SPRING • 2019

HLA NEWS

NATIONAL NEWS BULLETIN OF **HEALTH LIBRARIES AUSTRALIA**
The national health group of the AUSTRALIAN LIBRARY AND INFORMATION ASSOCIATION • ISSN 1448-0840

Data Management Plans

or how to talk to researchers about data

Delegates at the HLA PD Days in Melbourne were fortunate to hear from Liz Stokes from Australian Research Data Commons not once but twice. You can read about Liz Stokes and her presentations in the HLA PD Days abstracts section of this issue. In this article, Liz shares some really practical and timely advice on using your library skills to make inroads with your research team. We'd also love to hear about the ways you've begun working with researchers in your organisation at hlanewsed@alia.org.au

Recent updates to Australian research policy from the ARC and NHMRC make special mention of data management plans. The National Statement on Ethical Conduct in Human Research requires a data management plan for research involving human subjects, and the recently released Guide to the Management of Data and Information in Research strongly encourages researchers to create Data Management Plans (or DMPs) for their research projects. But what if your hospital doesn't provide a DMP tool? Or you've never seen a DMP in the wild, let alone hovering silently in one of the many tabs open on a researcher or librarian colleague's desktop? How do you know what you're doing is right? For the librarian guiding a researcher through the fields, it can be daunting to be the backstop for advice.

A good frame of mind is to ask your researcher to put themselves in their future shoes a few years down the track, ready to submit an article for publication. The journal is asking for a Data Availability Statement (for example, see PLOS Medicine, and BMC) which explains where the data supporting research findings can be found, and a link to the underlying data. Now, where is the data? Is it ready to be shared? Is it likely that preparing the data to support publication is an unforeseen and potentially onerous task because there were many sources, many versions and processes, and the project team changed hands (and institutions!) over the years? Another scenario unfolds a little further when it's time to wrap up the research project, and researchers are completing the final report. Is now the time to start considering the reuse value of the research data generated by the project? Are there data outputs to be submitted? Perhaps these have already been described and deposited in a data repository which manages secure access, such as the Australian Longitudinal Study on Women's Health. It's also possible that sharing and reuse has been baked into the study design from the start, by preparing consent forms with reuse in mind, and saving the data file types in open, non-proprietary formats. Both of these scenarios would benefit from an authority document that records up to date information regarding the management of research data. And that's exactly what DMPs aim to do.

Where did DMPs come from?

Data management plans first emerged as requirements from

Continues on p2...

INside

Data Management Plans, or, how to talk to researchers about data – continues from p1...

research funders who wanted to ensure that grant funds would facilitate research that could be reusable and contribute to future research - especially in cases where data is expensive or difficult to collect. In this sense, a DMP is a demonstration that the research team has considered the technical, legal and ethical aspects of managing data over the course of their project, and will be better prepared to provide research data outputs that are findable, accessible and practicably reusable. Particularly for health, some data is very expensive to collect and you can get 'participant fatigue' for certain studies. The DMP process helps ensure the reuse value is maximised, by having the data in a form that can be accessed and reused by others. As the adage goes, failing to plan is planning to fail.

Policies encouraging (or mandating) the use of DMPs quickly followed as research institutions realised that knowing important information about research data produced across their faculties could provide significant payoff down the track in terms of supporting future research. Data management plans are typically designed to answer the who, what, when, why and how of managing data for a research project. Many DMP planning tools follow a form template which covers the following areas:

- **Data description:** What kind of data will you collect or be analysing? Are you reusing or processing data from other sources? Is there a data dictionary or controlled vocabularies in use?
- **Technical dependencies:** What file formats will be used? Is specialist or proprietary software or hardware required to access, process or understand the data?
- **Access:** Who will have access to this data during and after the project? Are there special conditions relating to its usage?
- **Confidentiality:** Are there rules or special precautions because the data are especially sensitive or confidential?
- **Storage:** Where (physically and online) are the data stored? If you're using a cloud-based platform, does it comply with jurisdictional privacy laws? Were you really planning on keeping the data on a combination of flash drives and laptops distributed across three different states where your collaborators live?
- **Reuse:** Are you required to share the data and associated metadata from the project? Have you considered using a licence to specify the terms of reuse?

