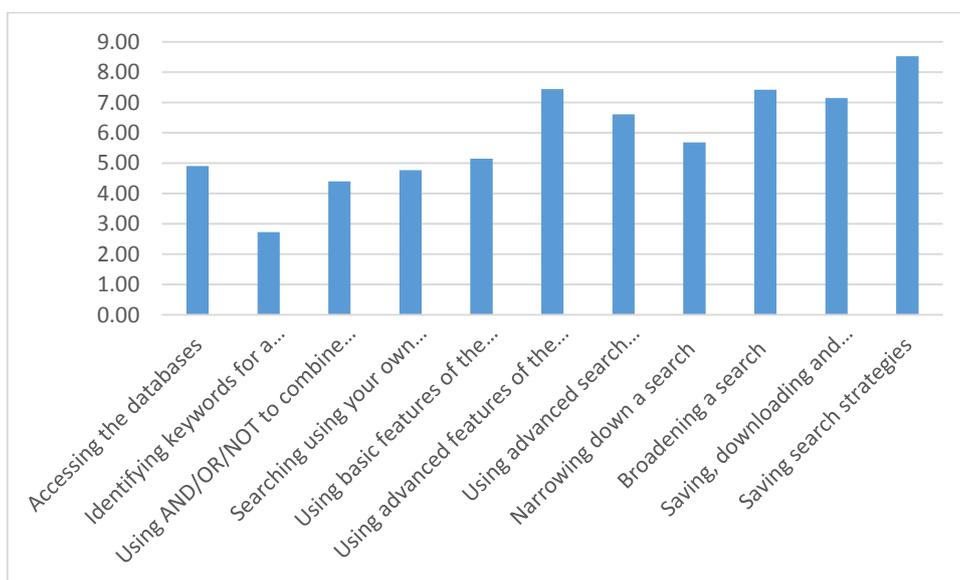
|  |   |
|--|---|
| <b>1. Refining the search – too many</b> | How to narrow down results without losing relevant hits<br>How to narrow down the results when there are too many<br>That they're unable to focus the search enough to find relevant material and end up with too many irrelevant   |
| <b>2. Knowledge of resources</b>         | Knowing the right databases to use<br>Understanding the difference between searching in Google and searching in bibliographic databases i.e. ha<br>search in concepts and using the thesaurus. Understanding the advantages and disadvantages of each and<br>why you would use each tool. |
| <b>3. Identifying search terms</b>       | Using the right search terms  |
| <b>4. Accessing full-text</b>            | Accessing full text papers<br>Just how to obtain full text when they find it - publishers often make it quite hard  |
| <b>5. Refining search – too few</b>      | Getting too little information<br>Finding no results - not knowing how to make a search sensitive   |
| <b>6. Missing information</b>            | Whether they have missed any evidence<br>Worried that they have missed something important  |
| <b>7. Accessing resources</b>            | Where to go to find the databases in the first place<br>They can't find the databases, they go in via MyAthens and it isn't clear where the databases are   |
| <b>8. Combining search terms</b>         | Confusion over how to combine terms and the logic behind doing so<br>Understanding of Boolean operators   |
| <b>9. Confidence</b>                     | Confident in creating relevant search strategies<br>Because many of them search infrequently they don't become confident that they're searching effectively.  |
| <b>10. Thesaurus</b>                     | Understanding how subject headings work<br>Don't know what MeSH or other databases' thesaurus terms are, or how they are used   |
| <b>11. Relevant information</b>          | finding very relevant content quickly (ie not sifting though very long lists of variably relevant articles)<br>They just aren't finding the right things  |
| <b>12. Advanced search skills</b>        | Utilising further functions such as wildcards etc   |
| <b>13. Level of complexity</b>           | That it is very complicated<br>How complicated the search interfaces area<br>It's too technical, the process is complicated (and the new HDAS screens are NOT going to help!!!)   |
| <b>14. Time</b>                          | Not having the time to complete an advanced search  |
| <b>15. Refining searches – limits</b>    | How to limit to RCTs, qualitative, quantitative or other research articles as opposed to comments, letters e  |
| <b>16. Skills/knowledge</b>              | Not having the level of skills required to locate the information<br>Unfamiliar with computers<br>Lack of understanding if thesaurus v free text searching  |

|  |   |
|--|---|
| 17. Ease of use  | Want something quick and easy   |
| 18 Errors/accuracy   | "doing it wrong"  |
| 19. Other: experience, quality, interface, level of complexity, question formulation, Up-to-date | Unfamiliar with the interface<br>How to form a searchable question<br>Finding high quality content (ie systematic reviews or high quality studies, not editorial or opinion pieces) |

