Evidence Based Library and Information Practice

Prediction is Difficult, Especially the Future: A Progress Report

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Abstract

Objective - This paper reviews developments in the consolidation and diversification of the evidence based library and information practice (EBLIP) paradigm since publication of the authors' book *Evidence Based Practice for Information Professionals: a Handbook* in 2004.

Methods - The authors provide an updated narrative review of key themes in the development of evidence based librarianship within the context of the new consensual term 'EBLIP.' Sources for this thematic framework included professional literature, Internet searches, and the authors' personal experiences.

Results - While considerable achievements have been realized within a three-year period, most notably the instigation of the journal known as *EBLIP*, a broadening of the paradigm to other library sectors, and increased availability of implementation studies, many challenges remain. Of particular concern is the lack of international strategic foresight in determining rotation of the biennial international conferences and distribution of influential EBLIP infrastructures and initiatives.

Conclusion - While the enthusiasms and energies of individual practitioners and work teams have made considerable progress in meeting short-term objectives, uncertainty remains concerning how longer-term objectives requiring infrastructure and resources might be realized. From its faltering steps as a toddler EBLIP has developed to a 'pre-pubescent' stage with the promise of 'growth spurts' and 'emotional crises.' The next three years should prove both challenging and demanding.

Introduction

In 1997 at the Cochrane Colloquium in Amsterdam, Dave Sackett, then Director of the Centre for Evidence Based Medicine in Oxford, predicted a future for evidence based medicine and the Cochrane Collaboration (Hicks 123). By 2005, he surmised, the Cochrane Collaboration would have more than 10,000 systematic reviews and researchers could access their results within 15 seconds. Today's reality is that it takes closer to 3 times as long to locate the results section of even a unique hit for a review in the Cochrane Library files. As for the promised yield of systematic reviews, even at its creditable total of approximately 3,600 titles including protocols, this number falls well short of the predicted amount by two-thirds. This illustrates how even a major player within the field of evidence based practice is unable to predict the future with any degree of certainty.

Proponents of evidence based library and information practice have found it equally difficult to be prescient. In 2001 at the first Evidence Based Librarianship Conference at the University of Sheffield, Eldredge advanced 4 predictions to be reached by a target date of 2005:

1. Research results will appear that begin to answer the practical, enduring questions of health sciences librarianship.
2. Cohort studies and randomised controlled trials (RCTs) will begin to serve as major research designs for providing answers for certain practical questions in health sciences librarianship.
3. Structured abstracts will become the convention for reporting research to enable health sciences librarians to identify and extract needed information quickly from their literature.
4. Qualitative research will generate valuable exploratory hypotheses. (Eldredge "Evidence Based Librarianship: What Might We Expect")

Although, in comparison with Sackett's bold soothsaying, such quantification-resistant predictions find refuge in subjectivity, we find it difficult to argue convincingly that any of these have been fully realized. Indeed, in 2005 at the 3rd Evidence Based Librarianship Conference in Brisbane, Australia, Booth revisited Eldredge's predictions, concluding that not a single one had been realized by its target date. In doing so he reminded the audience of his previous observation that information specialists are endowed with silicon chips not crystal balls (Booth and Walton).

But surely, some might argue, there is some support for Eldredge's predictions, at least in quantitative terms? To this we would respond that, as evidence based practitioners, we have learned not to conflate increased inputs and outputs with increased impact (Booth, "Counting"). Notwithstanding an increase across the

board in research and research-oriented articles (Table 1) the impact of evidence based library and information practice has fallen short of predictions. So, for example, while crude estimates of the quantities of research articles demonstrate an increase of about 50% between 2001 and 2005, few of the relevant and answerable questions of health sciences librarianship identified by Eldredge and other international colleagues have been satisfactorily explored, let alone resolved (Evidence Based Librarianship Implementation Committee). Similarly, while articles discussing cohort studies and randomised controlled trial designs occur more plentifully than before, this simply reflects a general increase in, and awareness of, research production and is not reflected in a migration to greater use of major research designs.

Structured abstracts are indeed more plentiful, aided by their adoption for papers being presented at the conferences of the Medical Library Association and the Canadian Health Libraries Association. However, as their prevalence within the longer-established field of medical journals is only marginally greater than 60% (Nakayama et al. 239) applying the word "convention" to a figure that likely falls well short of 50% in health information journals and which approaches only 3% in general information journals (Koufogiannakis et al. 232) is surely stretching accepted meanings

of that term. Furthermore their adoption has been on a one-by-one basis and not through adoption of an editorial consensus statement such as the CONSORT convention for reporting randomised controlled trials (Plint et al. 263). At least two major conferences - the European Association of Health Information and Libraries and the Health Libraries Group in the UK - do not yet insist on structured abstracts.

