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## Australia's Health Libraries: A Research-directed Future

GILLIAN HALLAM, ANN RITCHIE, CHERYL HAMILL,  
SUZANNE LEWIS, CAROL NEWTON-SMITH,  
MELANIE KAMMERMANN, AND PATRICK O'CONNOR

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### ABSTRACT

Health Libraries Australia, a group from the Australian Library and Information Association, is currently undertaking a research project to determine the future requirements for the health librarian workforce in Australia. The study has yielded an in-depth literature review exploring the Australian health care system and health library sector and international trends in health libraries that may impact Australian health librarian education. It has also produced surveys of Australian health librarians and health library managers. This article reviews the first stage of the project. The data will provide a solid foundation for development of the next phase of the project—scoping a structured, modular education framework for postgraduate qualifications in health librarianship and an ongoing continuing professional development structure.

### INTRODUCTION

One of the major workforce issues that has emerged for health librarians in recent years is education and training, preparation for specialist practice, and ongoing professional development. The contemporary health sector is diverse, with endless structural and service delivery changes. The current and future roles of health librarians are changing and the profession must be well positioned to move into new areas of practice that require new skills.

Health Libraries Australia (HLA) is a group within the Australian Library and Information Association (ALIA). The overarching goals of HLA are to encourage communication and collaboration among Australian health library and information professionals. Specific area of interest

for HLA include the promotion of research initiatives and the organization of professional development activities, with the goal of encouraging and supporting members' ongoing career development. In 2009, building on a growing awareness that developments in both the national and international health sectors would inevitably have a significant impact on Australian health library and information services, the HLA agreed that there was a need to undertake a formal investigation into the future skills requirements for the health library workforce. This article presents preliminary reporting on the first stage of a major national research project being conducted by HLA.

### LITERATURE REVIEW

A search was conducted of the major specialist health library journals (*Journal of the Medical Library Association (JMLA)*, *Health Information & Libraries Journal*), together with major Australian health management journals for the period of January 2002 to December 2009. The authors also drew on individual contacts and their existing knowledge of relevant gray literature to identify publications for review. The literature review explores two main areas: the Australian health care system and health library sector; and international trends in health libraries and their implications for Australian health librarianship education.

#### *The Australian Health Care System and Health Library Sector*

The Australian health library sector is diverse. In early 2010, the Australian Libraries Gateway (n.d.) listed 427 health/medical libraries across Australia. Individuals broadly defined as health librarians work in hospitals, research institutes, pharmaceutical companies, government departments, regional health services, professional colleges, universities, not-for-profit and community organizations, and parts of public library services. Entry to the profession is via completion of a course of study accredited by the Australian Library and Information Association (ALIA) (n.d.). Currently there is no Australian health library specialization and no mandatory requirement for professional registration or for the maintenance of professional skills. ALIA administers a voluntary Continuing Professional Scheme (n.d.), which is activity rather than skills/knowledge based. Thus health specific skills and knowledge are principally acquired informally in the workplace.

For all of its strengths, the Australian health care system has been described as a complex, fragmented system that is under growing pressure. About 70 percent of health expenditure is in the public sector with the federal government providing the bulk of this funding and the states providing the balance (Australian Institute of Health and Welfare, 2008; Lewis & Leeder, 2009). The overall governance of the public health system is through the Australian Health Ministers Council (AHMC), which

sets national policy and is advised by the Australian Health Ministers Advisory Council (AHMAC). Key drivers within the system include increases in demand for and expenditure on health care, inequities in health outcomes and access to services, growing concerns about safety and quality, improving clinical governance, workforce skills and shortages, and reducing inefficiency due to the complex division of funding responsibilities and performance accountabilities between different levels of government (Australian Institute of Health and Welfare, 2008; Braithwaite & Travaglia, 2008; National Health and Hospitals Reform Commission, 2009). With the current Australian government review of the health care system, and the fact that the present "overdependence" on the hospital system is not sustainable, there is a strong possibility that models of care are likely to change, and that there is likely to be increasing emphasis on preventive health strategies and primary care (Australian Government Department of Health and Ageing, 2009a, 2009b).

In June 2009, the Australian government released its blueprint for reform, *A Healthier Future for All Australians* (National Health and Hospitals Reform Commission, 2009). As the final report of the National Health and Hospitals Reform Commission (NHHRC), it contains a series of wide-reaching recommendations to the Australian government whose response is likely to be announced by mid-2010. Several key recommendations contained in *A Healthier Future for All Australians* are areas of natural and ongoing engagement for health librarians: strengthened consumer engagement and voice, which includes building health literacy; a modern, learning, and supported workforce; and knowledge-led continuous improvement, innovation, and research (National Health and Hospitals Reform Commission, 2009).

The NHHRC also recommended significant changes to the education and training of health professionals. It advocates a flexible, multidisciplinary approach, incorporating an agreed competency-based framework as part of a broad teaching and learning curriculum for all health professionals (National Health and Hospitals Reform Commission, 2009). These changes are being facilitated via the National Health Workforce Taskforce (Australia's Health Workforce, n.d.), an agency formed to advise on education and training requirements; purchase clinical education placements; promote innovation; foster local implementation models; and report regularly on the appropriateness of national professional accreditation standards. Commencing in July 2010, a single national compulsory registration body, the Australian Health Practitioner Regulation Agency, will assume responsibility for the registration and regulation of ten health professions. In 2011, an additional group of health professions will be brought under the regulation of the agency. Eligibility for professional registration will be dependent upon ongoing skills maintenance and development.

The risk of not having nationally recognized qualifications and registration for health librarians with ongoing CPD requirements was articulated by Ritchie: "In the context of the Australian health workforce, in which national level registration with requirements for regular CPD are increasingly the norm, health librarians will lose credibility and status if they don't have a structured and regulated CPD system. In addition, and perhaps more importantly, they risk losing competitiveness in the health information professional market" (2008, p. 103).

