

Delivering the evidence to the client

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ABSTRACT:

This paper describes the evolution of the new Clinical Librarian role at the Royal Melbourne Hospital and how a website – ‘Evidence Direct’ – became central to that development, eventually winning an award. The facilities offered on the Evidence Direct website include asynchronous and synchronous communications, live access to Clinical Librarians worldwide, e-learning modules, access to an e-repository, blogs, wikis, daily news (including RSS feeds), and a customised search engine. In addition, the paper goes on to describe how the Clinical Librarian role can have an impact upon the wider clinical governance scenario, contributing to the development of institution-wide guidelines and, in the case of RMH, to a new, major event - Evidence Week.

Introduction

Clinicians rightly expect and demand that they be provided access to the latest evidence and that such evidence be clearly graded and evaluated in accordance with best practice standards. Early in 2007, the Royal Melbourne Hospital (RMH) created the role of Clinical Librarian (CL). It is a permanent and full-time role and is a part of a worldwide push to promote evidence-based healthcare and world-class clinical practice.

In brief, the Clinical Librarian's remit is to make the process of accessing the evidence-base by the clinician as simple as possible. The CL also needs to deliver that evidence in a timely and effective manner. In addition, there is an educational aspect to the role, in terms of developing and delivering resources that assist clients in their understanding and knowledge of evidence-based resources and how those resources can be properly evaluated. Further, the role differs from traditional medical librarian roles in that the Clinical Librarian is often invited to attend clinical audits and similar meetings, as well as to join in on ward-rounds. Consequently, the CL is seen as being integral to the clinical governance process.

This paper outlines the evolution of a largely web-based project that revolved around the need to deliver timely and quality 'best practice' evidence to clinicians at the Royal Melbourne Hospital.

A 'diary' format and a 'narrative' style has been adopted. The paper also outlines related and projected initiatives.

The CL Role and Responsibilities

So, just what is a Clinical Librarian? Well, there are many models (Gilbert & DeRoy 1999). Indeed, ask any one Clinical Librarian what they do and you will get a hundred different answers (Ward, Linda 2005). The most common answer is that a Clinical Librarian specialises in accessing the evidence and delivering that evidence to their clients. Invariably, Clinical Librarians tend to be flexible in approach in the various settings they find themselves in – and they are by no means confined to the Library. For example, some CLs find they regularly attend clinical audit meetings; some, post or pre-Ward round meetings. Moreover, there are some CLs who actually get involved in ward rounds ('Getting evidence to the bedside: role of the clinical librarian' 1998). The key, here, is involvement with the client – the clinician – at the point of care (Sackett & Straus 1998).

It is important that each Clinical Librarian work out for him/herself what his/her precise role is, based on local conditions and needs. For example, some CLs may find that ward rounds might be too much of a culture change (at least in the beginning). Some may prefer to rely on contact with clients via an array of technologies, while others would prefer a more face-to-face approach. Some CLs move around with an Internet-ready laptop at hand, or a PDA; others prefer to rely on the good old-fashioned notebook and pen and utilise the more up-to-date technologies 'back at base'.

So what, exactly, are the core tasks that a Clinical Librarian performs? These can vary considerably, but usually involve the following:

- evidence searching
- critical appraisal (evaluation of papers found)
- journal club facilitation
- training: evidence searching, critical appraisal, etc.

As to whom the CL reports to, usually this would be the Library Manager, though it should be noted that CLs are in a unique position in that much of their time may be spent outside the library environment, often in multi-disciplinary projects or/and on projects that may have a distinct IT or clinical governance content.

Beginnings 1: Creating a new Clinical Librarian Service from scratch

January, 2007

I took up the position of Clinical Librarian at the Royal Melbourne Hospital (RMH) on January 17th, 2007. This was a new position for RMH. Fortunately, there were others in Australia who had a CL or similar role and therefore I had some people with whom I could network, so as to make use of their valuable experience and research. Equally fortunately, I had had several years experience working in a similar role (albeit with a slightly different job title) in the UK and I still had my contacts there for support.