Qualitative research continues to command an important place in the research methodology toolkit, but it is difficult to identify any particularly valuable explanatory hypotheses that distinguish the years between 2001 and 2005. In attempting to distinguish the more significant measures of impact from the more readily obtainable measures of output, the authors believe one can paint a much less rose-tinted picture of the paradigm.

None of the foregoing is meant to undermine any claims that the above commentators might wish to make to 'expertness' within evidence-based practice (Sackett). We would do well to remind ourselves that less than two years before he made the first manned flight, Wilbur Wright stated that man "would not fly for fifty years." He later noted, "Ever since, I have distrusted myself and avoided all predictions." (Wright)

	2001 MEDLINE / CINAHL*			2005 MEDLINE / CINAHL*		
Mentions of 'research' articles	40	/	205	66	/	323
Mentions of 'cohort studies' and 'RCTs'	5	/	23	10	/	30
Mentions of 'qualitative research' *Combinations of free-text and subject terms used in CINAHL were those deemed to be the nearest equivalent to MEDLINE terms.*	77	/	18	103	/	49

Table 1: Incidence of Markers of Evidence Based Practice in the Health Information Literature

Where we seem on safer ground is in recording aspirations rather than predictions. In the final chapter of *Evidence Based Practice for Information Professionals: a Handbook*, the editors, together with colleagues, Denise Koufogiannakis, Ellen Crumley, and Jonathan Eldredge, advanced individual and collective aspirations for evidence based information practice (Brice et al.). Our thoughts were compiled in late 2003, the year before publication of that edited volume. Having already demonstrated how ineffectual five-year vistas prove within evidence based practice, these provide an alternative three-year benchmark for progress to date. We welcome the opportunity in this paper to revisit these aspirations. We acknowledge that authorship of this article no longer privileges the North American perspective. Yet at the same time, our contribution is strengthened by insights gained from workshops and seminars delivered in Denmark, Finland, Sweden, Spain, Sicily, Romania, and Australia.

What's in a Name?

In beginning this narrative review we should acknowledge our personal antipathy to the label 'evidence based librarianship.' We believe that this label is limited in scope and may carry undesirable connotations of exclusivity. Initially we were attracted to the alternative name 'evidence based information practice,' because it appears to be more encompassing. It was this term that we originally advocated. However, we subsequently realized that this term loses the strength derived from connection with the already well-established body of our professional practice. In discussions at the 3rd Evidence Based Librarianship Conference in Brisbane, we came to agree on 'evidence based library and information practice.' The authors believe that this phrase aptly characterizes the intellectual efforts and energies expended by a growing

international community on behalf of this model of reflective and continuously developing professional practice. We therefore hope that this name continues to establish itself as a consensual term under which future endeavours will be organised and mobilised.

Booth has opportunistically recorded a snapshot of the concept behind this newly preferred term. In doing so he attempted to synthesize previous definitions (Booth, "Exceeding;" Eldredge, "Evidence;" Crumley and Koufogiannakis). Writing in *Performance Measurement and Metrics* he says that EBLIP :

> . . . .seeks to improve library and information services and practice by bringing together the best available evidence and insights derived from working experience, moderated by user needs and preferences. EBLIP involves asking answerable questions, finding, critically appraising and then utilising research evidence from relevant disciplines in daily practice. It thus attempts to integrate user-reported, practitioner-observed and research-derived evidence as an explicit basis for decision-making. ("Counting" 65)

This definition is our starting point for the discussion that follows. To facilitate comparison with the original chapter, this article follows the outline of the original and discusses publishing, community access and discussion, policy development, improvement of the knowledge base, instruction and practical tools, international collaboration, and achievements. It revisits various challenges, aspirations and frustrations of EBLIP before examining goals for the future. In doing this, the paper draws on a thematic analysis populated from the literature, Internet searches, and the authors' personal experience. The article

concludes by extending the horizon to accommodate ongoing expectations and aspirations.

Publishing

The original chapter outlined a "plethora of conceptual literature" (Brice et al. 280), and there remains ongoing interest in EBLIP among researchers, educators, policy makers, and practitioners in promoting EBLIP and embedding it within daily practice. Arguably, however, although these publications are a necessary mechanism for translating and adapting the generic evidence based practice model to our professional domain, they have been subsumed in importance by a new and exciting brand of 'implementation' study (e.g., Cotter et al.; Abbott; Yu et al.). Such studies, first presented at the 3rd International EBL Conference (Brisbane, 2005) and later published in this journal, have promulgated the key messages of EBLIP more widely, across both sectoral and cultural divides.