**Q2. Please rank the following search skills training you think your users would benefit from receiving from 1 to 11. A ranking of 1 means that training need is a high priority whereas a ranking of 11 is a low priority training need. (n=137)**

The graph below shows the ranking average for each training need (figure 3). The training needs considered a priority have the lower scores. Librarians feel that their users would most benefit from training on identifying keywords for a search followed by; Using AND/OR/NOT, searching using own keywords, accessing databases, using basic features of the thesaurus, narrowing down a search, using advanced search features, saving/downloading results, broadening a search, using advanced features of thesaurus and saving searches.

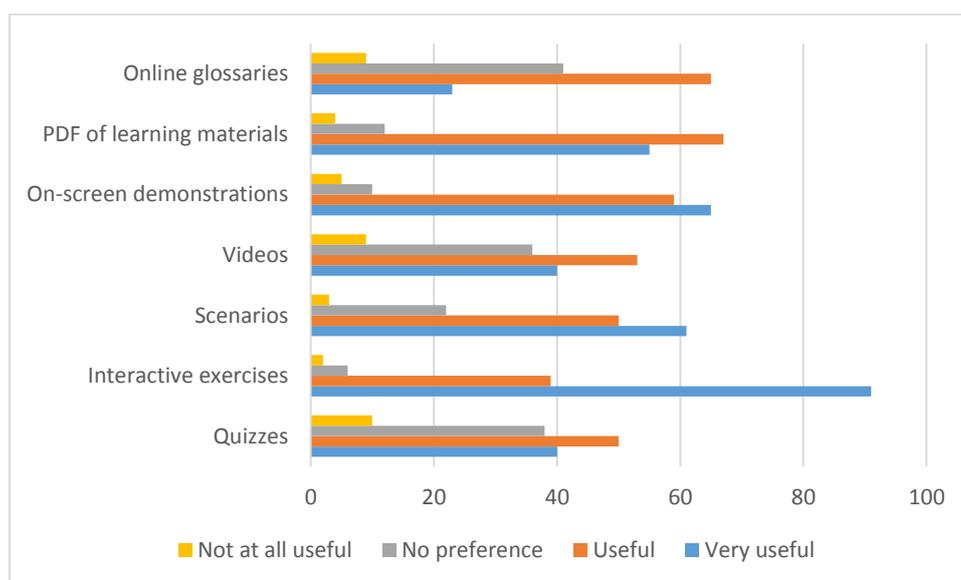
**Figure 3: Search skills training priorities according to librarians**



**Q3. Which types of standalone learning activities/resources would you find most useful to incorporate into your local information skills training? (n=139)**

The key response here was ensuring a level of interactivity in the e-learning modules with use of scenarios and on-screen demonstrations being considered the most useful for librarians to incorporate into their own information skills training (figure 4). There was no real preference for videos over quizzes or vice-versa. Many ‘other’ responses here reported learning activities/resources already listed. However, other learning resources mentioned include summaries or guides for users to download, examples of searching on non-clinical topics, e.g. workforce, management or cost efficiencies and ensuring that the content was current (e.g. use of out-of-date screen shots/resources). One person suggested using a healthcare professional to promote the e-learning materials, “video comments from healthcare workers about the process of learning to search and identify evidence for themselves – e.g. I was intimidated to start with but with the online help and one-to-one support from my librarian, I now feel really confident...”

**Figure 4: Most useful types of learning activities/resources that librarians would incorporate into their local information skills training**

