Just Google It?: the value of a clinical library service

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Why invite a librarian to speak at a nurse educator's conference? Surely in this hyperconnected age of information where silica has replaced wood pulp information is permanently at your fingerprints, always already on hand delivered through the screen of your choice. It is a legitimate question to ask why the library at all?? Surely you can "just google it"? The question mark in this phrase is important. Twenty years ago to give a librarian a fit of pique you would simply make noise in the library, ten years ago you would open a can of coke near the computers, these days the casually offered phrase "Oh I just google it" will elicit an existential sigh and maybe a smugly superior look and because librarians are very polite you won't notice much else, but inside they are slapping their forehead with one hand and choking you Homer Simpson style with the other and not too subtly suggesting that "just googling it" is like taking a drink from a fire hydrant while at the same time living in what Eli Pariser warns is a filter bubble and invoking the science fiction writer Neil Gaiman who once said "Google can bring you back 100000 answers, a librarian can bring you back the right one". Of course we all use Google, there is a reason it is ubiquitous, Google is not evil, but it is not everything either. It is only one tool among many, and the nature of contemporary health information and evidence-based practice surely requires a more sophisticated approach than Google's famously spare search box. The ideal synthesis of research literature, clinical skills and patient values is constantly challenged by the pragmatic frustrations of too little time, too few resources, too many patients and too many politics. But better ways are available, and beyond simply googling the option of inviting the input of a librarian into the work that you do will be tremendously valuable… not because libraries are quaintly charming and librarians are kind and generous, but because a consistent and professional approach to information discovery and management will have a meaningful impact on the care you provide patients and the education you provide to staff and colleagues.

Why might this be the case? Why replace "Just google it" with "use the library?" Firstly, information is important to healthcare if you are going to provide the right care to the right patient at the right time in the right place for the right cost. Sir Muir Gray, the Chief Knowledge Officer of the NHS stated that 'knowledge is the enemy of disease' and claimed that 'the application of what we know already will have a bigger impact on health and disease than any drug or technology likely to be introduced in the next decade'. He went on to draw the conclusion that 'a common core of quality assured knowledge must be delivered to professionals and patients; clean clear knowledge is as important as clean clear water'. We know how important clean and clear water is, and how complicated and challenging its supply can be. The conference's host city of Adelaide is at the mouth of the Murray Darling, Australia's great and fragile and politically divisive source of clean and clear water. Before the floods of 2011 the dams supplying Toowoomba stood at 8% and serious debate was had over reticulating sewage for drinking water. America's largest bank and the world's third largest public corporation, JP Morgan Chase, started out as the bank for the company to

provide drinking water to New York. Arthur Sinodinos and Barry O'Farrell had their very public chastenings at a public inquiry into the supply of drinking water to Sydney. The supply of clean and clear water is important and complicated and challenging, and the Chief Knowledge Officer of the NHS is imputing that same importance to the supply of health information.

So health information is important, but like water its supply is also complicated and challenging. Finding the right and relevant health information to answer the questions that inevitably rise in what you do is difficult. Why so?

Firstly, there is lots of it…

A lot of devices for creation and consumption:

- Worlwide ICT sector responsible for 2% of man-made CO2 (similar to airlines)
- ICT equipment accounts for roughly 10% of UK electricity consumption
- More than 1 billion computers on the planet
- Feb 2012 88% of Americans 18+ own a mobile phone

A lot to consume:

- By 2015 the internet is expected to be 50 times the size it was in 2006
- BY 2015 internet traffic expected to reach an annual total of 1 zettabyte – $1 X 10^{21}$
- Non-digital sources are equally immense… Google estimates 129,864880 different books exist in the world – claims to have digitized about 15million (12%)

Lots of it in health

- 75 trials and 11 systematic reviews published a day
- Medline / Pubmed
    - > 22 million citations
    - >5600 journals indexed
    - Since 2005, 2000-4000 citations added a week
    - >700 000 citations added in 2013

- A trainee in cardiac imaging, only in the narrow specialty
    - 40 papers a day, 5 days a week
    - 11 years to get up to date with specialty
    - Another 8200 relevant papers published, requiring another 8 years reading
    - 15% practically relevant