There was also the extremely useful Clinical Librarians list (University Hospitals of Leicester NHS Trust) that I could refer to. That organisation, additionally, had an interesting CL Service strategy document that would prove to be of use.

Beginnings 2: Research

I decided that my first task as CL was to get an overview of the latest trends in the Clinical Librarian role.

In the wider context, the paper on the CL role and its value to medical care (Schacher, 2001) was referred to; there was an excellent systematic review (Wagner & Byrd 2004) on the subject. In addition, I came across some American studies on the 'clinical informationist' model (Giuse et al., 2005) and how that model might even be characterised as a new Health profession (Davidoff & Florance, 2001).

I then looked at the Australian context and found particularly useful a paper on the role of a clinical evidence researcher in an Acute hospital setting (Sladek, Pinnock & Phillips 2003); also the report on the CL Project at Ryde Hospital (Devenish 2006), more views on the 'informationist' model (Sladek, Pinnock & Phillips 2004a), and a feasibility report (Sladek, Pinnock & Phillips 2004b).

Then there was the UK: as well as the survey on Clinical Librarianship (Ward 2004) there was also an evaluation of the CL service (Brookman et al., 2006) and the CL toolkit (Urquhart & Hepworth, 1995).

Stage One of project: Establishing local contacts

February, 2007.

I was fortunate to commence the CL position with 'champions' already in place to back me up. I am referring here to senior clinicians, in several departments, who supported the idea of appointing a Clinical Librarian and who expressed their willingness from the outset to include the Clinical Librarian in their clinical review meetings, ward rounds, etc. My first task, therefore, on taking up the position was to make contact with these 'champions' and via them establish other contacts. Introductory meetings were arranged and at these I was able to better understand expectations, while at the same time take the opportunity at these meetings to outline my ideas for the role and how I thought it might work in practice. Thus, I spent the first month or so in the position meeting people and exchanging ideas.

Stage Two of project: Developing technological solutions

March, 2007.

During the initial stages of the task, I knew it was important that I develop an armoury of resources that I could use as part of my core CL activity. I therefore conducted an 'audit' of the current online subscriptions we had – mostly primary databases and a smattering of secondary resources. At the same time, I trawled the Net extensively for all other possible (Secondary) resources. I then evaluated the resources and made recommendations for further subscriptions. The next stage was to organise those resources and decide on how I should prioritise them for daily use.

By that point I had already decided that I needed a website and that I would have to spend some considerable time developing it (the set up at RMH was that one tended to develop one's own website or web pages). Now I knew that a successful website is always designed from the end-user's perspective. In that respect, this site would be no different. I also thought it useful to see what other sites were out there that fulfilled a similar role. Of course, there were the excellent resources from Scharr (School of Health & Related Research, University of Sheffield), the (Oxford-based) Centre for Evidence-Based Medicine, and similar sites in the US and Canada. But I wanted to offer a site that was geared to clinicians within an Acute setting and which brought all the evidence-based resources – databases, evidence levels, appraisals, etc – to one place. In other words, a 'one-stop-shop' approach. The website also had to be easily navigable and pleasant to browse. Fortunately, I had had experience in developing commercial websites as well as NHS websites back in the UK; I had also lectured in website design.

April, 2007

At this stage, I was working on the website almost exclusively (apart, that is, from attending more introductory meetings and carrying out the odd evidence search).

Gradually the website expanded. Initially, I had conceived of the website as being only a few pages, covering lists of evidence sites and maybe a form for users to fill in. However, as the website grew it became obvious that I needed to be far more ambitious in what content the website would eventually include. In the end, I decided I would not launch the site until I was satisfied I had every aspect covered.

Over the next few weeks, I decided to include:

- all the possible links to evidence sites
- lots of learning resources
- useful software resources
- a section for storing local search results
- and a section on evidence levels and evaluating literature, etc.

I then conducted more research and authored the pages as I went along, though it became increasingly apparent that the website needed to be far more than just a place to lodge search requests, or to learn about the evidence-base.

And that was the point when I became inspired to make the website the focus of the future development of the programme. Indeed, I decided that the website needed to become a standalone resource in its own right. The website also needed to have a 'catchy' title (up until then it was simply called 'Clinical Librarian Services'). And so I renamed the website, 'Evidence Direct'.