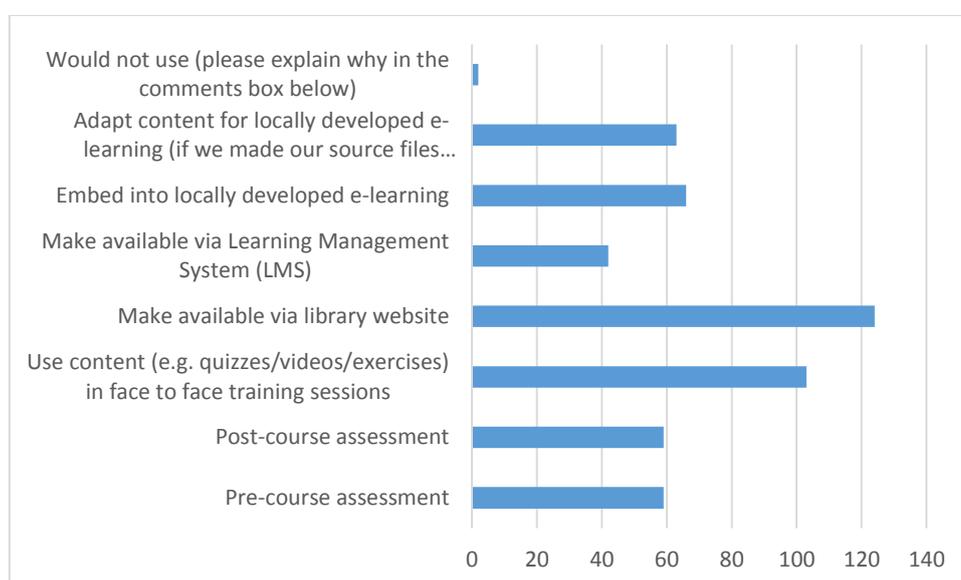


|                                  | Very useful | Useful | No preference | Not at all useful |
|----------------------------------|-------------|--------|---------------|-------------------|
| <b>Quizzes</b>                   | 40          | 50     | 38            | 10                |
| <b>Interactive exercises</b>     | 91          | 39     | 6             | 2                 |
| <b>Scenarios</b>                 | 61          | 50     | 22            | 3                 |
| <b>Videos</b>                    | 40          | 53     | 36            | 9                 |
| <b>On-screen demonstrations</b>  | 65          | 59     | 10            | 5                 |
| <b>PDF of learning materials</b> | 55          | 67     | 12            | 4                 |
| <b>Online glossaries</b>         | 23          | 65     | 41            | 9                 |

**Q4. How would you use the standalone learning activities/resources in the e-learning modules in your own information skills training? Select any that apply. (n=137)**

Nearly all respondents indicated a preference for making the resources available via their own library websites. This would presumably be a link to the e-learning modules hosted elsewhere (figure 5). Over 100 respondents said they would use individual learning activities within their own training sessions. Around a half would embed the modules into locally developed e-learning content with similar numbers saying they would like to adapt the content for local e-learning. Less than half said they would use the resources as pre/post assessment or would make available via their Learning Management System. Only 2 respondents said they would not use the resources, however it was impossible to determine why this was the case, since the comments box was used by others.

**Figure 5: Librarian use of standalone e-learning activities/resources**



|   | Response Percent | Response Count |
|---|------------------|----------------|
| <b>Pre-course assessment</b>  | 43.1%            | 59             |
| <b>Post-course assessment</b>   | 43.1%            | 59             |
| <b>Use content (e.g. quizzes/videos/exercises) in face to face training sessions</b>                            | 75.2%            | 103            |
| <b>Make available via library website</b>   | 90.5%            | 124            |
| <b>Make available via Learning Management System (LMS)</b>  | 30.7%            | 42             |
| <b>Embed into locally developed e-learning</b>  | 48.2%            | 66             |
| <b>Adapt content for locally developed e-learning (if we made our source files available to share with you)</b> | 46.0%            | 63             |
| <b>Would not use (please explain why in the comments box below)</b>   | 1.5%             | 2              |

**Q5. Are you aware of any issues with people completing e-learning in your Trust (e.g. problems with browsers, e-learning packages, lack of IT skills)? If so, please describe. (n=111)**

Nearly half of those who responded cited problems with browser compatibility, most noting that IE8 was still the only browser available within their Trust, although some mentioned that other browsers could be accessed if requested via IT (table 5). A lack of IT skills among end-users was the second most cited issue. Access to PCs at work, or navigating access to e-learning on PCs was the third most cited response. Blocking of sites and software were also reported. Fewer people reported issues related to time, availability of support and poor infrastructure.