As health librarians are at present excluded from these national health workforce planning and education programs and are thus without recognition as a health profession, health librarians risk being classified in the clerical or administration streams. Currently the industrial arrangements for health librarians vary across the different states and territories of Australia, with some being classified in professional streams on a par with allied health professionals, while others are classified in the clerical/administration streams, which have no educational prerequisites or specialization.

Already in one state health librarians have suffered when they were excluded from new industrial arrangements for previously comparable occupations. Besides a loss of working conditions, the librarians were denied significant resources and support for the acquisition and development of new skills and knowledge such as financial incentives for further study, paid professional development leave and allowances, the appointment of dedicated educators for the library workforce, and exclusion from access to research funding/positions (Queensland Industrial Relations Commission, 2008). This decision may be a precedent for other Australian states and territories negotiating national health workforce arrangements.

Publicly funded teaching hospital libraries in Australia have not faced closures and severe cuts. Professional colleges evaluate teaching hospitals and accredit the libraries and other support services to ensure they are suitable for training medical specialists. This supports the services but does not assist with ensuring the workforce is available and skilled to take up positions. There is anecdotal evidence, however, that there have been some cuts, mergers, and closures of libraries in other health departments and hospitals.

In 2008, AHMC endorsed the National E-Health Strategy (Australian Health Ministers' Council, 2008). The initial thrust of this strategy is to create a national shared electronic health record, underpinned by a system of universal identifiers that will streamline various patient record systems to a national standard and basis. The Strategy outlined trends and developments that will potentially impact current and future roles for Australian health librarians. The Strategy is consistent with the submission from HLA (Kammermann & Hamill, 2008) regarding the potential for developing national health knowledge portals. This submission

recommends “the implementation of separate internet based portals for consumers and care providers that will provide access to a set of nationally coordinated and validated health knowledge sources. Although these knowledge sources exist in some form today, they are fragmented, not always consistent or up to date, and involve significant duplicated effort and investment to maintain” (p. 13).

As noted by Ritchie (2008), ehealth is one of the most important environmental drivers for workforce planning and developing the skills of the health information professions. Ritchie (2008) states that ehealth “will precipitate the integration of patient care systems, such as the shared electronic health record, with clinical decision-support information tools, consumer health information and other knowledge resources, all requiring customization at point-of-care. Implementation requires skills to consult with and train clinicians; information professionals will need to know how to manage the content as well as the technology which runs the systems” (pp. 103–104).

The skills shortage in the health workforce generally has been discussed by numerous authors (Armstrong, Gillespie, Leeder, Rubin, & Russell, 2007; Duckett, 2005) and this shortage, combined with the high median age (and imminent retirement) of many health librarians (Hallam, 2008), will add to the pressure on health librarians to reposition themselves by developing their skills to become more competitive in the ehealth information/knowledge workforce.

Developments in ehealth, the National eHealth Strategy and the NHHRC’s *A Healthier Future for All Australians* may have the combined effect to stimulate health librarians’ activities in the national arena. Already there are education initiatives underway in response to the combined effect of these developments. For example, the recently formed Australian Health Informatics Education Council (<http://www.ahiec.org.au>) seeks to address the supply of health informaticians and to increase the information management skill and knowledge of health workers across the sector.

The research currently being conducted by HLA is in response to the growing awareness of the need to operate nationally as part of the national ehealth initiatives and the health professional workforce. Reporting on the HLA Professional Development Day, Lewis (2008) noted that the key focus areas which emerged from the meeting were “strategic positioning within the health environment, workforce planning, professional and personal development, specialist qualifications, evidence-based medicine and evidence-based librarianship, and the digital environment” (p. 1).

This research project aims to determine the future requirements for the health library workforce in Australia and develop a structured, modular education framework (post-graduate qualification and continuing professional development structure) for health librarians to meet these

requirements. It is intended that the outcomes will provide one of the building blocks to enable health librarians to position themselves in the future health professional workforce.

*International Trends in Health Libraries and Implications for Australian Health Librarianship Education*

There are many challenges and developments in international health libraries that mirror those facing the Australian health library sector. Several international library organizations have already begun to address the changing skills and knowledge sets required to embrace these challenges. The international trends in health care and health libraries that are likely to affect Australian health librarians can be described as follows.

Traditional library work is diminishing, professional boundaries are blurring, and emerging areas of work are being claimed by other professional groups (Barreau, Rathbun-Grubb, & Marshall, 2009; Booth, 2007; Bosanquet, 2010; Broady-Preston, 2010; Canadian Association of Law Libraries, 2009; Hill, 2008). The health information industry is a rapidly changing environment in which the evolution of technologies and explosion of information available in digital format have created expectations for easy and immediate access to information (Barreau, et al., 2009). Consumers of health information, clinicians, patients, and families/caregivers have increased expectations and knowledge, and many have high level skills in information management themselves (Canadian Association of Law Libraries, 2009; Hill, 2008). Within the health workforce there is increased emphasis on multidisciplinary team work, partnerships, and customer needs (Hill, 2008), with greater concerns about quality assurance, value for money, and legal indemnity (Weightman & Williamson, 2005). Education of the health workforce is changing (Hill, 2008), as is the continuing education of health librarians with the development of trends toward competency-based education and continuing professional development programs (Booth, 2007; Chartered Institute of Library and Information Professionals, 2010; Houghton-Jan, 2007; Medical Library Association, 2007; Tooe, 2009). These are transitioning from voluntary to mandatory (Chartered Institute of Library and Information Professionals, 2010; Library and Information Association of New Zealand Aotearoa, 2010). Specialist roles are emerging for health librarians, in clinical librarianship, consumer information, research support, and "information specialists in context" (Booth, 2007; Hill, 2008), while teaching roles remain dominant (Chartered Institute of Library and Information Professionals, 2010; Hill, 2008; Scherrer, 2004).

Two major reports from the United Kingdom that are especially pertinent to the Australian context are *Future Proofing the Profession* (Chartered Institute of Library and Information Professionals, 2004) and the *Report of a National Review of NHS Health Library Services in England* (Hill, 2008).