By that time (April), I was still not satisfied I had everything in place. Other facilities needed to be incorporated and so I decided to introduce on to the site:

- a (evidence) news section
- a section of relevant blogs and wikis
- a section covering advanced search tips
- an interactive quiz (e-learning?)
- access to an e-repository
- a section on critical appraisal
- and an EBM (Evidence-Based Medicine) glossary

I also thought that I would include access to the out-of-hours service, 'Chasing the Sun' (a collaboration between medical libraries in Australia and the UK, whereby Library users can access medical and clinical librarians on a one-to-one basis via live chat facilities).

Evidence Direct: Introduction

Services coming soon...

Welcome to the new Evidence Direct Service for the Royal Melbourne Hospital

"If physicians are the gods of our time, dispensing life and death from their competent hands, then the clinical librarian must be their oracle." Michael J Schott, Director, West Virginia University Health Sciences Library.

The *Evidence Direct* Service is a 'one-stop shop' that aims to bring the evidence-base direct to you, the clinician, and, in doing so, enhance patient care, evidence-based practice and clinical governance.

Through the EDS service you can:

- arrange for the RMH Clinical Librarian to be involved in evidence-based projects and be available, regularly or on an ad hoc basis, in clinical settings or on ward rounds, pre-and post-ward rounds
- request evidence investigations
- access an out-of-hours evidence query service
- browse local evidence-based searches
- collaborate with colleagues online
- publish research papers locally
- find out more about the evidence base, the sources, critical appraisals, etc

Have you tried these?

Cochrane Consumer Network (watch the video too).

"Hitting the Headlines" is a global service from the UK-based CRD/NLH that dissects and critically appraises the latest Health 'break-throughs' as reported in the Media. (See also 'Evidence News' on left menu.)

For all the latest and updated Cochrane Collaboration entries, click here.

Can't find a systematic review? then try DUETS (Database of Uncertainties about the Effects of Treatments).

Infectious diseases: find the latest anywhere in the world (interactive): click here to go to Evidence News page, then click on Infectious Diseases link

A service of Melbourne Health

An early version of the Evidence Direct website

Stage Three of project: Populating site content.

- **Searches:** this was easy, as I would simply add in the searches and results as I undertook them. I decided on the format: Query, PICO, Search Terms, Databases Searched, Date of Search, Results (showing Level of evidence, Citation and including links to full text items) and synopses (of the papers quoted)
- **News:** I decided to only include news from evidence-based Health sites. I went for a mixture of links and RSS feeds.
- **Blogs & Wikis:** I thought it important that the site included direct access to relevant blogs and wikis. There were a few blogs/wikis that particularly stood out and which I included links to. I also thought it would be a good idea to trial a blog, so I set one up for that purpose (on clinical evidence issues).
- **Guidelines:** links to useful sites and resources on guidelines development (including RMH guidelines).
- **Search Tips:** I decided to include tips on advanced searching only (after all, the site was purely about the evidence base) and so I put together material on, for example, MeSH (Medical Subject Headings), on 'exploding' searches, and on the use of filters, etc.

- **E-Learning:** this would include a mix of local and non-local modules. I also included a module I developed myself – an introduction to searching and appraising the evidence base.
- **E-Repository:** given that there was an institutional relationship between RMH and the University of Melbourne, we already had the facility to use their e-Repository (open-source). All that was needed was a link with a brief explanation of how to register and upload a paper, etc.
- **Critical Appraisal:** I decided to include links to a variety of CA resources, including e-learning modules on CA and CA templates; also a link to a CA tool (CATMaker).
- **EBM Glossary:** as the *Evidence Direct* site would be used by a range of clients, who may or may not be familiar with EBM (Evidence-Based Medicine) jargon, a glossary would be essential

Stage Four of project: Launch of *Evidence Direct*

May, 2007.

By now, the site was more or less ready. In addition, I had conducted a number of searches, which I could include in the section “Local Searches”. As the search results on the site would include direct access to full-text items, it was decided that only RMH Library users could access Evidence Direct. Thus, the site would be password protected.

