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New roles and new challenges

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New roles and new challenges

Andrew Booth and Graham Walton

Introduction

The health sector never remains static. New drugs are developed, new illnesses appear and governments tinker with health service delivery to meet their political agendas. The information needs of health consumers, health professionals and health students evolve and modify. As some library and information services no longer meet users' needs new services appear to meet emerging new demands. This chapter revisits those areas (health service, technologies, user needs, information provider roles and consumer requirements) explored in a corresponding chapter in this book's companion volume (Booth and Walton, 2000) and proposes how these may develop. The chapter concludes with a prospective glance at the likely impact of evidence based information practice on the domains covered by this book.

Health services

Health library and information services will have to demonstrate increasing flexibility in coping with pressures from the perpetually changing health service. The dire implications of failing to do this have been explored in the context of the higher education hybrid library service (Walton and Edwards, 2001). In the United Kingdom, the NHS has experienced twenty years of being reformed and restructured on what appears an annual

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basis (Harris and Wood: 1999). This is unlikely to cease so NHS librarians cannot anticipate any permanence with regard to structures, policies or direction. The creation of the NHS Library and Knowledge Development Network (LKDN) exemplifies such pressures. In 1999, regional health authorities were deconstructed and Workforce Development Confederations were created. The LKDN was established to take on the work previously undertaken by the Regional Librarians Group. Already the LKDN itself is unclear about the way forward as Workforce Development Confederations have been aligned closely with Strategic Health Authorities.

The level of private funding going into health will likely increase, evidenced by more public/private partnerships. Governments cannot sustain the necessary level of new hospital building and maintenance without relying on financial alternatives to central taxation. The introduction of private financing into health requires libraries to demonstrate that they are an asset rather than a cost. The NHS LKDN is undertaking an impact study of the library in health care. Impact studies and cost benefit analyses are vital to assist librarians in justifying their services. More evidence will be required as emphases are placed on monitoring and standards (NHS Library and Knowledge Development Network, 2003). Libraries will be increasingly expected to demonstrate the quality and value placed on services they deliver.

Health services will continue to move towards supporting ‘good health’ or ‘wellness’ rather than treating diseases. Increasing numbers of ‘wellness centres’ will be set up such

as that established near Wolverhampton (Roche, 2000) where a multi-disciplinary team has a 'holistic approach in treating mind, body and soul' and provides a range of alternative therapies. Libraries will be expected to provide access to knowledge bases around good health and alternative therapies.

The impact of an ageing population is inescapable. Andrews (2001) has explored what is required to ensure the health and wellbeing of growing proportions of older people during the opening decades of this new century. Many health services will have to modify and develop to accommodate increasing numbers of elderly users. Librarians will have to address human resource issues as health and library workforces become older.

Technologies

Predicting those technologies that will significantly impact on health care is not straightforward. Within the library and information context, it is highly likely that the technology will demonstrate features of integration, personalisation and portability. It will be fascinating to observe how World Wide Web technology influences library and information services and health care in general.

This past few years has witnessed major integration between technologies. Mobile phone users can now use their phone to take digital pictures, listen to MP3s and maintain an electronic diary. A networked personal computer can also be used for similar functions.

The possibilities and opportunities for "library information" to become increasingly

integrated with the electronic patient record (EPR) lie within our grasp. Curry and Sawyer (1999) argue persuasively for the value of bringing together the disparate information that impacts and informs patient care. They question the benefits that will accrue if information is interfaced as opposed to integrated. The integration of the clinical librarian into the clinical team illustrates the possibilities where an EPR brings together different categories of information. Another rationale for integrating clinical information (patient information and reference information) is that it provides an effective tool to support evidence based practice (Gonclaves et al, 1999). Such integration provides real opportunities for the health librarian to work with clinicians and IMandT staff to increase access to their services.

In the 1960's, an advert for an alcoholic drink used the memorable slogan 'Any time, any place, anywhere'. This 'Martini culture' is even more evident 30 years later as people expect to be able to access services where they want them and when they want them. Within health, wireless technologies, personal digital assistants (PDA) and tablets can help to achieve this vision. The potential of these technologies for libraries is amusingly described by Williams (2003). Much uncertainty clouds the implications and potential for these developments and more clarity will emerge over the next few years. Projects are starting to explore how PDAs can be used in the clinical setting. Anderson and colleagues (2002) claim that the PDA can be used by the clinician for personal knowledge and time management, patient information, hospital information, clinical guidelines and drug prescription, research and audit and reference information. All these applications will

require much further work if their potential is to be realised. The PDA also has a role within the domain of education and training of health professionals (Doran, 2003).