The *Future Proofing the Profession* report (Chartered Institute of Library and Information Professionals, 2004) points to trends in a number of areas that are directly relevant to the Australian context. User education, a traditional area of practice for health librarians, has expanded and “now includes curriculum-based classroom teaching for academic health librarians, one-to-one and small groups at the point of need . . . , development of online and web-based computer aided learning” (p. 21). With this expansion comes increased expectations that health librarians will not only be content experts but also knowledgeable about educational methods and practice. Health librarians’ traditional scope of practice is changing with practitioners moving into more roles outside the library and into new roles that have been created as a result of changes in technology, which have affected the delivery of information. Moving outside the library into primary care (i.e., non-acute care delivered outside hospitals), community health or consumer health settings, plus working with other health professionals in multidisciplinary teams have necessitated development of new skills that include “financial, leadership, influencing, entrepreneurial, project management, negotiating, facilitating and audit and research skills. To succeed as a team member, and to gain the respect of other professionals, librarians must have a skill set that is valued not only by colleagues but is also seen to be valued by themselves” (p. 24). E-library initiatives such as the UK National Electronic Library for Health have “provided opportunities for the involvement of skilled librarians in designing and delivering new services. These include roles in developing and implementing content management systems, using professional skills in metadata creation, creating more effective and efficient search functionality, syndication services and open archives initiatives” (p. 23). Health librarians are also moving into managing knowledge (explicit and tacit) rather than traditional information management (documents and data). “Librarians in many units and organizations are mapping the flow of knowledge and learning in organizations, they are considering the role of knowledge and information in risk management and clinical governance and are actively engaged in setting the quality agenda to ensure that the best evidence is retrieved by the best means possible” (p. 22).

*Future Proofing the Profession* points to opportunities that lie in the following areas: working collaboratively across health, social care and education; working in multidisciplinary teams; using traditional skills in new ways; contributing to the development of evidence-based health care and services; playing a role in the development and cascading of critical appraisal skills in the workplace; training and educating users in information skills; promoting the importance of information quality in clinical governance and risk management; supporting rapid decision making by making better quality information available; and working with a range of

information providers, for example publishers and public health information analysts, in developing new services.

An even more recent review, *Report of a National Review of NHS Health Library Services in England: From Knowledge to Health in the Twenty-first Century* (Hill, 2008), envisages a huge expansion of the clinical librarian role and posits a workforce of around eight hundred clinical librarians emerging in due course plus a move to what are called *knowledge services librarians*. It highlights four key purposes for library and knowledge services in the National Health Service: clinical decision making by patients or their caregivers as appropriate and health professionals; commissioning decision and health policy making; research; and lifelong learning.

In 2005, *Vital Pathways: The Hospital Libraries Project* was established by Mary Joan Tooley, the then president of the Medical Libraries Association in the United States, to review the status of hospital librarians, determine the involvement of librarians in medical education and accreditation, and review current and future roles for hospital librarians. The project was instigated to address the apparent difficulties that seemed to threaten the existence of hospital libraries, but instead of focusing on the weaknesses in the sector, the project took a more philosophical direction and looked at issues and opportunities for the future (Tooley, 2009).

In researching the future roles of hospital librarians, the Vital Pathways Task Force used the results of a survey, which identified five "mission-critical" goals of hospital administrators, and related this to the librarian's role in helping to achieve these goals. These mission-critical goals were: clinical care; management of operations; education; innovation and research; and customer service (Holst et al., 2009). It is important to note that these were the "mission-critical" goals as articulated by the hospital administrators, and in this way the study looked at how organizational needs could inform future developments in the roles of hospital librarians.

Trends in worldwide education generally are also likely to impact library education. Australia is watching European developments closely, where the Bologna process structure of university education has seen the introduction of a first cycle (bachelor) qualification, followed by a second cycle (master) qualification. It appears that "professional" level qualifications will be at the master's degree level, rather than at the level of the bachelor degree or, as is often the case in Australia, that of the graduate diploma. Several universities in Australia have already moved to a Bologna-style model for professional qualifications, including the University of Melbourne and the University of Western Australia (Australian Government Department of Education, 2006). If, as it has been argued, this model ultimately encourages greater opportunities for specialization in professional fields, there may be significant benefits for courses in librarianship, specifically health librarianship.

Based upon this literature review it appears desirable that any future development for Australian health librarians' entry level and ongoing education will require the documentation of a set of specific competencies. This is especially relevant when considering the overlap of work skills and functions between librarians and related professions (Broady-Preston, 2009). When itemizing the skills required of health librarians Booth observed that "a worrying aspect . . . is that very little of this territory is the exclusive preserve of our profession. Indeed in most cases other professions are better at fulfilling individual aspects of this composite skill set" (Booth, 2007, p. 3). Some library organizations (Library and Information Association of New Zealand Aotearoa, 2010; Medical Library Association, 2007) have promulgated sets of competencies applicable to their members. Most of these competencies are generic, for example referring to managerial, teaching, or interpersonal skills and few are library specific.

### RESEARCH AIMS

In response to the growing recognition that the future needs of the health library workforce would require a structured and systematic approach to education and professional development, a project was developed whose overarching aims were to determine the future requirements for the health librarian workforce in Australia and to develop a structured, modular education framework for postgraduate qualifications, including an ongoing continuing professional development element.

### RESEARCH METHODOLOGY

The research concept was developed at a professional meeting of health librarians in Brisbane in September 2009. Those attending the meeting represented a diverse range of health libraries, including hospitals, academic and research institutions, welfare and community services, primary care practices, policy organizations, consumer health services, and health informatics. The group, which became the project steering committee, was aware that while there were some points of commonality across these diverse areas of practice, each had its own individual features. It was agreed that it would be valuable to have a clearer understanding of the composition of the Australian health library workforce, to develop a picture of the areas of professional knowledge and responsibilities that were relevant in the current workplace, and to identify how these might change in the next three to five years.