At the end of May, the site was duly launched. This was done by an email announcement. Also, the main RMH Library site was updated to include a direct link to *Evidence Direct* and further included a scrolling banner announcing the launch.

Stage Five of project: Testing the *Evidence Direct* site

June, 2007

I had to be assured that the *Evidence Direct* site was useable, that it covered all needs and was relevant. After the site was launched, we awaited feedback. In the meantime, I had arranged to attend the 3rd UK Clinical Librarians’ Conference in York (University Hospitals of Leicester NHS Trust 2007). In addition, I had decided to make full use of my UK trip by visiting several Clinical Librarians in situ (i.e. in hospital settings) around the country to see how things were working at their end and to get their reaction to the service I was offering at mine. After attending the two-day Conference, where I met many UK Clinical Librarians (plus others from Sweden and the Netherlands) and a couple of presenters from Australia, I undertook my UK journey. I visited Clinical Librarians or those involved in the CL programme in North Staffordshire, Aberystwyth, Bristol and Brighton. I also took the opportunity to showcase to my UK colleagues (we CLs are few in number and so our network tends to be global) the *Evidence Direct* site to get their reactions. Fortunately, they were all favourable!

After the launch

Second half of 2007.

On my return to Australia, having gained lots of ideas from the Clinical Librarians' Conference and from the CLs I met in-situ, I was ready to move on to the next phase. Basically, this was all about moving from the reactive (responding to search requests, being invited to the odd ward round, etc) to the proactive: - i.e. seeking out medium and long-term evidence projects. Fortunately, I had a 'buddy' – a 'champion' of EBP (Evidenced-Based Practice) – at RMH who was able to set up some interesting meetings between clinicians and myself. Soon after I was invited to regularly attend a number of clinical review meetings. At such meetings, cases were discussed, issues argued, and I would invariably be asked to come back with some evidence.

A good example of how the above worked in practice was my involvement with the Head & Neck Oncology reviews. These were interdisciplinary based – i.e., included surgeons from RMH, oncologists from Peter Mac, and Allied Health professionals, etc. The last case that was discussed at my first review meeting was on a long-standing controversy in the medical world, namely:

with N+ lymphomas, should Selective Neck Dissection (combined with radiotherapy) be used, or should the more aggressive Radical Neck Dissection be used?

After the meeting, I conducted a comprehensive review of all the evidence sources (secondary databases) and found around 25 items of interest. Five were particularly relevant and I obtained these in full text form. I then critically appraised them and derived synopses as well as levels of evidence. Next, I put together a PowerPoint presentation. At the next Review meeting, I presented my findings. Afterwards, I was asked to email the presentation to the head of the Department so that it could be circulated. It was also decided that a clinical trial should be set up to take the issue further.

Another example involved a ward round (in Trauma). I attended the ward round at the invitation of the senior consultant, who involved me in the process at every stage. I was given patients' notes, introduced to the other doctors who were part of the team, as well as the patients as we went around. The round lasted almost two hours and at several points I was asked to carry out searches of the evidence (to be conducted after the round). One of these searches involved the use of 'squeezers' for DVT (Deep-Vein Thrombosis). The query was as follows:

With Trauma patients, where compressors cannot be used to prevent DVT (because of there being splints, etc, present on the calf) is DVT preventable by using compressors on an upper limb instead?

It should be explained, perhaps, that the consultant had remembered that this rather unusual technique had once been tried but was not sure whether there was evidence backing it up. After the ward round, I conducted a search on all the evidence and was surprised to find three items that referred to this technique. One was quite old –

in a 1978 issue of *The Lancet*. I then presented the findings to the consultant. The result was that not only was the consultant happy with these results, but that he decided to try out the technique on a patient, and take it further and change hospital practice, if need be. In short, it proved to be an excellent example of librarian and clinician working together to improve patient care.