**Table 5: Problems completing e-learning**

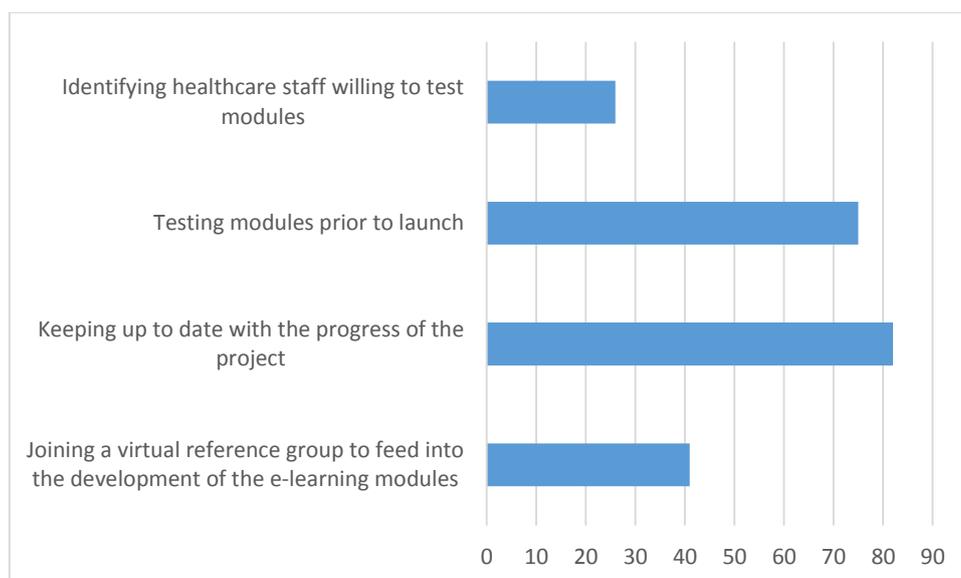
|  |  |
|--|--|
| <b>Browser compatibility</b>   | <p>There are still a lot of departments in this trust that still use IE 8 and so have to download Chrome. Although this is always problematic with NHS orgs.</p> <p>Browsers will always be an issue in the NHS, while clinical systems continue to rely on antiquated browser technology and hard pressed IT departments struggle to push out updates.</p> <p>Library users have to use Internet Explorer 8 at the moment (Trust policy) which is unsupported and quite frankly broken - many resources (or even just pages) will not load</p> <p>Our Trust only uses IE (unless you specifically ask for something else) so having something that is compatible with that would be essential.</p>  |
| <b>Lack of IT skills</b>   | <p>There is a massive assumption by elearning providers of NHS staff computer skills. Some staff barely have the confidence to switch on a computer and find a file.</p> <p>Some of our users do need to improve their IT skills</p>   |
| <b>Access (hardware and software)</b>  | <p>People often find the directions to resources confusing - and /or struggle with registering properly for content</p> <p>Limited access to computers on the wards or in community bases</p> <p>Lack of access a computer in own work areas</p> <p>Guidance on how to access and complete e-learning training within our Health Board is poor.</p> <p>The most common query we have is "my password doesn't work" which is down to required formatting of date of birth</p> <p>There are often problems with people being unable to access e-learning due to out of date hardware and software.</p> <p>Whole process for acquiring a username and password, logging in, checking PC is compatible and subscribing to the right module is incredibly complicated.</p> <p>Anything that has to be downloaded and requires installation isn't possible on Trust network PCs.</p> |
| <b>Software (JAVA, Flash plug-ins, audio etc.)</b>                                 | <p>Plugins such as Flash are also a problem.</p> <p>Recently there have been problems with viewing videos - various things are out of date e.g. the server, flash player etc</p> <p>Streaming media can be an issue</p> <p>Not all pc have speakers</p>  |
| <b>Access – blocked sites</b>  | <p>Youtube blocked. Don't think this necessarily means don't employ either of those methods though, think IT depts need to adapt rather than us. Better to have something good and worthwhile harassing IT to let you use.</p> <p>Depending on where the content is hosted, it may be blocked by IT</p> <p>need IT to allow pop ups or downloads</p>   |
| <b>Time</b>  | <p>Time to set aside for elearning - counteract by using some in or after face to face training, as a support tool.</p>  |
| <b>Support</b>   | <p>No support for EBP/using information skills within the Trust at senior or ward manager level</p> <p>Not enough support is available at the end of a phone or via e-mail, and many staff are confused due to the lack of guidance.</p>   |
| <b>Accessibility</b>   | <p>People with dyslexia needing audio</p>  |
| <b>Other:</b>  | <p>The IT is not stable, quite often it is virtually unusable.</p>   |
| <b>Infrastructure, poor functionality of existing e-learning, perception of e-</b> | <p>General problems with IT - sometimes e-learning packages run sometimes they don't!</p> <p>LearnPro, our national learning platform, not being the most inspiring or interesting of packages</p> <p>Elearning has a somewhat troubled history, so people probably have a perception that it's troublesome/</p> <p>Only done under duress (e.g. mandatory training)</p> <p>Embedding skills can be harder with eLearning if the course is very passive</p>  |