- (on the deluge of unsubscribed medical oncology information) July 2004 –
    - 205 individual communications
    - 31cm high; 6kg
    - 10 peer reviewed journals (640pp)
    - 7 newspapers (621pp)
    - 18 non peer-reviewed (216pp)
    - 12 CDs / DVDs

- 23 emails
- 55 invitations
- Threw it all in the bin

Not only is there lots of it, it is not a flat landscape…

Before things are actually published… there are hierarchies of evidence, a broad range of research methodologies employed, a concomitant broad range of publishing models adopted, all with subtle differences that impact how that research can be translated, not to mention great discrepancies in the quality of research itself. A 2014 Lancet series on biomedical research estimated that the cumulative effect was that about 85% of research investment—equating to$200 billion of the investment in 2010—is wasted. It went on to say:

> In industry-funded clinical research, commercial motives can control the study design and comparators, and so-called seeding trials (in which the purpose is to promote familiarity with a new drug rather than generate knowledge) can be done for marketing purposes. The economic motivations of industry do much to characterise health as a commodity that can be bought, which informs and distorts the motivations of other actors. The profit motive is central to everything with which industry is involved, including its interactions with seemingly independent researchers and clinicians.
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> Science is not done by paragons of virtue, but by individuals who are as prone to self-interest as anyone else. They can compromise their usually high standards of rigour when involved in commercial or otherwise conflicted relationships. When resources are scarce and competition is fierce they might seek the easiest and quickest—rather than the best—ways forward. They could judge that they would rather be first than be right. When their research hunch turns out to be wrong, many researchers move to the next one rather than going through the painstaking business of reporting negative findings. Finally, they could prefer research that they find interesting rather than research that addresses issues of importance to the users of research. These behaviours are compounded by the complacency and poor craftsmanship of some scientists. When grants are still coming in and reports published, why change? What could be better than this generation of scientists, standing on the shoulders of giants, and providing
> our own shoulders for future generations? And, if they are not really very good, careful, or precise, how would anyone know?

Once scholarly communication is published there are varying levels of access to content and varying platforms for access to, all with their own search modalities and relevancy ranking algorithms and inclusions and exclusions. In short, there are many different players, formats, and sources.

This is not to despair of ever finding something worthwhile to read, or to fill you with anxiety that whatever you do find is probably wrong, rather simply to make

the case that this complexity in the environment and economy of health information means a simplistic approach where only the low hanging fruit is sought is probably not valid for most of the real-world queries you have. To extend the water metaphor, it is probably like drinking out of puddles. This creates a space for expertise in the discovery and management of health information… in short, there is a role for the health library.

Well of course I would say that… but its not just health librarians like me saying it.

Catherine DeAngelis, former editor of JAMA, interviewed in BMJ, was asked "What was the worst mistake in your career?" She responded: "Hiring an information technology person as director of a medical library. Computers are terrific and absolutely necessary, but a library with only computers and no books or place for faculty and students to gather and share thoughts is a computer lab, not a library".

Writing recently in JAMA, Sollenberger and Holloway state that 'librarians are valued for their search expertise and for their contributions in education, research, and quality and performance improvement' and that 'research has demonstrated that when clinical librarians are involved in providing information in the patient care setting, answers to clinical questions can be obtained more quickly and efficiently'. They conclude:

> With ongoing changes in health care as a result of information technology, health sciences libraries and librarians can play an important role in bringing high-quality, evidence-based medical information to the bedside, helping to make patient care both efficient and effective. Health care libraries and librarians are adapting to the changing needs of physicians, other health care professions, researchers and patients.