Other additions to *Evidence Direct* site

Journal Clubs

Many institutions have Journal Clubs – meetings, on a regular basis, where papers are examined, discussed and formally appraised. Clinical Librarians also are asked to facilitate Journal Clubs. Fortunately, there is an array of tools available to assist in this process. As well as templates for developing CATs (critically appraised topics) by study design or methodology, there is also software, which can be freely downloaded, to bring everything together. I am thinking here of CATMaker, which is an interactive program that allows users to input data and comments and which, once everything has been added, produces a report – a CAT. CATMaker, as well as other CA resources, is now available on the *Evidence Direct* site. In time it is hoped that such a resource will stimulate a greater interest in Journal Clubs and critical appraisal generally (in fact, two such Journal Clubs have recently been set up at RMH). It is also intended that Critical Appraisal courses (initially classroom based) will be made available too.

A bliki(?)

Wikis are interactive, in that people (usually invited) can add to the content or edit that content. Blogs, on the other hand, are generally the work of one person. I was aware of an excellent blog on clinical evidence resources by Catherine Voutier. Catherine was also aware of my wiki (again, on clinical evidence *issues*). We discussed the idea of bringing the two together. This was done at the end of October, 2007.

The result, which we have called a bliki ('Exploring the Evidence Base: EBM & HSR Resources on the Net'), can be seen at www.clinicallibrarian.wordpress.com

Evidence Week

Around mid-2007, it was decided that RMH should hold an Evidence Week. The idea was that clinicians could showcase examples of turning evidence into practice. We would also invite speakers from relevant external organisations. The *Evidence Direct* site would promote the event (we would also use all the RMH PR and other facilities to promote it too). Eventually, the Week was set for the last week in November .

In due course, the Week went ahead and it turned out to be a resounding success. Over twenty presentations were given from clinicians from across a range of disciplines. In addition, presentations were also given from the NHMRC (National Health & Medical Research Centre), the Centre for Clinical Effectiveness (Monash), the Department of Human Services (Government of Victoria), as well as from Cochrane and NICS (National Institute for Clinical Studies) Fellows. All presentations have been added to the Evidence Direct site.

It is hoped that Evidence Week will take place each year. Perhaps other, similar institutions in Australia and elsewhere might also be inspired to organise their own Evidence Week too?

Evaluating Evidence Direct

A service such as Evidence Direct needs to be constantly modified in accordance with the perceived needs of its clients. Feedback is often informal, as are suggestions for changes to the site or inclusions of new content. At some stage, a more formal evaluation will be made (such as via an online survey). In the meantime, it is noted that the service has quantifiably enhanced the RMH Library search service (up by around 50% over a ten month period) and teaching sessions (up by 40% over a similar period).

Going public

Having successfully trialled the *Evidence Direct* site internally, it was decided that the site should go public (with access restricted only to RMH Intranet links on the site and to full-text literature items only available via subscription). The rationale behind this move was that it was thought that some of the resources on the site might be of use to the wider Clinical Librarian, Medical Librarian and clinician world.

As it was, the site was made public at the end of October, 2007. (In January, 2008, the site was also given a more user-friendly URL: www.evidence-direct.net)

Evidence Direct wins award

In November, 2007, *Evidence Direct* won an award – Melbourne Health's 'Best of Health Achieving Excellence Award (Education)'. The renowned Oxford-based Centre for Evidence-Based Medicine (<http://www.cebm.net>) has since indicated that it will be including the *Evidence Direct* website in its Search Skills Toolkit.

Recent website changes

In December, 2007, Evidence Direct created a search engine, called 'Evidence Australia'. This search engine uses Google technology and searches all the main Health sites in Australia, particularly sites that emphasise evidence and guidelines. In recognition of this, 'Evidence Australia', together with another specialist search engine, 'Netting the Evidence', are to be the subject of a paper by Andrew Booth (Director of Information Resources and Reader in Evidence Based Information Practice, School of Health & Related Research, University of Sheffield) on the development of such search engines.

Further, the *Evidence Direct* website now also includes its own 'EBM Toolbox' (a number of resources on Evidence-Based Medicine).