The research team commenced the project with an in-depth review of the literature in order to examine not only the impact of contemporary issues in the Australian health care system on library and information professionals, but also the implications of international trends in health libraries for Australia. The themes identified through the literature review informed the development of the research instruments.

Two cohorts of research subjects were identified: practicing health

librarians and health library managers. Accordingly, the research approach involved developing an online survey for each cohort, as well as preparing questions for a program of semi-structured interviews with a number of senior managers in the health sector to explore their perceptions of future roles for health librarians.

There was an opportunity to build on earlier studies of the Australian LIS workforce, known as the *neXus studies*. The initial neXus project captured demographic, educational, and workforce data about individual library and information professionals (Hallam, 2008). This was followed by an examination of institutional perspectives, including issues impacting on recruitment, retention, and training and development (Hallam, 2009). The neXus instruments were adapted for the new study, with further questions being developed to capture data about current and future professional knowledge and responsibilities, encompassing the Medical Library Association's *Competencies for Lifelong Learning and Professional Success* (Medical Library Association, 2007). While the research team discussed in detail the ways in which health librarian skills could be presented, there was concern that a list could be developed that was overly detailed, complex, and potentially biased. It was decided that the MLA competencies represented an accepted professional "framework" of skills which could be used objectively in the survey instrument.

The survey development process was rigorous, with considerable debate among members of the steering committee about the scope and structure of the questions. The questionnaires were developed into two Web-based surveys that were piloted in early February 2010.

Following the pilot, the surveys were made active for a three week period from late February to early March 2010. Invitations to participate in the project were distributed to individual health librarians by e-mail to the HLA e-list, reaching around 450 health librarians, to the members of Health Libraries Inc., a professional group based in the state of Victoria, as well as to a number of regional and local health library e-lists. Information about the institutional survey was sent by e-mail to the managers of health library services across Australia. The survey data sets were captured and processed for detailed interrogation using the data analysis tool Qlikview (Inside Info, n.d.).

## RESULTS

The survey of individual health library and information professionals attracted 197 responses, of which 36 responses were incomplete. The research results discussed are drawn from the 161 fully completed survey responses. The majority of these initial respondents were aged over forty years, with 32 percent in the age range forty-one to fifty and 34 percent in the age range fifty-one to sixty, reflecting the mature demographic profile of the health library workforce.

The geographic distribution of respondents in the preliminary data set showed that the strongest representation came from New South Wales, followed by Victoria, Western Australia, and Queensland (see table 1).

The respondents were predominantly located in metropolitan areas (see table 2), with the ratio of respondents reflecting the general population distribution in Australia, where around two-thirds of the total population live in the capital cities.

Ninety percent were currently working in the health library sector; of the fourteen people not currently working in the sector, four reported that they planned to return to the field in the future.

The vast majority of respondents (96 percent) already held a qualification in library and information science (LIS), with three people currently studying for an LIS qualification and two people having no qualifications in LIS. Twelve percent of respondents indicated that they were “new graduates,” some had graduated within the last five years. In Australia, professional LIS qualifications can be gained at both the undergraduate and graduate levels. The majority of respondents had a postgraduate qualification in LIS (see table 3).

Table 1. Geographic Distribution of Respondents

State/Territory	Percentage
Australian Capital Territory	3
New South Wales	27
Northern Territory	9
Queensland	16
South Australia	7
Tasmania	1
Victoria	19
Western Australia	18
Overseas	1

Table 2. Regional Distribution of Respondents

State/Territory	Percentage
Capital city	71
Regional town or city	25
Rural/Remote area	4

Table 3. LIS Qualifications Held by Respondents

LIS Qualification	Percentage
Bachelor's degree	29
Graduate diploma	48
Master's degree	9

The perhaps surprisingly low number of health librarians holding a master's degree may in fact correlate with the reported age profile. Until recently, the graduate diploma was the common graduate qualification in LIS, with a number of universities recently moving to a master's program with the goal of extending the length of the course to accommodate the expanding curriculum requirements. Only two people held a master's degree by research in the field of LIS and there were two respondents with a PhD in the LIS discipline. The data revealed that the graduate diploma was in fact the highest academic qualification (in any discipline) for 38 percent of respondents (see table 4).

Thirty-six respondents (24 percent) reported that their highest qualification was in a discipline other than LIS, spread across the fields of education, science, arts, and information technology (see table 4).

Respondents were specifically asked about the academic qualifications they held in the fields of Science/Health/Medicine. It was found that just over one-quarter had tertiary qualifications in this area, while four people reported that they had been awarded vocational qualifications (Certificate, Diploma, or Advanced Diploma) (table 5).

The spread of disciplines for these qualifications included the science fields (e.g., chemistry, physics, biology, microbiology) and the health sciences (e.g., nursing, physiotherapy, pathology, speech pathology). One respondent reported qualifications in health information.

Table 4. Highest Qualification Held by Respondents

Highest Qualification Held	Percentage
Bachelor's degree	32
Honor's degree	6
Graduate certificate	2
Graduate diploma	38
Master's degree by coursework	8
Master's degree by research	3
PhD	2

Table 5. Qualifications in Science/Health/Medicine

Qualifications in Science/ Health/Medicine	Percentage
None	68
Vocational qualifications	2
Bachelor's degree	15
Honor's degree	4
Graduate certificate	1
Graduate diploma	2
Master's degree by coursework	1
Master's degree by research	2
PhD	1

Beyond this, it was noted that 19 percent of respondents held vocational qualifications in LIS and that a small number of people (14 percent) had acquired vocational qualifications in other fields, including education, arts, business, and information technology.

The data presented a picture of a stable employment environment, with almost half of the respondents having worked in the health library sector for more than ten years (see table 6).

Nevertheless, almost one-third were relatively new to the sector, with less than five years of experience. The pattern of stability was further evident in the figures that showed that 49 percent of respondents had worked in only one health library, and a further 37 percent had worked in only two or three libraries. One person worked in more than ten health libraries.

The majority of people reported working in a full-time permanent capacity (see table 7).