An independent report published in October 2013 by SGS economics on behalf the Australian Library and Information Association found the return on investment in health libraries is 9:1 – for every $1 spent, health libraries return a benefit of $9 to their organisations. They also asked healthcare professionals how they thought their use of library and information services had helped them over the last year and found:

- 76% changed their thinking and improved their diagnosis or treatment plan
- 83% said it helped them to improve health outcomes for their patients
- 71% had saved time by using their health and library and information service
- 95% said it helped them to discover new and valuable information
- 86% used their service to keep abreast of the latest clinical developments
- 65% said it helped them to confirm their diagnosis or treatment plan

Health Libraries achieve this by delivering their services in many ways. Traditionally this has very much been a "keeper of the books" model familiar to libraries in many settings where the library has built its collection and invited potential users (hospital staff) to come to the library to access the content. This

role is still applicable to a certain extent; collections still need to be developed and maintained, even if their form and function is continually evolving, while there will always be a need for static interactions between the library and hospital staff. However, health libraries have continually sought to redefine their role and blurr their expectations with the aim of embedding library skills and expertise into the core functions of the hospital. Information is important, accessing it well is complicated, the library is in a position to help, therefore the library (and hospital units) need to be active in ensuring bench-developed evidence is translated into bed-side practice. How many books on the shelves or e-journals subscribed to or pinches and swipes on a website is nowhere near as important as the relationship between library staff and clinical staff. Jaron Lanier, a digital pioneer and key consultant to Microsoft, has written: "The central mistake of recent digital culture is to chop up a network of individuals so finely that you end up with a mush. You then start to care about the abstraction of the network more than the real people who are networked, even though the network by itself is meaningless. Only the people were ever meaningful". One way to avoid this mistake, to establish and develop a consistent relationship between information professionals and health professionals is a clinical librarianship model. This metaphorically shifts the approach from retrieving water at the town well to installing indoor plumbing pumped from dams with treated water.

Clinical librarianship essentially involves the librarian leaving the cosy confines of the library and venturing into the hospital proper, working with teams in clinical specialties on ward rounds or case review meetings or similar to generate questions at the point of care and return with relevant literature. This approach first began in the early seventies in the US and then the UK, and it has been employed in a variety of settings since. In 1985 Cimpl reviewed the literature and proposed that the common purpose for the CL was 'to provide information quickly to physicians and other members of the healthcare team; to influence the information seeking behaviour of clinicians and to improve their library skills; and to establish the medical librarian's role as a valid member of the healthcare team'. A more recent model, published in 2010 by Harrison and Beraquet, shows the importance of the relationship between librarian and clinician, and also the primacy of the question – what don't you know, what are you unsure about, what have others faced with similar circumstances tried and what were the results. The search forms connections and communications and brings evidence from the outside world into the specifics of your hospital and your practice.

There is a substantial body of literature, including specifically with nurses, about the effectiveness of this model. The general consensus is that librarian involvement in this way does save clinician time, does ensure access to more and better quality information, and does impact on care decisions.

I've established two clinical librarian services, one with our Acute Pain Service – which is very much a classic of the genre – attend ward rounds, have coffee afterwards, discuss patients seen, take questions away, return next week with answers from the literature. The other is with our oncology and palliative care

department and it is a bit more reflective of the diverse ways in which the library can be involved. Since 2008 I have worked closely with the medical oncologist for the regional cancer centre, who is responsible for all of the solid organ tumours that come into the public health service. This is an immense clinical load underpinned by an equally intimidating and rapidly evolving evidence base. Through regular attendance at ward rounds or office-based consultations I obtain clinical questions generated directly from her work (the patients she sees). Over time we have also refined how she manages the information we find, moving from paper-based folders to an online personal library that allows easy organisation and efficient retrieval.

Our palliative care physician started as a registrar with the service, and during his fellowship training undertook research into the use of CAMs by radiotherapy patients. I worked closely in all aspects of this research, from the genesis of the idea through the ethics proposal and methodology deliberations to the reporting of findings, resulting in a College of Physicians prize for best conference presentation and a paper published in an international peer-reviewed journal. I continue to support this doctor in conference presentations and clinical work. This doctor also wanted audio material to listen to while travelling to Brisbane and elsewhere. From this request grew a whole-of-service provision of podcasts across all clinical specialties, a project recognised with a Health Libraries Australia Innovation award.

I also attend the monthly oncology/palliative care journal club, both for my own education but also as a constant visible presence for the multidisciplinary attendees. Over time I have helped many presenters with finding articles and critical appraisal, and through ad-hoc conversations over croissants generated numerous more clinical questions. These have ranged from very basic requests for psych-oncology books through to a major search on the role of the cancer care coordinator which was used by a national working party our breast cancer nurse was a part of.