Evidence Direct home page (January, 2008)

Wider collaborations

An institution like the Royal Melbourne Hospital does not work in isolation and, so, inevitably, the clinicians at RMH are often involved in wider projects, some statewide, some national, and some international. A Clinical Librarian has to be prepared to become involved in any project regardless of what boundary it crosses. It was, therefore, not surprising that I was invited to play a key role on a number of such projects. For example:

- the Global Evidence Mapping (GEM) Initiative (on Traumatic Brain Injury and Spinal Cord Injury).
- a project examining the number and type of injuries sustained by Aborigines in Australia.
- the development of a possible patient (consumer) orientated evidence project (in collaboration with Cochrane Consumer Network)
- a 'Mythbusters Roadshow' (with DHS Chief Psychiatrist's Office).

Problems, pitfalls...

No major project is without its problems and pitfalls – and in this regard *Evidence Direct* is no exception. For a website, achieving a good look can be quite a problem if for budget reasons the only web design package available is fairly basic (in this particular case, it was FrontPage). Having extensive experience in commercial website was obviously a bonus (though not everyone will be in that position). In the end, I decided I would add to the site a variety of third-party technologies - eg. Widgets, RSS feeds, etc – to provide greater interaction (and – hopefully – make the site look ‘cool’).

Evidence Direct also had to deal with the resistance to EBP (Evidence-Based Practice) found amongst clinicians in Health institutions globally. Dealing with such resistance is an ongoing process that has to be tackled from all directions. In this respect, CLs should not see themselves as being merely a part of the Library, but as an agent for change and who gets involved in such change at every level. Consequently, the CL needs to be constantly looking out for opportunities to promote Evidence-Based Practice – via Journal Clubs, via clinical audit meetings, via major events (such as Evidence Week), via establishing ongoing contacts with other agents of change (e.g. departmental heads) and so on...

Some future ideas for *Evidence Direct*

I would like to see *Evidence Direct* include the following:

- more e-learning modules within a clearly-structured MLE (Managed Learning Environment)
- knowledge repositories, or ‘silos’, of evidence-based resources per RMH department
- a sophisticated search facility that will search all knowledge resources at RMH – guidelines, Library materials, ‘grey literature’, etc

Of course, to achieve the above, particularly on a shoestring budget, will be difficult, though by no means impossible. Engaging the support of IT will be crucial re developing the search facility and the MLE. An application that I have found in the past to be particularly useful for the design of ‘animated movies’ is Qarbon. It is free, though there is also a more sophisticated version (costs around \$500). As for the ‘knowledge silos’, what I have in mind, initially, is simply a re-organising of the *Evidence Direct* searches, combined with guidelines and other evidence-based items, by department; this would help us understand how things stand in terms of evidence knowledge/capital within the institution as a whole, and also by discipline.

Also, many hospitals organise their own Clinical Guidelines and Policies. Protocols and even Care Pathways often complement these. As to who actually develops them, depends on the institution. Often (particularly the case with Guidelines) it is a mix of senior or specialist clinicians, working with Admin people and/or with a Librarian. Many Clinical Librarians assist in this process; some coordinate Guidelines development. Where the Clinical Librarian role is crucial is in ensuring that

Guidelines have made reference to the evidence. Indeed, an excellent paper (Ward, Honeybourne & Harrison, 2001) on the wider aspect of how the Clinical Librarian can influence Clinical Governance talks about these matters. Here, I should add that the RMH Clinical Librarian has been asked to assist in the RMH guidelines process: this will be a major project, commencing 2008.

In summary

In my view, to be effective, a Clinical Librarian ideally needs the resource of a website that brings together an array of interactive resources that help search, organise and deliver the evidence. I believe that *Evidence Direct* has met that need for this particular CL. The end-user (clinician) also needs access to an array of resources that enable him/her to communicate with the CL, to access knowledge direct, to share that knowledge with clients, and to learn about how to use all these resources. Again, I believe that *Evidence Direct* meets these needs. If money were no limit, we would be talking portals, sophisticated KM resources and so on. Fortunately, for most budget-conscious Health institutions, there are alternative and far less expensive options that can achieve the same results but for a fraction of the cost. Again, *Evidence Direct* does this.

However, technology can only go so far: central to all the above is the skills set and knowledge of the Clinical Librarian. On that last note, it is my hope that many more CLs will be appointed in Health institutions across Australia – soon.

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