It has already been noted that the health sector is complex. In response to the question about the general area of health services in which they were employed, over half reported that they were with the state or territory health services (see table 8).

Table 6. Length of Employment in the Health Library Sector

Length of Employment in the Health Library Sector	Percentage
Less than 1 year	7
1–2 years	7
3–5 years	17
6–10 years	20
11–15 years	21
16–20 years	9
Over 20 years	18

Table 7. Current Employment Status

Employment Status	Percentage
Full-time permanent	58
Part-time permanent	29
Casual	2
Contract/Fixed term	7
Not currently employed	4

Table 8. Employment: General Area of the Health Sector

General Area of the Health Sector	Percentage
Public sector—Commonwealth	12
Public sector—State/Territory	65
Private sector	8
Not-for-profit sector	11

Of those respondents currently employed, more than half reported that they worked in the specific area of hospital libraries (53 percent), while others were with government department libraries, university libraries or in other areas of the health sector such as pathology, pharmacy, and drug companies, health professional associations and colleges, consumer health care, and primary care (see table 9). As mentioned above, only one person reported working in the area of health informatics.

The size of the health library varied, with 15 percent working in one-person libraries and 45 percent having between two and five staff. A further 20 percent had up to ten staff, 12 percent had up to twenty staff and there were three large health libraries with over fifty staff.

It was found that the respondents were employed in a range of levels of position. Respondents were asked to identify the level of their position as recorded by the ALIA scale of Grade 1 to Grade 5, which reflected both the levels of seniority and complexity of work. Of those responding to the questions, about a half reported being at Grade 2 or 3. Sixteen percent were at Grade 1 and 13 percent were at the more senior Grades 4 or 5. There was consequently a wide range of salaries, with one half of respondents earning over \$60,000 per year, excluding superannuation or fringe benefits (see table 10).

While there was general sense of satisfaction that remuneration was appropriate for the work performed (48 percent), almost one-third felt that it was not appropriate for the qualifications they had. A relatively large proportion of respondents were neutral on the issue (17 percent).

The questions about professional knowledge and responsibilities were aligned with the MLA's Educational Policy Statement, *Competencies for Lifelong Learning and Professional Success* (Medical Library Association, 2007).

Table 9. Employment: Specific Area of the Health Sector

Specific Area of the Health Sector	Percentage
Hospital	53
Government department	14
University	14
Research institute	2
Other	17

Table 10. Gross Annual Salary of Respondents

Gross Annual Salary	Percentage
Under \$20,000	3
\$20,000-\$40,000	9
\$40,000-\$60,000	28
\$60,000-\$80,000	33
\$80,000-\$100,000	15
Over \$100,000	2
No answer	10

The questions related to the extent to which respondents:

- understand the health sciences and health care environment and the policies, issues, and trends that impact that environment;
- know and understand the application of leadership, finance, communication, and management theory and techniques;
- understand the principles and practices related to providing information services to meet users' needs;
- have the ability to manage health information resources in a broad range of formats;
- understand and use technology and systems to manage all forms of information;
- understand curricular design and instruction and have the ability to teach ways to access, organize, and use information;
- understand scientific research methods and have the ability to critically examine and filter research literature from many related disciplines.

Given the interest in professional development, an additional "competency" was added by the research team: the need to maintain currency of professional knowledge and practice.

Table 11 illustrates the distribution of responses to the different areas of competency.

Respondents were requested to indicate the extent to which they believed that their own need to demonstrate these competencies would change over the next three to five years. The responses are shown in table 12.

Areas of change include an anticipated increase in evidence based practice and the introduction of new technologies. The move to online information will require a deeper understanding of electronic resources, digital repositories, and mobile technologies, along with associated issues such as "licensing, copyright, advising on prices, etc." It was noted that in rural areas especially, the LIS staff were seen to play a strong education and leadership role, so that "updating oneself on new technology is a constant task." The introduction of e-resources will also lead to an increasing need for information literacy training. The need to increase "our involvement with the education and IT departments to ensure that we input our information knowledge into these systems" was therefore noted.

Only 19 percent of respondents participated in the professional development scheme coordinated by ALIA, which requires members to track and record their professional development activities. Nevertheless, nearly all respondents reported that they had participated in professional activities over the course of the past year; 5 percent recorded no professional development at all (table 13).

Respondents were asked to consider a number of issues associated with professional development activities for health library and information professionals. Around 80 percent stated that professional development

Table 11. Current Areas of Professional Knowledge and Responsibility

Area of Professional Knowledge and Responsibility	Rarely or Never	Sometimes	Often or Very Often
	Health sciences and health care environment	5%	28%
Information services to meet users' needs	2%	4%	94%
Management of health information resources	5%	13%	81%
Leadership, finance, communication, and management	16%	35%	48%
Technology and systems to manage information	2%	16%	81%
Curricular design and instruction	18%	30%	51%
Scientific research methods; critical examination of research literature	23%	33%	43%
Maintain currency of professional knowledge and practice	7%	31%	61%

Table 12. Future Areas of Professional Knowledge and Responsibility

Area of Professional Knowledge and Responsibility	Decrease	Remain the Same	Increase
		Health sciences and health care environment	
Information services to meet users' needs	1%	27%	69%
Management of health information resources	3%	20%	73%
Leadership, finance, communication, and management	2%	39%	55%
Technology and systems to manage information	2%	12%	82%
Curricular design and instruction	2%	29%	64%
Scientific research methods; critical examination of research literature	3%	32%	60%
Maintain currency of professional knowledge and practice	5%	46%	44%

Table 13. Hours of Professional Development Undertaken in the Past Twelve Months

Hours of Professional Development	Percentage
0 hours	5
1-10 hours	21
11-20 hours	16
21-30 hours	14
31-40 hours	16
41-50 hours	9
Over 51 hours	20

was important to them and that they had a personal commitment to it; almost two-thirds reported that they believed it was important to have a professional development plan. Indeed, the vast majority (82 percent) agreed or strongly agreed that professional development was essential to their health library career and contributed to improvements in their performance in their current job. About half felt that professional development was important to their professional status, as perceived both by

other professional groups and by society in general. It was noted that almost half (46 percent) believed that professional development should be compulsory, while one-third remained neutral on the issue. It was notable that 67 percent indicated that their employer supported professional development activities, although less than one-third (28 percent) reported that their employer specifically required them to undertake professional development. Only 15 percent felt that the organization offered any financial incentives to participate in career development. Half the respondents reported that they could manage their work time to accommodate professional development, but it was a bit easier to manage personal time (56 percent) for this purpose.