Education is also a big part of the role. All nurses who undertake a chemotherapy administration course receive targeted information skills training within the first couple of days of their commencement. The library even makes a direct contribution to information received by patients, coordinating the supply of relaxation and meditation listening material through the cancer care psychologists.

Working in this dedicated and consistent fashion with a specific clinical area does make a difference, both quantitatively and qualitatively. Since July 2010, the library has provided some activity to 50 oncology / pall care staff – 4.4% of all staff for whom the library has provided activity. It has loaned 160 books, which is about 4.3% of all loans, provided 1215 articles, which is 7.1% of all articles provided; and conducted 158 searches, which is about 10.3% of all searches conducted. I doubt these numbers would be anywhere near this without the consistent and wide-ranging relationships the library has formed.

More significantly though, those numbers convert to meaningful and valuable results for the clinicians the library helps. In preparation for today recently I asked four staff from oncology who I regularly work with – oncologist, psychologist, two nurses - a short series of questions around the impact library involvement has had on their clinical care, professional role, and time and cost savings. This was not a vanity project and negative experiences were encouraged, but this is an indicative sample of the comments:

Psychologist:

Creates a better learning environment for staff to work in and generates more interest in keeping up to date. Hard to imagine how we could provide a good service without it.

Nurses:

It has made me very aware of the library's role and capacity to support clinical activity. When I have a clinical question, the librarian is able to conduct the lit search, send abstracts: hence I am actually more likely to read the evidence than if I needed to conduct the search to begin with. I feel confident that the lit searches reflect my clinical question. My time can be devoted to clinical care rather than looking for journal articles.

I have recommended the library service to many colleagues as the result of my good experience with the service. The librarian's attendance at journal club meetings has added to the benefit that we all gain from these meetings. Recently, I raised a question at journal club, and later that day, received an email from the librarian with a literature search from my question- how good is that for service?

Researching a topic is always daunting, literature reviews can be overwhelming, and using data bases considering they are all different can also prove to be bewildering so it was great having someone who could help navigate my way through this learning process. I have developed an understanding of how to identify a robust piece of research.

Due to work restraints it is not always possible to spend hours researching a topic, so time spent researching a topic is time I would have to spend away from direct patient care.

Oncologist:

Allows for rapid clinical decision for individual patients by quickly providing a literature search with attached articles such that true evidence based medicine can be practiced daily in the clinic in real time.

I regard the library service as vitally important in my ability to care for cancer patients – they can source vital and important information (some of it about rare and unusual cancers) that I have no ability to get hold of on my own, even if I had the time.

It takes time and skill to accurately source information that may alter care. I recently saw a patient with a more rare form of metastatic thyroid cancer – anaplastic thyroid cancer. I had not seen such a case before and Daniel performed a search for me (from an e-mail request) within a 24 hour period which allowed me to see the patient urgently the very next day with the correct information regarding the likelihood of chemotherapy working and which agents could be used. Directly because of reading the literature provided (late that night) I could advise the patient of the poor outcome with chemo and she thus made an informed decision not to have any chemotherapy treatment and was managed palliatively, dying in the ward a week later. I would not have been able to achieve that outcome on my own in such a short time frame.

[Library involvement saves me] hours every month. Probably 1-2 hours at least a week as I spend so much time reading and researching articles. The training and support for end-note has allowed me to rapidly access my stored journal articles and stay up to date.

It is vital to support clinicians at the coal face. The turnaround speed and quality/depth of the literature searches allows for immediate use in the clinic. Oncology in a regional centre is very diverse and without library support – which is both virtual and a real presence , we could never hope to keep up in our field.

It is also important to have an excellent librarian (which we are fortunate enough to have) who is up to date with the latest technology and electronic access to our various oncology sources as the use of ever-changing technology can be very challenging, but one has to stay up to date as it is the only way information is now disseminated.

I'd like to think the experiences of these clinicians is why you invited a librarian to this conference, and to conclude I simply want to reiterate my thanks for this invitation to speak with you this morning, and urge you to invite the library into the work you do, and I am quite confident strong information seeking relationships will be formed and good things will result.

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