Various education providers have started to experiment with the PDA to enable students to utilise more flexible learning.

World Wide Web technology has been used within a health context for ten years but it could be applied much more widely than it is currently. De Lusignan (2003) reviewed the literature on the Internet and the NHS and concluded that 'patients and clinicians use the Internet in inconsistent and suboptimal ways, but the lack of outcomes based studies hampers identification of ideal strategies'. Notwithstanding the considerable scope of the Internet for creativity and experimentation its potential is hamstrung by this lack of research on its impact on health (Powell et al, 2003). Health librarians must therefore seek to ensure that they continue at the centre of web-based developments. The paucity of research on the impact of the World Wide Web constrains the evidence based practitioner roles explored later in this chapter.

User needs

Such changes in the wider world impact on the needs and expectations of library users as they evolve and respond to resultant demands. Only by having an in-depth understanding of their users, will librarians ensure a close correspondence between users' needs and provision of library services. The past year has seen the potentially crucial concept of personalisation start to emerge. This is the 'process of gathering user-information during

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interaction with the user, which is then used to deliver appropriate content and services, tailor-made to the user's needs' (Bonnet, 2001). This phenomenon was pioneered by the on-line bookshop, Amazon. Through patterns of use, it was able to develop services that respond proactively to individuals' likely future needs. Various World Wide Web search engines similarly offer increasing sophistication and extensive customisation (Notess, 2001). Libraries are beginning to explore how more services can be customised to specific user needs. The rationale is to reduce information overload by allowing users to select as little or as much information as they need from their personal pages (Reade, 2001).

Personalisation will likely provide a better service to users by anticipating their needs, thereby facilitating efficient interactions to satisfy both parties. It should help to build up a relationship which will encourage users to return for subsequent visits. Issues attached to such opportunities include user identification, differentiation and interaction (Hafner, Keating and Lin, 2000). As clinicians encounter customised services in other aspects of their lives, they will expect the same provision from their library services. Koutrika (2002) provides a fascinating projection of digital library services with personalised services at their centre.

Information Provider roles

Recent years have witnessed considerable changes that have impacted upon the information provider role:

“In the last decade of the 20th century the role of the health librarian has altered remarkably from that of custodian of a relatively passive collection of printed materials to one of intermediary in the provision of access to the world's healthcare knowledge base” (Lancaster, 2000).

Indeed, the concept of information provision has itself been challenged. Just as consumer health has witnessed developments in “self care”, information provision has seen the popularity of “end-user” approaches. No longer is the literature search the exclusive and jealously guarded province of the intermediary. First CD-ROM searching and, even more so, direct access to the Internet offer a wealth of information not previously envisaged (Marfleet and Kelly, 1999). Notable among developments is the universal availability of the PubMed MEDLINE database. Of comparable impact, however, is a plethora of “core content” deals on a regional or national basis whereby, upon authentication of user status, health professionals are able to enjoy free searching of commercial databases (Hernando and Gibbens, 2003). Which librarian of the late 1980s and early 1990s could have envisaged national access to such evidence based products as the Cochrane Library and Clinical Evidence?

At the same time great strides have been made in providing access to the content, not merely bibliographical details, of printed journals. The BMJ Publishing Group has been a high-profile opinion leader in pioneering this revolutionary model of information provision and the content of core electronic journals is now purchased as a national resource (Hernando and Gibbens, 2003). While wholesale packaging of content by

electronic publishers has significantly improved the availability of certain journals it has been challenged by competing “free-range” models as stimulated by the Biomed Central (Anonymous, 2002; Fletcher, 2002) and PubMed Central initiatives (Delamothe and Smith, 2001). While pre-print services have yet to enjoy the same popularity within medicine as they undoubtedly experience within physics they reflect a broadened recognition that knowledge is a free-flowing commodity.

Ironically neither increased bibliographical control nor widespread availability of publications has undermined the credibility or importance of the local information provider. In fact developments in evidence-based health care in particular have had a profound effect:

"Librarians are no longer seen as just providing a support service. It's brought us centre stage, as evidence-based practice requires real expertise in handling information and knowledge. And it's focused attention on the skills that people need in order to formulate questions, locate, find, judge and appraise evidence."
(Chalmers, 2000)

Just as lawyers have faced do-it-yourself will-making and doctors have encountered over-the-counter medication, this challenge has increased awareness of the more transparent areas of professional practice while placing a premium on less accessible areas of expertise and experience. In contrast to the experience of the early pioneers of the LATCH programmes (Winning and Beverley, 2003), clinical librarians today find

themselves not only providing information but also delivering training and specialist support (Marfleet and Kelly, 1999). This “holding on while letting go” approach is fundamental to several information provider roles – for example, consumer health information providers who offer Web access to self-care resources and yet also act as guardians and arbiters of quality.