learning Not mobile-friendly, poor functionality

**Q6. Are you interested in any of the following? Select any that apply. (n=93)**

Nearly all who responded wished to keep informed of the project (figure 6). A high number of respondents indicated that they would be interested in testing modules prior to launch. Less than half were interested in joining a virtual reference group to inform the development of the modules. Around a quarter of respondents said they would be willing to identify healthcare staff to test the modules.

**Figure 6: Interest in e-learning project**



|  | Response Percent | Response Count |
|--|------------------|----------------|
| Joining a virtual reference group to feed into the development of the e-learning modules | 44.1%            | 41             |
| Keeping up to date with the progress of the project                                      | 88.2%            | 82             |
| Testing modules prior to launch  | 80.6%            | 75             |
| Identifying healthcare staff willing to test modules                                     | 28.0%            | 26             |

### 3. Discussion

Overall, 173 healthcare professionals and 139 librarians responded to the survey.

#### *Informing content of modules*

There are some clear themes emerging from the survey data relating to healthcare professionals and their experiences and preferences for search skills e-learning. Healthcare professionals are mainly concerned with accessing the right information, including full-text, without having to scroll through a large number of results. One of the major issues is the time it takes to undertake a literature search. Although ranked as their 4<sup>th</sup> concern, it is clearly evident that the first 3 concerns are also time related. Scrolling through large numbers of results, finding relevant information and then accessing full-text all require additional time. Login procedures and accessing resources also featured as one of the top 5 concerns. Respondents are not keen for additional logins to remember and want quick and easy access to the resources.

Table 6 compares the responses from health professionals and librarians with the greatest concerns ranked first. What is interesting is that librarians' perceptions of the main user concerns and their training needs were not necessarily reflected by the healthcare professionals themselves. While both agreed that refining searches when retrieving too many results was the key concern, librarians cited more concerns that were not acknowledged by healthcare professionals, particularly related to refining searches and advanced search skills.

**Table 6: Comparison of healthcare professional and librarian search skills concerns**

| Healthcare professionals                                     | Librarians   |
|--|--|
| 1. Refining searches – too many                              | 1. Refining the search – too many  |
| 2. Finding relevant information                              | 2. Knowledge of resources  |
| 3. Accessing full-text                                       | 3. Identifying search terms  |
| 4. Time  | 4. Accessing full-text   |
| 5. Accessing resources/ remembering passwords                | 5. Refining search – too few   |
| 6. Missing information                                       | 6. Missing information   |
| 7. Identifying search terms                                  | 7. Accessing resources   |
| 8. Identifying up-to-date information                        | 8. Combining search terms  |
| 9. Knowledge of resources – what databases are available     | 9. Confidence  |
| 10. Ease of use  | 10. Thesaurus  |
| 11. Quality of the information                               | 11. Relevant information   |
| 12. Refining the search – too few                            | 12. Advanced search skills   |
| 13. Errors/accuracy of search                                | 13. Level of complexity  |
| 14. Other - Confidence Combining search terms, bibliography, | 14. Time   |
|  | 15. Refining searches – limits   |
|  | 16. Skills/knowledge   |
|  | 17. Ease of use  |
|  | 18 Errors/accuracy   |
|  | 19. Other: experience, quality, interface, level of complexity, question formulation, . Up-to-date |

Healthcare professionals appear to be either less concerned with using advanced search techniques or simply not aware of more advanced ways of searching and therefore 'don't know what they don't know'. This was also reflected in their perceived low levels of knowledge and confidence with more advanced search skills. Less than 20 respondents rated themselves as 'very confident' in any search skills and the majority of respondents rated themselves at 'not at all confident' in refining searches or advanced search techniques. This is not necessarily a

surprise given those with an interest in developing their search skills would be more likely to respond to a survey on search skills training needs. Furthermore, healthcare professionals cited missing information or finding relevant information higher than other search skills concerns. However, this may also reflect a level of dissatisfaction with their ability to find *enough* information. The most cited additional learning requirements listed by respondents reflected two of their concerns highlighted in the first question - accessing the full-text of journal articles and knowledge of different resources.