In the authors' personal opinion, the single most important development has been the launch of the journal *Evidence Based Library and Information Practice (EBLIP)* itself, not only because it is an open access, online resource, but also because it is already significantly indexed by *LISA: Library and Information Science Abstracts*, *Library Literature and Information Science, LISTA: Library, Information Science and Technology Abstracts* and the *Informed Librarian Online*. Published by the University of Alberta Learning Services, since March 2006, *EBLIP* combines primary research, commentary, and evidence summaries for current journal literature, and it represents a considerable achievement in planning and application. As such it provides a tangible and highly visible representation of the desire to put the practice of EBLIP on a firmer, more rigorous footing.

Other journal publishing ventures include the "Using Research In Practice" column in the *Health Information and Libraries Journal* (beginning in 2003) and the Medical Library Association Research Section's publication, *Hypothesis*. A more encouraging sign of diversification of the paradigm are the special features in existing journals, such as the 2006 special EBL issue of *Library Hi-Tech*, and feature articles in *Library and Information Research* that appeared in 2006.

With regard to the book literature, our own *Evidence Based Practice for Information Professionals: A Handbook* suffers, perhaps, from the burden and expectation of being the first volume on the topic. In attempting to combine the triple roles of historical marker, evidence source, and practical guide it unsurprisingly falls between stools. Rightly criticised for being more than a 'handbook,' unless of the arachnodactylic variety (!), it has at least opened the way for further niche offerings, such as *Case Studies in Evidence Based Librarianship*, edited by Elizabeth Connor (Chandos Publishing, 2007). Connor's work, as indicated by its proposed title, is located securely within the earlier variant of the paradigm, carrying the joint virtue/vice of being independent of more recent EBLIP thinking and activity as showcased at the recent EBL conferences. In addition, the concept of 'evidence based research,' as apparently espoused by the editor, is doubly problematic because all research should be evidence based – at least in its conduct – while research-derived evidence is only one ingredient of an optimal blend that also includes 'practitioner observed' and 'user-reported' evidence. It remains to be seen whether this book's principal contribution lies in exemplification of, or fragmentation from, the most current version of the EBLIP model.

What have such publishing developments brought, and what remains to be done? No

formal measures of the spread or depth of awareness of the concepts and features of EBLIP exist, and it is not possible to be precise about the impact of these and other ventures. Many fundamental questions remain about the nature of research and scholarly publishing and its impact on the lives of everyday library employees. Will the dearth of good quality research make the task of identifying potentially useable contributions unsustainable? Furthermore, what might we learn from the experiences of other disciplines, where publication of better quality primary evidence is likely to be subordinate to many contextual factors that influence implementation of research into practice (Meijers et al.)?

Community Access and Discussion

The intention of creating a vibrant, open, community discussion forum, to enable information sharing, and to "promote the movement internationally and to encourage librarians from all subject areas to learn more" (Brice et al. 280), a deficiency identified three years ago, is still to be realised. Although the Evidence Based Libraries electronic mail list (<evidence based-libraries@jiscmail.ac.uk>) continues to attract a wide user base of nearly 700 members, it remains primarily a vehicle for one-to-many dissemination. The same can be said of the more recent addition, the Canadian-originated Evidence Based Librarianship Interest Group (<eblig@clify.ucs.mun.ca>). Although this interest group has extended its membership beyond the narrow confines of the Canadian Library Association, here, too, there is little evidence of genuine innovation and debate. There is little evidence of more than a slow seepage of EBLIP into discussions on other library professional mailing lists. The comment from 2004 that there is "as yet no natural forum for international discussions on EBL ideas, philosophies and techniques" (Brice et al. 280) reflects the current status in

2007. This lack of discussion on conceptual issues is tentatively addressed by articles on the wider ramifications, such as the ethics of EBLIP (Booth, "Where's the Harm"), EBLIP narrative methods (Brophy), and the utility of EBLIP (Pearce-Smith).

One specific attempt to engage members in discussion has been the online, asynchronous Medical Library Association Research Section's Evidence based Librarianship (EBL) discussion group. Here a series of readings, to provide an introduction and overview of specific areas, helps to structure a discussion based on topics including an overview of EBL, finding evidence, study design and the future of EBL. Apparently aimed at laying a foundation of fundamental principles for evidence based librarianship, rather than advancing controversy and debate, this otherwise invaluable discussion necessarily captures a retrospective view of the topic through the aperture of historical, albeit recent, articles.

In 2004 the authors threw down a somewhat weary challenge to extend participation on the public stage beyond the 'same names': "In short, the Innovators have done their bit – now is the time for the Early Adopters to step forward and be identified" (Brice et al. 291).