The major barriers to professional development were time and costs. The majority of comments referred to conferences as the main avenue for professional development, which meant high registration fees, plus travel and accommodation costs, especially for those in regional areas of Australia, and the challenges of small budgets for staff development. However, some respondents also acknowledged the value of informal development activities, "collegial support has been very important," and the emerging opportunities to use e-learning to provide interactive forums at lower cost. Further comments linked the concept of mandatory professional development with the perceived status of library and information professionals in the wider health context: "The health and medical sector have compulsory PD. Mirroring the professionals we serve may gain more respect and credibility."

While only 35 percent felt that there were good quality professional development activities available in Australia, it should be noted that more than half of all respondents either remained neutral (26 percent) or did not answer the question (27 percent). Respondents were divided over whether the costs were "reasonable." About one-third felt positive, one-third negative, and one-third remained neutral on the issue.

A series of questions were posed regarding preferred modes of delivery, ranging across a number of physical, virtual, independent, and facilitated approaches. In terms of synchronous learning, there was a clear preference for face-to-face activities, including seminars (86 percent), conferences (81 percent), and lectures (71 percent). Block learning was preferred (64 percent) over semester programs (40 percent). Workplace learning activities were seen as having high value (74 percent). There was also a strong appreciation of online learning that is self-paced (77 percent), but with opportunities for interaction (77 percent). Video conferences and audio conferences were considered less appealing than Web forums and podcasts, and printed learning guides were more popular than resources distributed on CD-ROM.

There were consistently a high number of null responses (about a quarter) in the series of questions exploring respondents' attitudes to

their jobs and job security. A high number of respondents had neutral views (about a quarter). Looking to the future, only 23 percent of respondents anticipated staying in the health library sector for another ten years or more, with 27 percent reporting that they would be leaving the sector within five years. Some respondents noted that strategies would be required to fill the knowledge gaps left as older health librarians retired and new people enter the sector without any experience in the field of health information.

Just over half were optimistic that their position was secure for the foreseeable future, although a small number (14 percent) expressed concerns about job security. Twenty-eight percent of respondents were not confident that there would be many opportunities for health library jobs in the future; compared to 18 percent who felt the future was bright. Only 13 percent believed that promotional prospects with their current employer were good; 48 percent were pessimistic. While 36 percent of respondents felt that it would be difficult to move to another health library job, there was a sense that it would be easier to gain a new position in the wider library sector.

Overall, 50 percent of respondents believed that there was a high level of job satisfaction among health librarians, with the profession well regarded by others (42 percent). There was ambivalence about whether people were interested in joining the health library profession, with 19 percent agreeing, 19 percent disagreeing, and 38 percent remaining neutral. There was a keen awareness that the skills of health librarians were highly specialized, but undervalued. The vulnerability of the profession was highlighted in individual comments, which illustrated the major issue of long-term underfunding in the health sector and the gulf between the views of clinicians and the views of managers who had no intrinsic understanding of health information and research. Some respondents felt that there would be opportunities for further specialization, particularly as "clinical librarian," "educational librarian," "elearning librarians," "researcher librarians," or "policy librarians."

The preliminary findings from the individual surveys will be augmented by the data collected from the stakeholder groups of employers and managers, in order to inform the subsequent research activities involving the development of an appropriate framework for health library education and professional development.

## DISCUSSION

In February 2010, a discussion thread began on the ALIA Health e-list, initiated by a library team leader relatively new to health, whose responsibilities included training two librarians with between two and five years reference experience, but no previous experience in health librarianship. The writer asked for help in locating training plans or lists of skills or

competencies that she could use as a basis for a systematic training program for these new health librarians. This request prompted an enthusiastic exchange of e-mails that highlighted the current lack of systematic health librarianship training opportunities in Australia. A few library services have sponsored their health librarians to complete the online course *Evidence-Based Medicine and the Medical Librarian* offered by the School of Information and Library Science, University of North Carolina at Chapel Hill (n.d.). Participants in the e-list discussion suggested that this course (or its equivalent) be offered through an Australian university or through ALIA, which has already partnered with the School of Health and Related Research at the University of Sheffield, UK, to create the FOLIOz program, which delivers ongoing professional development courses for Australian librarians (Booth, 2009).

As well as the relative lack of structured, systematic CPD opportunities, currently there is no health librarianship qualification available in Australia for those librarians who wish to specialize in health. Individuals enter the profession by doing a generalist LIS degree and *specialization* is by way of on the job training and professional development for which there is no formal competency-based framework. In Australia, it is not uncommon for health librarians to hold degrees in a field other than LIS or to have transferred from a career in the health sciences. Such individuals bring contextual knowledge and skills to add to the generalist knowledge and skills attained on the job and/or while completing their LIS qualification. Interestingly, between 60 and 70 percent of special librarians responding to the WILIS survey in the United States indicated that libraries of the future will hire more subject specialists with advanced degrees (Barreau, et al., 2009). Preliminary results from the current survey in Australia indicated that 25 percent of respondents already held their highest tertiary qualification in a field other than LIS, with a fairly even spread between arts, education, and science, and a few in information technology.