A related development is the growth in specialist centres and, increasingly, specialist roles within those centres (Beverley et al, 2003). Whereas a decade ago specialist information resources for systematic reviews were located at one or two nationally-supported centres (Glanville, 1994; Lefebvre, 1994) nowadays many university departments either possess or can negotiate access to dedicated searching expertise. Such a critical mass has led to the development of the National Institute for Clinical Excellence Information Specialists Group and its international counterpart, the HTAi Information Group (formerly the Specialist Interest Group for Information Retrieval within the International Society for Technology Assessment in Health Care).

While the impact of new information provider roles such as the Primary Care Knowledge Manager, the Clinical Librarian and the Information Skills Trainer should not be underplayed it would be misleading to imply that new skills are concentrated exclusively in such roles. The NHS has witnessed a fundamental and pervasive broadening of its skills base and health librarians are by no means exempt from this trend. The Library Manager of today requires not only the technical and professional skills of their 1980s

counterparts, enhanced to a significant degree, but also a variety of specialist skills in marketing, project management, evaluation and knowledge management, to name but a few. This extensive training agenda emphasises the challenges faced, within our profession alone, by the NHS University as well as such targeted initiatives as the National electronic Library for Health's Librarian Development Programme (Fraser, 1999). Hence the Librarian Development Programme (Toth et al, 2000; Turner et al, 2002) aims to support librarians moving into new roles, focusing on:

- Supporting the development of digital skills in health librarians
- Providing opportunities for librarians to develop the skills and experience to take on knowledge management roles
- Encouraging the development of evidence-based librarianship
- Promoting an understanding of the processes involved in clinical decision making

Consumer health developments

Similar technological and cultural drivers are at work within consumer health. Consumer health information services handle a wide range of health related enquiries from patients and the public. Traditionally, such enquiries involve providing understandable information about health problems, health care processes, local services and self help groups. Increasingly, however, funders and enquirers expect information providers to supply information about the effectiveness of health care interventions to inform participation in treatment decisions (Entwistle et al, 1996). This, in turn, requires

consumer health information professionals to prove that information that they provide is effective. Self-care information is assumed to reduce the inappropriate utilization of medical care (Carney et al, 2000). In actuality the evidence is equivocal (Lorig et al, 1999; Piette et al, 2000; Moore et al, 1980; Kemper, 1982). There is almost a complete dearth of evidence of the effects that widespread use of the Internet may have on actual health outcomes (Bessell et al, 2002). As Internet access increases (Brodie et al, 2000), and user-driven demand grows, the need for evidence about whether online health information causes more harm than good becomes increasingly urgent.

Consumer health providers have increasingly harnessed the tremendous power of the Internet to complement locally sensitive solutions (Jones, 2000). They thus refer consumer enquirers to appropriate sites on the Internet as well as to their own locally packaged information materials. Consumer health information professionals have had to acquire the skills or resources required to provide good quality research based information about health care effectiveness in formats that are appropriate for their enquirers (Entwistle et al, 1996). They also need to be familiar with initiatives to develop quality and ethical standards for health information on the Internet (Risk and Zenouwagis, 2001)

The “resourceful patient” is now better informed than ever about their health, perhaps even more so than their doctor (Muir Gray, 2002), and increasingly expects doctors to make decisions *with* and not *for* them (Nash et al, 2003). Advocates for such an approach include the Institute of Medicine in the U.S (Committee on Quality of Health Care in

America, 2001) and the U.K National Health Service (Department of Health, 2001). In addition, the distinction between information designed for consumers and information targeted at health professionals is increasingly blurred (Nash et al, 2003). The provision of free access to MEDLINE from 1997 onwards in effect made that considerable resource available to millions of health consumers worldwide. In launching the PubMed service Vice President Gore said,

"This development, by itself, may do more to reform and improve the quality of health care in the United States than anything else we have done in a long time"(Modlin, 1997)

To illustrate this fact the Vice President searched for references to a condition he had once suffered, comparing treatments recommended in the results with the treatment his doctor had offered. Recognising that:

“Doctors and patients need the same evidence based information, served up in parallel, drawn from the same sources” (Nash et al, 2003).

the BMJ Publishing Group have announced a Web site called *BestTreatments* (www.besttreatments.org), based on *Clinical Evidence* and categorizing treatments according to their effectiveness. An underlying principle is that “users can drill down from the top level statements on effectiveness to the evidence summaries in *Clinical Evidence*” (Nash et al, 2003). Patients not only require such information to answer their cognitive need (to know more about their condition) and to support their affective need

(to cope with the effects of the condition) but also use information in modifying their future behaviour (Sweetland, 2000).