Encouragingly, this particular challenge has been met, illustrated by such projects as those mentioned earlier (Cotter et al.; Abbott). There is also a heavy presence among the *EBLIP* journal advisors of those 'early adopters,' adding an impressive breadth and depth of coverage to the publication, albeit focused on the developed, English-speaking world. Fortified by this injection of talent and enthusiasm, many self-styled innovators have derived new impetus.

A profession that tends towards the anecdotal and practical, rather than the conceptual and visionary, however, mediates such encouraging and yet isolated developments. This observation is equally true of other areas of library practice, and indeed, of other groups and disciplines. Social research informs us that people will express their views only when they are engaged and committed, and this requires the building of trust and a common language (Cooper et al.). Initial indications appear to be that it will be easier to start small - by creating virtual learning communities locally and then building upon early successes to reach out to the wider librarianship community (Lewis).

EBLIP achieves its largest measure of success where different communities or sectors of our profession stamp their own unique approaches on the topic, while retaining the spirit of the movement. This aspiration, best exemplified by activities within school librarianship, was recorded in 2004 as "Incorporating all library sectors into the movement and revising the definition of EBIP to capture the different aspects of librarianship" (Brice et al. 289).

What evidence is there of the spread of evidence based practices from healthcare to other sectors? A search of the *LISA* database identified 326 citations published in 2003 with 'evidence based' appearing in article titles or textwords. Visual inspection of the abstracts for these established that only 9% were from settings outside the health sciences (Table 2). By 2006 this percentage had increased to 12%. Certainly this does not constitute evidence of growth sufficient to fulfil this particular aspiration. Other markers such as use of the phrases 'critical appraisal' and 'systematic review' actually represent a relative decrease in spread to other disciplines, mainly due to more prolific activities within the healthcare information sector. At the same time, there is some indication of increasing interest from practitioners from other sectors in the evidence based librarianship conference series. The first Evidence Based Librarianship Conference was attended almost exclusively by health information practitioners. The second conference included information practitioners from outside the health arena, but most were principally those working within the host institution. It was in Brisbane at the third conference that there was a truly genuine attempt at cross-sector participation.

Selected EBLIP Terms	2003			2006			% Increase 2003-2006
	Health	**Non-Health**	**Total**	**Health**	**Non-Health**	**Total**	
Evidence based	298 (91%)	28 (9%)	326	43 (88%)	60 (12%)	494	52%
Critical appraisal	43 (41%)	63 (59%)	106	53 (44%)	67 (56%)	120	13%
Systematic review	19 (63%)	11 (37%)	30	39 (71%)	16 (29%)	55	83%
Evidence	484 (20%)	1978 (80%)	2452	716 (22%)	2524 (78%)	3240	32%

Table 2: Prevalence in the LISA Database of Selective Markers of Evidence Based Practice

Additionally the IFLA Social Sciences Libraries Section has recently issued a call for papers at its 2007 meeting on the theme "Evidence Based Practice in Social Science Libraries: Using Research and Empirical Data to Improve Service."

Policy Development

Involvement of key figures in planning and policy discussions is of symbolic, as well as practical, importance. However, it is correspondingly more difficult to measure the impact of EBLIP on planning and policy – if indeed there has been any at all. Not only is it problematic to identify where such discussions impact on day-to-day practitioners, but it remains a challenge to trace when the evidence based signal, first imperceptible and then increasing in strength, becomes manifest in policy decisions. Indeed, there has been no formal analysis of the influence of the evidence based paradigm on policy development. Areas where progress has been made remain hidden in internal documents or in the consciousness of senior policy makers. Relying only on published accounts, it becomes clear that some EBLIP related areas of policy development have received attention at the highest level within specific geographic, sectoral or professional contexts. However it remains unclear what the impact of these has been or, indeed, how this might actually be measured.

Notwithstanding such difficulties in evaluation of impact, involvement of senior and high-profile librarians – e.g., Joanne Marshall, Margaret Haines, and Gillian Hallam -raising priorities and issues during their presidency periods of MLA, CILIP, and ALIA respectively, has provided considerable encouragement to those working in the field. These and other opinion-leaders have an important and continuing role to play, largely because of their ability to combine academic and professional rigour with influence and impact on broader professional matters.