Preliminary results also indicate some interesting trends in the views of Australian health librarians on their current and future areas of professional knowledge and responsibility. Regarding current roles, 80 percent or more of respondents said that they were often or very often required to have professional knowledge and responsibility in the following areas: understanding the principles and practices related to providing information services to meet users' needs; understanding the management of health information resources in a broad range of formats; and understanding and using technology and systems to manage all forms of information. The area of responsibility identified as increasing most significantly over the next three to five years was, not surprisingly, using technology and systems to manage information. Of greater interest is the result that the competency area "management of health information resources" was for all intents and purposes rated just as high (85 percent). Fewer than 10

percent of respondents identified any areas of professional knowledge and responsibility that would decrease over the next three to five years. Overall most respondents felt that current areas of professional knowledge and responsibility would either remain the same or increase to some extent over the next three to five years.

The recent comments by Stephen Abram (2009) are pertinent to those who do not see much change in their role in the future: "I doubt that our core roles have changed; indeed, using new technologies and methodologies we can enhance the provision of information identification and access, research, knowledge engagement and learning. In many ways, these new tools and methods make us more scalable and, indeed, more valuable on a global scale" (p. 39). As our knowledge and responsibilities have become more "scalable" and transferable, there has been a reassessment of many areas of professional knowledge and responsibility. The competency area "management of health information resources" is surely a core competency. The finding that there is a perception among current health librarians that responsibilities in this area may increase in the near future may provide a direction for specialist skills development. This will require further investigation in the subsequent stages of the study.

However there are research results that contradict Abrams' observation and suggest that even librarians' "core roles" are up for negotiation and appropriation. Anyone may declare that she/he is an "information professional" and obtain employment as such, without possessing any qualifications or being a member of any professional association (Broady-Preston, 2010, p. 74). Broady-Preston has explored ways in which the concept of professionalism is undergoing fundamental re-evaluation and challenges, "Whether the information professional evolves into a polymath who may or may not be viewed as 'a professional' by whatever definition currently pertains, or disappears as a dinosaur whose skills and knowledge are rendered obsolete is by no means clear at this juncture" (Broady-Preston, 2010, p. 75).

One of the main drivers for the HLA Workforce Project was the perceived need, discussed in the literature review, for health librarians to position themselves within the national health professional workforce and emerging e-health agenda as a recognized professional group with specialist skills and knowledge. As they develop a framework for a specialist health librarian qualification and an ongoing professional development program as part of this process, health librarians must find the balance between evolving into "polymaths" on the one hand and defining (protecting even) their professional boundaries on the other.

## CONCLUSIONS

The research reported here, the first phase of an ongoing project, has explored the literature about the Australian health care system and health

library sector and about international trends in health libraries that may impact Australian health librarian education. It has described and analyzed the results of a survey of Australian health librarians. The picture that emerges from this survey is of a mature demographic profile of a group engaged in a stable profession. More than 40 percent of respondents predict that all current areas of knowledge and responsibility will increase to some extent over the next three to five years. Thirty-six and 44 percent of respondents respectively predict that managing health information resources and using technology and systems to manage information will increase significantly. A range of responses to questions about continuing professional development including importance, preferred mode of delivery, and whether or not it should be compulsory has provided data that will serve as a solid foundation for development of the next phase of the project. This will involve scoping a structured, modular education framework for postgraduate qualifications in health librarianship and an ongoing continuing professional development structure.

## REFERENCES

- Abram, S. (2009). Dilbert and libraries: Confronting our contradictions. *Information Outlook* 13(8), 39–40.
- Armstrong, B. K., Gillespie, J. A., Leeder, S. R., Rubin, G. L., & Russell, L. M. (2007). Challenges in health and health care for Australia. *Medical Journal of Australia*, 187(9), 485–489.
- Australian Government Department of Education. (2006). *Bologna process and Australia: Next steps*. Retrieved September 5, 2010, from <http://www.aei.gov.au/AEI/GovernmentActivities/BolognaProcess/default.htm>
- Australian Government Department of Health and Ageing. (2009a). *Australia: The healthiest country by 2020—National Preventative Health Strategy—The roadmap for action*. Retrieved September 5, 2010, from <http://www.health.gov.au/internet/yourhealth/publishing.nsf/Content/nphs-report-roadmap>
- Australian Government Department of Health and Ageing. (2009b). *Primary health care reform in Australia: Report to support Australia's first National Primary Health Care Strategy*. Retrieved September 5, 2010, from [http://www.health.gov.au/internet/yourhealth/publishing.nsf/Content/nphc-draftreportsupp-toc/\\$FILE/NPHC-supp.pdf](http://www.health.gov.au/internet/yourhealth/publishing.nsf/Content/nphc-draftreportsupp-toc/$FILE/NPHC-supp.pdf)
- Australian Health Ministers' Conference. (2008). *National e-health strategy: A summary*. Canberra, Australia: Victorian Department of Human Services, on behalf of the Australian Health Ministers' Conference.
- Australian Institute of Health and Welfare. (2008). *Australia's Health 2008: The eleventh biennial health report of the Australian Institute of Health and Welfare*. Canberra: Australian Institute of Health and Welfare.
- Australian Libraries Gateway. (n.d.). Retrieved September 5, 2010, from <http://www.nla.gov.au/apps/libraries>
- Australian Library and Information Association. (n.d.). ALIA recognition of courses. Retrieved September 5, 2010, from <http://archive.alia.org.au/education/courses/recognition.html>
- Australian Library and Information Association. (n.d.). Professional Scheme. Retrieved September 10, 2010, from <http://www.alia.org.au/education/pd/>
- Australia's Health Workforce. (n.d.). National Health Workforce Taskforce. Retrieved September 5, 2010, from <http://www.ahwo.gov.au/nhwt.asp>
- Barreau, D., Rathbun-Grubb, S., & Marshall, J. G. (2009). *The changing terrain of special librarianship: A report from the Workforce Issues in Library and Information Science (WILIS) Study*. Alexandria, VA: Special Libraries Association.