> ... The Data Management Plan process helps ensure the reuse value is maximised, by having the data in a form that can be accessed and reused by others ...

Who are DMPs really for?

I can appreciate researchers and librarians being skeptical of anything that remotely looks like another dastardly form to fill out and drain the joy from one's soul. A key value of a DMP is in its ability to support a range of stakeholders and their motivations for engaging in better data management. The motivation for a university or research centre to implement a data management planning tool is for better governance and improving organisational knowledge - to ensure that they can support research activities with access to appropriate platforms and services, and manage risk across the organisation. It's also an opportunity for them to join up enterprise systems which can reuse administrative data. This can help reduce the administrative burden on researchers.

For the researcher, the value is located primarily as a single source of truth regarding how data will be managed in case (or when) plans change. This is why it is vital to keep them up to date. There is a benefit to the research team at the start of a project, to negotiate shared data management practices, such as file naming conventions, processing workflows for data, access to software and platforms, safety and security precautions. Investing time to consider roles and responsibilities when it comes to managing the data will pay off down the track when it is time to publish results. Having a DMP which defines clear information about what data was collected, how and by whom can streamline this process.

Continues on p3...

Data Management Plans, or, how to talk to researchers about data
– continues from p2...

DMPs are most usefully approached as living documents – they record key decisions made about managing research data, and are flexible for that process.

At the end of a data consultation, I have been known to encourage researchers to circulate their DMP in a lap of glory around their department or show it off on their corkboard. Creating a DMP is worth celebrating – it shows you care about the integrity of your research, and a commitment to "the compilation of many small practices that make your data easier to find, easier to understand, less likely to be lost, and more likely to be usable during a project or ten years later" (Briney 2015).

For Librarians who support researchers, DMPs are a useful way to open up a conversation about their data needs. You can use a DMP as a checklist to structure your talking points, and the internet abounds in resources for supporting the management of research data. The ANDS guide for data management plans is a short guide which you can use to structure your conversations. There are several web applications which have been developed by research data management advocacy groups. If the host university or medical institute of your researcher doesn't offer a DMP service, these can be used, such as DMPTool. CESSDA also provides DMP training for social scientists. The LIBER data management plans catalogue offers a review service for DMPs. This is an incredibly useful reference model for how to assess a data management plan and I recommend you check it out.

What does the future for DMPs look like?

A couple of working groups of the international Research Data Alliance have been busy negotiating future plans for DMPs. The Exposing DMPs Working Group formed with the idea that to improve data management practice DMPs should be shared at appropriate stages in the research lifecycle. This Working Group is undertaking community consultation to build a catalogue of use cases where this could usefully happen. Also, the Common Standards Working Group recently published a Common Data Model to progress a proof of concept for machine-actionable DMPs. This group has united over a shared goal to enable DMP infrastructure to take on some of the heavy lifting (ie, form filling) work out of DMPs. The common data model sees DMPs as infrastructural "glue" between different systems, enabling machines to automate tasks and operating on a once-only principle: do not ask researchers the same question across different systems! Both these working groups are co-chaired by Australians, and it's exciting that these future plans are likely to have local impact as well. A recent webinar was recorded with updates from both these groups in August 2019.

Ok great, now where do I start?

The first thing you can do is check out the DMP activity in the Top 10 Health and Medical Things. All these activities are designed to be completed in under an hour. Don't stop at one – find a work buddy and make your way through the rest of the Top 10 Things!

If you want to know more about DMPs specifically, head over to the ARDC Communities of Practice page and get in touch with the DMPs Interest Group. You can also sign up to the ARDC newsletter for regular updates. If international collaboration floats your boat, head over to the RDA website and find a group to join. It's a good time to engage as the RD-Alliance will hold their 15th Plenary in Melbourne, 18-20 March 2020.

In summary, having a DMP will help researchers comply with funder and institution recommendations and with the requirements of an increasing number of academic journals. Being able to assist researchers with DMPs will promote better data management across your organisation.