It would be wrong to overplay the importance of this leadership role, however. Evidence based practice has always accommodated "top-down" and "bottom-up" approaches alike. Indeed, the success of current Australian endeavours may be most attributable to energy derived from grassroots experiences, and their successful efforts may translate as examples for librarians in other continents. For example, librarians in Gosford, New South Wales have produced a useful and pragmatic document, "Libraries Using Evidence Charter" (Cotter and Lewis). The speed with which this deliverable was realised contrasts with the corresponding delay currently taking place as leading figures in the movement debate the best way forward for developing an international consensus statement. Such a statement would mirror the "Sicily Statement for Evidence Based Practice" (Dawes et al.) in agreement regarding the scope, current status, and priorities for development of EBLIP.

Improving the Knowledge Base

The original summary chapter highlighted improvement of the knowledge base as one of the biggest challenges facing the development of EBLIP, and this remains the area where significant changes need to be made. These areas can be summarised as:

- availability of research funding
- type of questions being answered
- study designs selected
- quality of research
- synthesis of findings
- dissemination of results

While publishing initiatives itemized above help to disseminate findings more rapidly, we might well ask whether there is a 'mother lode' for a ready source of evidence summaries. Koufogiannakis et al. previously investigated our knowledge of the characteristics of our evidence base, and Perryman and Lu have recently augmented this with their examination of the terminology used by the *LISA (Library and Information Science Abstracts)* database to

identify research methodologies. The authors demonstrated that the *LISA* thesaurus is neither consistent nor sufficiently comprehensive to serve the needs of researchers. However, in comparison with work in healthcare, we still have a great deal more to learn concerning the tools and methods of evidence based practice. For example, might methodological filters be successfully developed to retrieve rigorous studies from the library literature in the same way that they have been devised for health care research?

The ability to collect and address questions of direct relevance and applicability to practitioners, the ability to fund and conduct good quality studies, and the skills and funding to synthesise research findings to add power to their results, should lie at the heart of EBLIP, as with similar movements in other disciplines. Is there anything we can do to improve the relevance and applicability of research? Do we have even the basic tools to use, such as validated instruments? A recent systematic review of information skills training (Brettle) highlights the fact that our quest to synthesise research results may often conclude not simply that we lack the research studies, but, even more fundamentally, that we do not have the validated tools with which to conduct such research. Our own thinking has moved on to the extent that we consider the development of tools to facilitate rigorous research to have supplanted the specific areas summarized above as a realizable priority with regard to improving the knowledge base.

Teaching and Learning and Practical Tools

Hand-in-hand with the need for an improved knowledge base come skills to access and exploit it. The ongoing development of EBLIP workshops (Booth and Brice, "Clear-Cut?"), the integration of EBLIP principles into mainstream library and information studies (LIS) course teaching, and the development of formal EBLIP modules have been accompanied by the development and spread of several practical learning resources:

- Setting-Perspective-Intervention-Comparison-Evaluation (SPICE) framework for analyzing answerable library questions (Booth, "Formulating").
- Reader's Guide to the Literature on Interventions Addressing the Need for Education and Training Checklist for Educational Studies (Koufogiannakis et al., "ReLIANT") and Checklist for Filter Studies (Jenkins).
- Inventory of Research Methods for Librarianship and Informatics (Eldredge, "Inventory").

Ad hoc individual contacts between international collaborators have contributed to the spread of teaching methods and materials, such as the workshops at the 3rd EBL Conference facilitated jointly by US-UK and UK-Canada pairings. Improved international understanding and collaboration are particularly evident in Europe and Australia where several joint teaching events, and an accompanying exchange of teaching methods, have been successfully delivered. There has been criticism, however, that the success of these events is overly dependent on the profiles and efforts of a few well-known individuals and can only contribute to short-term awareness. In contrast, the European ethos embodies a system of cascade whereby an external facilitator comes into a single organisation as an EBLIP catalyst. Following this external stimulus, internal staff members work on taking forward issues within their own organisations.

This model, which targets the aspiring evidence based organisation, through work teams, as opposed to the isolated evidence based practitioner (Booth, "From EBM") has been tried by the authors when conducting training courses for libraries such as those of Loughborough University and Kings College, London in the United Kingdom and for the Karolinska Institute in Sweden. While it is too early to judge whether such approaches have proved effective there is at least some grounds for optimism that these may provide an opportunity for greater institutionalisation and integration of EBLIP into work teams. The team at the Karolinska Institute, for example, report in a personal communication how they have taken their journal club one step further to a more objective discussion, adopting the Critical Skills Training in Appraisal for Librarians (CriSTAL) checklists developed for appraising library studies (Booth and Brice, "Clear-Cut?"), and writing the minutes to resemble an evidence summary. Interestingly, this cascade method models, albeit on a smaller-scale, the approach used by the Association of Research Libraries in the US to increase local ownership of performance measurement (Hiller et al.). Of course, there may be other such 'learning cascades,' but these remain, as yet, unrecorded.