### ***Informing the delivery of modules***

For healthcare professionals the main elements that should be considered in the design of e-learning relate to access, time, ease of use and learning styles. Above all, to encourage uptake of e-learning amongst healthcare professionals it needs to be easily and quickly accessible via multiple devices and be kept short (15-20 mins). Limiting the amount of time required to complete the module can also be achieved by greater clarity and ease of use in relation to the structure of the module. This would also help address some of the barriers to undertaking e-learning noted by librarians. Whilst interactivity was a key feature of e-learning with respondents, many also wanted to be able to download short summaries of the presented information for quick reference.

Inevitably, a number of barriers were identified that mainly related to technological issues and blocking of websites. Browser compatibility was the most common barrier highlighted. Many of those who raised this concern highlighted that their Trust were still using IE8 which is largely incompatible with interactive elements of most e-learning packages. It appears that there is wide variation with regards to IT across different NHS Trusts and whilst this is an issue which is beyond the capabilities of this project, there are conflicting points of view to be considered. When asked what would increase the uptake of e-learning, interactivity and use of different delivery modes (e.g., video, quizzes) were suggested by healthcare professionals. In addition, over 130 librarians said they would rate interactive exercises as 'very useful' or 'useful'. Interactivity requires the use of the later IE (at least IE10 upwards) or other browsers. Without this, it is likely that e-learning modules will not be as interactive and therefore the experience will be a lot 'drier' and run the risk of not meeting user expectations.

However, a few said they were able to request alternative browsers such as Google Chrome from their IT departments and a number of healthcare professionals said that they wanted to be able to access the modules from home or on mobile devices, which suggests that e-learning would be accessed outside the workplace. A large number of librarians also highlight the lack of IT skills of many NHS staff. Whilst IT skills training is not the focus of this project, the design of the e-learning content should bear this in mind.

### **Limitations**

The survey did not seek to identify healthcare professionals' baseline search skills level of expertise and no data was collected on non-responders. However, given the lack of responses highlighting a requirement for more advanced search skills, and the low level of confidence in more advanced search skills, it can be assumed that the majority of people who responded were beginners.

## **4. Recommendations**

Two main sets of recommendations are put forward for the content, design and delivery of search skills e-learning modules:

### **Search skills e-learning content**

1. Search skills modules should initially focus more on introducing or reinforcing the basics of searching rather than on more advanced search skills using the thesaurus

2. Refining the searches when too many or too few results are located should be a focus of the modules
3. Accessing full-text articles should be incorporated into a module, if possible offering option of adaptability or signposting to local collections
4. Awareness of the different resources available to them should also be made available, if not as a stand-alone module, then as a downloadable document (e.g. a more concise version of the [Thames Valley and Wessex Librarians Literature Search Protocols Appendix](#))

#### **Search skills e-learning design and delivery**

1. E-learning modules should employ multiple interactive learning activities to engage different learning styles.
2. E-learning modules should be short (max. 15-20 mins), focused and well-structured
3. E-learning modules should be easily accessible – available 24/7, ideally freely accessible or with the minimum use of additional login requirements (e.g. other than what is already required to access online NHS resources, e.g. NHS Athens) for users to access from outside the workplace.
4. Ensure that participants are aware of different formats if made available (e.g. video transcripts to accompany videos)
5. Ensure participants are aware of any technical requirements (hardware/software – e.g. audio/browser requirements) needed to complete the modules
6. If possible, source files to be made available for librarians to download different elements of the modules to embed in local training
7. E-learning modules should be clear (uncluttered), provide instructions for use and be well-structured
8. Accessibility due to browser compatibility needs to be balanced with providing a package that meets user requirements (high level of interactivity, use of quizzes, videos, etc.)

#### **In addition:**

- E-learning modules should adhere to national e-learning accessibility guidance (e.g. use of font size, colour, make video transcripts available, etc.)
- Methods of keeping librarians updated with the project should be followed through
- Modules need to be piloted by healthcare professionals to ensure they meet user expectation and evaluated in order to inform future e-learning modules