While the National Library of Medicine continues to provide free access to MEDLINE, including its specially-tailored consumer interface, MEDLINEplus (Booth, 2002a), consumer health information has become increasingly digitized and available on the Internet (Wagner and Jimison, 2002). E-health is big business (DeNelsky, 2000) and major players, such as the American Medical Association and Kaiser Permanente, have invested heavily in proprietary consumer health information systems. Facilities available via the World Wide Web include everything from risk assessment tools to interactive health advice through to news of latest medical developments.

Of course provision of increasing amounts of information to health consumers is not only a positive development. It may lead to worsening outcomes as a result of "information overload" (Hibbard et al, 1997). Not to be underestimated is the considerable time and cognitive effort that searching, obtaining and processing such materials may involve (Fast et al, 1989). While this is true of healthy individuals this is particularly the case for those who are ill and typically under time constraints and emotionally stressed, making it more difficult for them to understand what they have retrieved. This situation is aggravated by the variability, and indeed inaccuracy, of much patient-oriented information available via the Internet (Jadad and Gagliardi, 1998). Misinformation may, at worst, put patients in

danger, at best health professionals may spend much time refuting inaccurate statements (Welsh, 1998).

Two complementary characteristics are the diversity of applications for which consumers may access information and the variety of channels by which information providers might choose to deliver it. Consumers may access Internet-based information to shape their treatment preferences and to select healthcare providers (Eysenbach and Diepgen, 1999). They may seek online consultations, support, self-management and screening tools, and buy medicines online (Bessell et al, 2002; Rose et al, 2002). Healthcare services may be delivered across national boundaries (Coiera, 1998) with direct-to-consumer marketing of pharmaceuticals (Menon et al, 2002) becoming a growing phenomenon. The multi-channel approach is best illustrated by NHS Direct which has developed from three pilot call centres in 1998 to a fully multichannel service utilizing telephone call centres, the Internet, touchscreen kiosks and digital interactive TV (Jenkins and Gann, 2002). Such varied approaches, aiming to reach as many different audiences as possible are complemented by the increasing personalization of the service.

Finally, notwithstanding tremendous strides in relation to the content, delivery and indeed philosophy of consumer health information provision, major challenges remain to be overcome. Lancaster (2003) investigated “demand for detailed [as opposed to basic] health information from public library users” and concluded that there remains low usage, difficulty in accessing information at the right level of difficulty, and a distinct knowledge gap.

Towards evidence based information practice

This volume has made substantial reference to the published literature, albeit within a traditional context of overview. Increasingly the impact of evidence based librarianship/information practice (Eldredge, 2000; Booth, 2002b) is being felt within the health information domain. While efforts to produce a considerable body of evidence for our profession will inevitably require significant investment (Booth, 1998; Booth and Haines, 1998) a far more immediately realisable objective is the development of a profession of evidence based information practitioners. Two conferences for teachers and developers of evidence based health care, held in Sicily in 2001 and 2003 have identified six generic characteristics of an evidence based practitioner (Hopayian and Hooper, 2003):

- Constantly questioning;
- Sceptical of current practice;
- Listens to and values other people's perspectives
- Aware of the validity and limitations of their own knowledge
- Possesses a level of knowledge of evidence based practice appropriate to their own situation;
- Continuously learning.

Such characteristics, developed within the context of the "reflective practitioner" (Schon, 1983; Schon, 1987) and the "learning organisation" (Senge, 1993) can go a long way towards creating roles that not only respond to but also anticipate the future information needs of users, staff and commissioners alike:

“Evidence-based practice is about best practice and reflective practice, where the process of planning, action, feedback and reflection contributes to the cyclic process of purposeful decision making and action, and renewal and development”. (Todd, 2003)

If health information professionals are to manage and exploit knowledge for health services to the benefit of their users, and to further their own professional status, they will actively pursue current and rigorous information on the effectiveness and efficiency of information interventions:

“Health librarians will need to engage with this culture, supporting the evolution of a research-based profession—in particular developing a better understanding of the information seeking behaviours of health professionals and engaging in regular horizon scanning in order to respond to the needs of library users. Essentially, health librarians will need to demonstrate in their own practice, the evidence-based approach that they advocate to others”. (Lancaster, 2000)

While this book, and even more so its predecessor, have focused on the information professional’s role in *supporting* evidence based practice it is to be hoped that future offerings, by ourselves and our contributors, will further the role of *practising* evidence based information practice.

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