International Collaboration and Achievements

Rotating locations for the international conferences has provided many opportunities for collaboration, as colleagues from around the world plan and attend these events. Fortuitously each conference has witnessed the appearance of an international delegate to volunteer to organize the subsequent event. Holding the conference in different locations also allows proponents from each country to bring relevant issues to a larger audience and to stimulate local developments. It also attracts

international speakers amid awareness that research carried out outside one's own immediate environment may be both interesting and transferable.

The downside of this opportunistic approach to hosting the conference lies in the absence of a shared strategic vision for development of the series. Certainly the long-standing pedigree of the movement within the United States might have led to expectations that participation as host for the biennial international conference would come earlier than the fourth iteration. Of more concern is the possibility that this opportunistic *modus operandi* might lead to persistent exclusion of the developing world or of non-English speaking cultures such as those in Eastern Europe. As stated three years ago, EBLIP "is still mainly in developed countries, so involving other librarians from all types of environments and situations would enable us to develop the concept for all librarians'" (Brice et al. 285).

While something as tangible and focused as a conference has survived and thrived in this 'strategy vacuum,' this is not true of broader, more long-term, collaboration for the movement in general. There has still not been an explicit discussion or debate, never mind agreement, over what can and should be done internationally, and what is best done nationally or locally. The model that currently appears to hold sway for EBLIP initiatives is that exemplified by the *EBLIP* journal -- namely that it is parochial (in this particular case, Canadian) in ownership but international in scope and impact. While commending the foresight and opportunism that leads to such developments, one has to ask whether such an approach will result in an even spread of EBLIP mechanisms and infrastructures across multiple countries. Too, how will such entrepreneurialism ensure the development of less attractive, and yet equally necessary, structures, once

the first round of initiatives has been 'cherry-picked'? Further dilemmas are reflected in divisions between sectors – advocates for EBLIP remain split as to the extent to which their energies should be focused inwards, towards running workshops and delivering presentations within their own sectors, or outwards, in working across sectors on wider propagation of the paradigm.

Encouragingly, some examples of cross-boundary international efforts do exist. The Cochrane Information Retrieval Methods Group provides the first example of one aspiration, "an international register of rigorous librarianship studies" (Brice et al. 290) (albeit as a component of the Cochrane Methodology Register and focusing exclusively on issues associated with information retrieval). The international HTA-i information specialists group hosted an Evidence Based Information Retrieval workshop in Adelaide, Australia, that attracted international regulars and local enthusiasts. The European Association for Health Information and Libraries has also hosted an evidence based librarianship workshop and featured EBLIP in a special issue of its open access journal (Booth, "Where's the Harm?"). Wider collaborative opportunities with the contiguous disciplines of evidence based information systems and evidence based software engineering have been tantalisingly hinted at but are still to be explored in detail.

Challenges, Aspirations and Frustrations

In the opinion of the authors two particular challenges remain as pertinent today as they did for the original chapter: the 'depth and spread' of EBLIP and the need for developing an EBLIP 'skills base.' 'Depth and spread' represents a complex phenomenon, although significant developments may still exist where EBLIP issues are tackled at the grassroots. Whether

such depth extends to responsibility at every level – "individual, organisational, professional, national and international" (Brice et al 284.) - is more difficult to gauge. Major professional membership associations are comparatively quick to pay lip service to the importance of EBLIP but, with the exception of funds for conference organisation, few have placed resources at its disposal. Associations with a prior record of involvement in research utilisation, such as the Special Libraries Association and Medical Library Association in the United States, the Canadian Health Libraries Association, and the Library and Information Research Group and Health Libraries Group in the United Kingdom, have found it easier to accommodate the EBLIP agenda than more recent additions to the fold. Organisations such as the Australian Library and Information Association have had their involvement stimulated by the proximity of EBLIP conferences, in truth making non-participation almost impossible, and their support has been warmly welcomed. For many other groups, however, there persists a sense that inclusion in conference programmes or workshops is simply a response to the perceived need of committee members: "I suppose we should do something for our members on evidence based librarianship." This would be followed by the almost inevitable, "Well now we have done that, what is the next hot topic that should command our attention?"