Liz Stokes

> ... Creating a DMP is worth celebrating – it shows you care about the integrity of your research, and a commitment to "the compilation of many small practices that make your data easier to find, easier to understand, less likely to be lost, and more likely to be usable during a project or ten years later"[1] ...

REFERENCE

1. Briney, K. 2015, Data Management for Researchers, Pelagic Publishing, Exeter, UK.

Wolters Kluwer

Lippincott Procedures Australia

ALWAYS CURRENT. ALWAYS EVIDENCE-BASED.

Wolters Kluwer is honoured to partner with the Australian College of Nursing to localise the *Lippincott Procedures* content specifically for the Australian health care market.

"We decided to partner with the ACN on this project because we share similar missions in seeking to provide health care professionals with the best available evidence to inform their practice. By using *Lippincott Procedures Australia* at point of care for clinical decision support, nurses and other health care professionals can provide the highest quality, evidence-based care to their patients, which means improving patient outcomes."

Anne Dabrow Woods,
DNP, RN, CRNP, ANP-BC, AGACNP-BC, FAAN
Chief Nurse of Wolters Kluwer,
Health Learning, Research and Practice

SCAN ME

Visit our site and request a free trial
http://lippincottsolutions.com/landing/procedures-aus
Scan the QR code with your smartphone camera or APP for instant access to our website.

Wolters Kluwer, a global leader in professional information services has partnered with The Australian College of Nursing (ACN), Australia's preeminent and national leader of the nursing profession, to adapt *Lippincott Procedures* for Australia, fully reflecting local protocols and regulations, terminology, and drug names.

Australian College of Nursing

GEMMA SIEMENSMA

CONVENOR'S FOCUS

Professional Development Day success • Awards and accolades • Julie Glanville returns • Call for expressions of interest in reviewing the Guidelines for Health Libraries • Million dollar news ...

> ... a big shout out to Monash University for hosting us, to all our amazing speakers, our fabulous sponsors, our attendees and the amazing work by the committee ...

Welcome to our bumper Spring 2019 issue. As with every Spring issue, this one is a little bigger than usual as we present to you the abstracts and links to presentations (where provided) from our two day Professional Development event held in July at Monash University, Caulfield Campus. Firstly a big shout out to Monash University for hosting us, to all our amazing speakers, our fabulous sponsors, our attendees and the amazing work by the committee. It's a combination of all these things which makes for brilliant Professional Development day – thanks to everyone involved.

We know that not everyone can attend PD events, so in this issue we will try to share the flavour of what happened. We feature an article from one of our keynote speakers, Liz Stokes on research data management for librarians and a paper on the research data skills gaps of Canadian health librarians (you may not be the only one feeling out of their depth). We hope that this issue helps to answer some of those tricky questions you have, and even pose some you may not have thought of yet…

As well as a packed program of learning at our PD event, there were also opportunities to celebrate excellent innovative work (as in the case of David Honeyman and team who received their award, pictured below), and long-standing service from our members Kate Jonson, Veronica Delafosse, Jane Orbell-Smith and Suzanne Lewis who each received an ALIA Distinguished Certified Professional Certificate. To apply for this eminent status, members must be a registered member of the ALIA PD scheme for a minimum of five years and accumulate a minimum of 200 points and learning outcomes during that five year period. Distinguished Certified Professionals are also asked to demonstrate professional/technical and personal knowledge and skills; provide evidence of a significant degree of autonomy in decision-making in practice and be currently employed in the Australian library and information sector or an allied sector.

Michele Gaca and Andrew Spence both received AALIA (CP) Health certificates for the 2015-2018 triennium so are well on their way to becoming Distinguished Certified Professionals too.

It was also a delight to present Sharon Karasmanis with a recognition award for being nominated in the Commonwealth Bank of Australia's Not-For-Profit Treasurer's Award category. Sharon has worked tirelessly for

Continues on p6...

RIGHT – The HLA/MedicalDirector Digital Health Innovation Award was presented by Allison Hart to David Honeyman.

Convenor's Report
– continues from p5...

ABOVE AND BELOW – All smiles as Kate Jonson (above) and Veronica Delafosse, received ALIA Distinguished Certified Professional Certificates.