- Booth, A. (2007). *New breed or different species: Is the 21st century health information professional generic or specific?* Paper presented at the European Association for Health Information & Libraries (EAHIL) Workshop, Krakow, Poland. Retrieved September 5, 2010, from [http://www.eahil.net/conferences/krakow\\_2007/www.bm.cm-uj.krakow.pl/eahil/proceedings/oral/Booth%20A.pdf](http://www.eahil.net/conferences/krakow_2007/www.bm.cm-uj.krakow.pl/eahil/proceedings/oral/Booth%20A.pdf)
- Booth, A. (2009). *FOLIOWing the Sun: How to provide budget continuing professional development (CPD) at a distance.* Paper presented at the Positioning the Profession: The Tenth International Congress on Medical Librarianship, Brisbane, Australia. Retrieved September 5, 2010, from <http://espace.library.uq.edu.au/view/UQ:179757>
- Bosanquet, L. (2010). Building relevance amidst the content revolution. *Library Management*, 31(3), 133–144.
- Braithwaite, J., & Travaglia, J. F. (2008). An overview of clinical governance policies, practices and initiatives. *Aust Health Rev*, 32(1), 10–22.
- Broady-Preston, J. (2009, May). *Qualitative methodologies for determining the skills and competencies required of the hybrid information professional of the 21st century.* Paper presented at the meeting of QQML2009: Qualitative and Quantitative Methods in Libraries, International Conference, Chania, Greece. Retrieved September 5, 2010, from [http://www.isast.org/proceedingsQQML2009/PAPERS\\_PDF/Broady-Preston-Qualitative\\_methodologies\\_for\\_determining\\_the\\_skills\\_and\\_competencies\\_PAPER-QQML2009.pdf](http://www.isast.org/proceedingsQQML2009/PAPERS_PDF/Broady-Preston-Qualitative_methodologies_for_determining_the_skills_and_competencies_PAPER-QQML2009.pdf)
- Broady-Preston, J. (2010). The information professional of the future: Polymath or dinosaur? *Library Management*, 31(1/2), 66–78.
- Canadian Association of Law Libraries. (2009). *Key findings from the CALL/ACBD Membership Survey.* Retrieved September 5, 2010, from <http://www.callacbd.ca/index.php/publisher/articleview/action/view/frnArticleID/434/>
- Chartered Institute of Library and Information Professionals. (2004). *Future proofing the profession: Report of the Health Executive Advisory Group to the Executive Board of CILIP.* Retrieved September 5, 2010, from <http://www.cilip.org.uk/get-involved/policy/statements/historical-reports/Pages/futureproofprof.aspx>
- Chartered Institute of Library and Information Professionals. (2010). *Introduction to revalidation scheme.* Retrieved September 5, 2010, from <http://www.cilip.org.uk/jobs-careers/qualifications/cilip-qualifications/revalidation/pages/default.aspx>
- Duckett, S. J. (2005). Health workforce design for the 21st century. *Australian Health Review*, 29(2), 201–210.
- Hallam, G. (2008). *neXus: An investigation into the library and information services workforce in Australia: The institutional perspective.* (Final report). Brisbane, Australia: Queensland University of Technology.
- Hallam, G. (2009). *neXus2: A research project to examine the workforce planning and staff development policies and practices in Australian libraries.* Australian Library and Information Association (ALIA), National and State Libraries Australasia.
- Hill, P. (2008). *From knowledge to health in the 21st century: Report of a national review of NHS health library services in England.* National Library for Health.
- Holst, R., Funk, C. J., Adams, H. S., Bandy, M., Boss, C. M., Hill, B. (2009). Vital pathways for hospital librarians: Present and future roles. *Journal of the Medical Library Association*, 97(4), 285–292.
- Houghton-Jan, S. (2007). Technology competencies and training for libraries. *Library Technology Reports*, 43(2).
- Inside Info. (n.d.). What's QlikView? Retrieved September 5, 2010, from <http://www.insideinfo.com.au/whats-qlikview.php>
- Kammermann, M., & Hamill, C. (2008). *Submission to the ALIA Education and Workforce Summit 2008 from ALIA Health Libraries Australia Group (HLA).* Retrieved September 5, 2010, from <http://www.alia.org.au/education/summit08/HLA.response.pdf>
- Lewis, S. (2008, October). Focus for the future: Major themes demand the attention of health librarians. *HLA News*, 6–8. Retrieved September 5, 2010, from <http://www.alia.org.au/members-only/groups/hla/hla.news.oct08.pdf>
- Lewis, S. J., & Leeder, S. R. (2009). Why health reform? *Med J Aust*, 191(5), 270–272.
- Library and Information Association of New Zealand Aotearoa. (2010). *Revalidation guidelines.* Retrieved September 5, 2010, from <http://www.lianza.org.nz/registration/revalidation.html>

- Medical Library Association. (2007). Competencies for lifelong learning and professional success: The educational policy statement of the Medical Library Association. Retrieved September 5, 2010, from [http://www.mlanet.org/education/policy/executive\\_summary.html](http://www.mlanet.org/education/policy/executive_summary.html)
- National Health and Hospitals Reform Commission. (2009). *A healthier future for all Australians: Final report June 2009. Executive summary*. Canberra: Commonwealth of Australia.
- Queensland Industrial Relations Commission. (2008). *Health Practitioners (Queensland Health) Certified Agreement*. (No. 1). Brisbane, Australia: Queensland Industrial Relations Commission.
- Ritchie, A. (2008). Future visions for continuing professional development in health librarianship: An Australian perspective. *Health Information and Libraries Journal*, 25 Suppl 1, 103–105.
- Scherrer, C. S. (2004). Reference librarians' perceptions of the issues they face as academic health information professionals. *Journal of the Medical Library Association*, 92(2), 226–232.
- Tooy, M. J. (2009). A pathway for hospital librarians: Why is it vital? *Journal of the Medical Library Association*, 97(4), 268–272.
- University of North Carolina, School of Information and Library Science. (n.d.). Evidenced-Based medicine for the medical librarian. Retrieved September 5, 2010, from <http://sil.sil.unc.edu/programs/ebm>
- Weightman, A. L., & Williamson, J. (2005). The value and impact of information provided through library services for patient care: A systematic review. *Health Information and Libraries Journal*, 22(1), 4–25.