Issues with regard to the skills base are also problematic. EBLIP not only requires production of a new generation of practitioners, familiar with the design and interpretation of LIS research. We hope that the encouraging initial observation that evidence based practice apparently meets the "unique learning preference of the modern-day LIS student – the Millennials" (Partridge and Hallam 417) is ultimately realised. However we also acknowledge the

same authors' caution that "the current student cohort is not comprised solely of Millennials, but also includes older students such as Generation X – and even Baby Boomers"(406). EBLIP therefore also needs to provide corrective or remedial education for generations of practitioners who, like ourselves, received little or no formal research training. As we commented three years ago:

> A sustainable continuing professional development policy and funding has neither been achieved nor implemented. Otherwise successful tools and educational activities have, disappointingly, not been recognized by commitment and funding at a policy level. (Brice et al. 287)

Despite interest from educators, there is still considerable unfulfilled demand for remedial education, hence ongoing demand for workshops and short courses and the need for sharing of resources.

Priorities for the Future

Our aspirations for the future must necessarily include both strategic necessities and personal priorities. As briefly hinted above, the EBLIP movement requires both strategic coordination and the development of international consensus. Strategic coordination would yield opportunities for a more planned and systematic approach to conference planning and the development and allocation of resources and initiatives according to genuine need. This would serve to channel the prodigious energies and enthusiasms of those already involved in EBLIP more productively as well as providing a rallying point for those interested in future participation. Parallels have previously been drawn with the international Cochrane Collaboration.

Certainly were even a fraction of that network's efforts to be achieved within our profession, all would benefit (Booth, "Will Health Librarians").

Similarly the achievement of an international consensus on what EBLIP is and how it might best be taken forward is seen as a prerequisite to other proposed developments. While a joint international statement of policy and intent, first mentioned three years ago and discussed informally at the 3rd Evidence Based Librarianship Conference is seemingly symbolic, we believe it would constitute a really important first step. This would both provide an opportunity to synchronise the different national 'EBLIP clocks,' from which subsequent developments and synergies could be advanced, and also act as a vehicle for shared values and clearer communication across cultures and sectors.

Given the limited time and resources available, and the increasing pressure on individuals to satisfy immediate organisational objectives, sectoral involvements, and national interests - time remaining for international activities will be limited. Yet the logic for collaboration is persuasive: If every member attending a 20-strong EBLIP workshop wrote one evidence summary over a two-year period, the international community would have access to the findings of 20 new research studies. This would supplement the 10 or more summaries published in each issue of this journal. Collectively such evidence summaries benefit the individuals, their organisations, and nameless colleagues worldwide. How effective these and other such international efforts, could be in saving time and energy, sharing knowledge, reducing duplication, and supporting learning from global experiences! A disappointing feature of an otherwise encouraging trend towards localisation of EBLIP is the number of anecdotal accounts

of journal clubs with no visible or virtual outputs disseminated via the rapid publishing medium of the Web. Indeed, such journal clubs do not even make available the lists of articles they have reviewed and appraised – maybe laying claim to the label 'Evidence Based Library *Invisible* Practice'! By way of contrast, the Libraries Using Evidence Initiative has recently established an EBLIP newsfeed providing access to and awareness of recent international literature in our field (<http://del.icio.us/ebliptoolkit/current>). This initiative has the potential for a positive impact on our agenda.

Our personal aspirations continue to prioritise one still outstanding deficiency. "Robust methods for disseminating research findings to practising professionals are yet to be achieved" (Brice et al. 287). Investigation of promising, but ultimately unsatisfactory, products such as systematic reviews, guidelines, briefings, and digests has culminated, most recently, in the proposal of the RESolutions evidence model, an as yet untried but holistic and pragmatic evidence summary (Booth, "Route Maps"). Again, our own limited powers of prediction have seen us having to postpone at least one aspiration, "Once we have attained a critical mass of rigorous studies such as randomised controlled trials and cohort studies, we can then graduate to conducting more systematic reviews" (Brice et al. 290).

The beguiling elegance of the effectiveness review remains defeated, at least for the moment, by a paucity of studies. Nevertheless, future prospects for research synthesis lie encouragingly with qualitative systematic reviews that may allow us to prioritise the attitudes, perceptions, and feelings of our users (Booth, "Will Health Librarians").

Meanwhile there remains an ongoing need to develop tools and products to make it easier for practitioners to apply research findings in the workplace. The Libraries Using Evidence Initiative is working on a proposed 'toolkit,' while the authors themselves are planning a more extensive inventory of CriSTAL checklists. However there remains a need for "lobbying educational institutions to increase research and appraisal skills teaching in the curriculum, roll-out of educational interventions such as appraisal workshops, and continuing development of e-learning and distance based courses" (Brice et al. 289).

This emphasis on the practitioner is further seen in our aspiration for an increase in practitioner-led research. Herein lies a paradox – simply increasing practitioner-conducted research, without increasing skills and knowledge, may improve the relevance and applicability of research, but could actually result in a reduction in research quality! The lesson to be learnt from consumer involvement in research is that practitioners could shape the questions but not necessarily conduct the research themselves. The biggest challenge may yet be to obtain funding to conduct the research needed to make better decisions in areas deemed most relevant by practitioners.