ABOVE – Another highlight of the PD Day was being able to present Sharon Karasmanis with a recognition award for being nominated in the Commonwealth Bank of Australia's Not-For-Profit Treasurer's Award category.

years as the ALIA Health Libraries Australia Treasurer and we thank her for her ongoing hard work.

There has also been lots happening behind the scenes in regards to ALIA HLA. We have Julie Glanville back by popular demand and presenting across three states in mid-late November so if you are in Melbourne, Sydney or Brisbane stay tuned!

We are also calling for Expressions of Interest to be on the Reference Group to review the 'Guidelines for Health Libraries' (4th Ed) 2008. If this is something of interest please email Ann Ritchie ann.ritchie@alia.org.au for further information.

The HLA Executive is also looking to expand. In particular we are after people who might be keen to look after the HLA Archives, someone with design skills, an early career health librarian, someone to offer university sector insights, librarians from states not already covered (ACT, SA, NT, TAS) and anyone who wants to contribute to the wonderful profession that is health librarianship. If you are keen please email gemma.siemensma@bhs.org.au with a brief paragraph about yourself and what you feel you can bring to the HLA Executive. Don't forget to include your personal ALIA membership number too.

And in case you missed the news we are excited to share with you that ALIA, the ALIA Australian Public Library Alliance (APLA) and ALIA Health Libraries Australia (HLA) have secured close to $1 million in funding for libraries from the Australian Digital Health Agency to run train the trainer programs on digital health literacy. More information in this project can be found here https://www.alia.org.au/digital-health-literacy and we will keep you updated and the project begins. It certainly promises to be an exciting 12 months ahead!

Gemma Siemensma
gemma.siemensma@bhs.org.au

Share your story

As always, we'd love to hear about what's happening in your workplace – Taryn Hunt, HLA Publications – News and Alerts Editor hlanewsed@alia.org.au.

2019 DIGITAL HEALTH INNOVATION AWARD

As we have reported previously, David Honeyman won the 2019 ALIA Health Libraries Australia Digital Health Innovation Award for his project on SARA, and he attended our PD event to collect his award. We reprint the following article with thanks to Peta Hopkins at Bond University Library Services.

ABOVE – The winning team: Peta Hopkins, Justin Clark, Jessie Donaghey and David Honeyman (reproduced with permission).

> ... the HLA/ MedicalDirector Award is a really valuable initiative. It's a fantastic acknowledgement that health librarians make a difference with the work they do ...

A collaborative project between Bond University Library Services and the Institute for Evidence-Based Healthcare (IEBH) won the ALIA Health Libraries Australia MedicalDirector Digital Health Innovation Award 2019.

The winning project is a system which automates batch requests for document delivery of journal articles. The system for automatically requesting articles (SARA) is a component in the Systematic Review Accelerator.

Bond University researchers using the Systematic Review Accelerator can submit requests in batches to the Library's management system (Alma) using an API service, saving hours of time and with no repetitive data entry.

Systematic reviews are produced more efficiently, contributing to the use of highest quality evidence sources to inform patient care.

The winning team includes: **David Honeyman**, Faculty Librarian for Health Sciences & Medicine (Bond University Library), **Peta Hopkins,** Manager Digital Library Services (Bond University Library), J**essie Donaghey**, Digital Services Librarian (Bond University Library) and **Justin Clark**, Senior Research Information Specialist (IEBH).

On the award, David Honeyman, Faculty Librarian said "The HLA/ MedicalDirector Award is a really valuable initiative. It's a fantastic acknowledgement that health librarians make a difference with the work they do. For the SARA project the funding will help us keep improving the system, and the publicity from the award really helps us to grow the user base which is one of the key goals".

Justin Clark, described the advantages of using the system, "I am involved in many systematic reviews every year. Occasionally due to fast approaching deadlines I help with obtaining full text of articles. Once I had to submit 300 document delivery requests – it only took me 30 minutes, rather than - I dread to guess how many - hours"

"The implementation was an excellent collaboration between the Library and the Institute," said Peta Hopkins. "Working with the Institute's automation team on the API integration was just one part of the project. We appreciated the expertise of other Library staff to understand how this project would impact existing business processes and to ensure copyright compliance of the requesting process."