Many suggestions for driving developments forward in the short- or medium-term carry the underlying themes of integration and embedding in mainstream activities. To have EBLIP conferences and courses is good, to embed EBLIP themes and approaches within established forums is better. To have an EBLIP journal is again important, but to have EBLIP articles within every LIS journal is even more so. To have EBLIP modules within LIS courses is significant, but to have an EBLIP approach within every module should be the aspiration.

- Interactive version of CriSTAL checklists on the Web alongside other learning materials
- International online course offered on a regular basis
- Complete set of "User Guides to the Library Literature" commissioned and published
- Filtered database, containing references to high quality research articles categorized by domains or areas of common interest
- Common international curriculum
- International research strategy and funding
- Scholarships/fellowships
- Large-scale international multi-centre prospective studies
- Safe space on the Web to encourage mentoring research and applied skills

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Figure 1: Longer-Term Objectives Requiring Infrastructure and/or Funding (Brice et al. 289-90)

"Future success will only come when EBIP becomes mainstream and is supported by those who are grounded in the organisational cultures of international, national, and professional library associations and groups" (Brice et al. 291)

This rationale lay behind the most radical statement of the original chapter:

> And finally – success in extinction! Maybe the most important longer term aim, and critical success factor, would be the abolition of an international association of evidence based information practitioners (because it is so widespread and common place everyone strives to be evidence based). (Brice et al. 290)

It is telling that many longer-term objectives, brought forward from 2004, carry with them a requirement for infrastructure and/or funding. Some of these are listed in Figure 1.

Like any mid-term report card, the eye is inextricably drawn to the 'could do better' rather than to the 'good.' We have seen considerable progress, and this is the note upon which we should fittingly conclude. We have seen a small but perceptible increase in the use of structured abstracts internationally for journals and conferences. Our community continues to benefit not

only from the biennial conference circuit but also, more importantly, from more frequent inclusion of EBLIP in mainstream conference programmes. We have witnessed development and dissemination of the first evidence based guideline on the topic of Web site usability (Koyani et al.) and a report on its subsequent utilisation in a health library web development project (Cotter et al.). We have also observed development of the first EBLIP module in an undergraduate or postgraduate library course (Marshall and Perryman). The *EBLIP* journal has met several objectives simultaneously – providing evidence based digests on the Web, a vehicle for systematic reviews, a secondary journal of summaries, and ongoing and productive international collaboration.

The Future: Some Conclusions

In 2004 we commented, "We've made the first faltering toddler's steps, but we are a long way from adolescence and maturity" (Brice et al. 291). Growing pains continue, and divergent opinions are necessary in any organic movement spanning many continents and disciplines. The significant growth of evidence based library and information practice, the development of practical projects around integration and implementation, and increasing geographical and sectoral spread provide

evidence that this 'toddler' is now mobilised. The time has come to mature from being problem-focused to solution-focused. In other words, it is time to use the evidence based practice process to produce real and transferable solutions to important practical problems, rather than simply further clarify our discussion of the existence of such problems. Similarly, there is an urgent need to consider the adoption of evidence based practice as a core personal, professional, and organisational responsibility. This requires that EBLIP be fully integrated into personal development plans, professional revalidation, and organisational accreditation schemes. Perhaps 'prepubescence' is now a more fitting analogy for the current status of our paradigm's biochronological development.

Having consistently highlighted the dangers inherent in prediction, it would be foolish for us to put in place too many developmental milestones (or even too many arbitrary millstones!) against which to chart ongoing success of the paradigm. Nevertheless we would confidently aspire to some, if not all, of the following achievements over the next three-year time frame:

- Formation of an international collaboration or association of evidence based library and information practitioners.
- Production of an internationally recognized consensus statement.
- Increasing practitioner involvement in determination of research questions and priorities.
- Continued dissemination of significant research findings through evidence summaries.
- Increasing use of 'Implications for Practice' from published research findings.
- Generation of tools and techniques for increased utilisation of the

evidence and for the promotion of reflective practice.
- Integration of evidence based practice and project management methodologies as tools for strategic planning.
- Increasing numbers of team-based exemplars of local EBLIP initiatives.

Should none of these aspirations be fulfilled within this putative timeframe, we shall, of course, take refuge in pointing again to the universal truth that "Prediction is difficult; especially for the future!" Of one thing we can be certain, as we anticipate growth spurts and accompanying emotional crises in the further development of our EBLIP adolescent, the next three years promise to command ongoing parental attention!

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