The award is funded by MedicalDirector.

NOTES: The IEBH was formerly known as the Centre for Research in Evidence-Based Practice (CREBP).

Alma is a cloud-based library system from the Ex Libris Group, providing a platform of open standards and APIs.

Worthwhile experience

Cintamani Brown shares for her thoughts on the HLA PD Days. Cintamani is HHS Librarian at Southern Cross University on the Gold Coast. You can read more about her in this issue's Member Spotlight.

I was fortunate enough to be able to attend the ALIA Health Libraries Australia (HLA) Professional Development Conference at Monash University in Melbourne last month. My attendance was sponsored by a QULOC PD Scholarship, with the theme of the conference being 'All about data'. It ran over two days, with speakers, panel discussions and presentations occurring on the first day and workshops on the second.

The atmosphere was light and friendly, and I met some wonderful people, with most of the librarians coming from the hospital/medical associations sector. The key topics which stood out to me were the importance of good data management, the high rate of research being published, how we can manage this high volume of information to keep up with the evidence, and the development and use of automatic screening software/tools for systematic reviews.

I would highly recommend attending the conference for any librarian new to the Health Sciences. I learnt a lot, made some great connections and really enjoyed my time there.

Cintamani Brown
Southern Cross University

ALIA HLA EVENT

Advanced Search Techniques for Systematic Reviews, Health Technology Assessment & Guideline Development Training Day

Workshop facilitated by JULIE GLANVILLE, Associate Director, York Health Economics Consortium (UK)

Extensive literature searches are the foundation of high quality systematic reviews, health technology assessment (HTA), guideline development and other major projects. Conducting searches to retrieve research evidence from databases and other resources requires a range of knowledge and skills. There are constant challenges to keeping up-to-date with new database features and approaches to achieving efficient searches. Search approaches may need to be adapted depending on the end-product which the search is informing and the resources available. Search approaches increasingly need to be explained to sponsors and other end-users in terms of the extent to which they are fit-for-purpose.

This interactive workshop will provide opportunities to learn new techniques, to discuss best approaches, to share insights and to assess variations in current best practice. The workshop will be facilitated by information specialist Julie Glanville who is experienced in literature searching to inform systematic reviews and HTAs and in conducting research into the evidence base for information retrieval. It will also comprise presentations and discussion.

For full program details and locations visit https://membership.alia.org.au/events/category/upcoming-events. Workshop equates to 6 PD points in the ALIA PD Scheme.

“How do I do that?”

A Literature Review of Research Data Management Skill Gaps of Canadian Health Sciences Information Professionals

Research data management is a hot topic, but how do you start when you don’t know what you don’t know? If you feel like you are under-skilled you aren’t alone. Justin Fuhr at the University of Manitoba in Canada reported on his findings among Canadian health librarians in August in the Journal of the Canadian Health Libraries Association. Read on and you may find your thoughts and feelings echoed. Fortunately, we have lots of support in Australia as Liz Stokes details in our front page article “Data Management Plans, or how to talk to researchers about data”.

ABSTRACT – **Background:** Research data management (RDM) services are becoming more commonplace in health sciences libraries. A review of the literature reveals numerous strategies to provide training for health sciences librarians as they provide these new services to health sciences researchers, faculty, and students. With the Tri-Agency Research Data Management Policy currently circulating for consultation, it is imperative for Canadian health sciences information professionals to offer RDM services in their libraries. **Methods**: A review of relevant scholarly articles were collected and analyzed. Initial searches were conducted in the University of Manitoba Libraries’ discovery service, as well as in MEDLINE, Scopus, and Web of Science. Articles were analyzed for skills necessary to provide RDM services and proposed training initiatives to fill RDM skill gaps. **Results**: After initial searches, 2 142 articles were identified for review. After removing duplicates and articles with only titles and abstracts, 38 articles were selected by analyzing citation counts in Web of Science and Scopus, as well as analyzing selected reference lists. **Conclusion**: Several suggestions for training are highlighted from the identified articles, including building a national support network, changes to post-secondary library and information studies’ curricula, and offering professional development workshops. However, no consensus emerges with respect to RDM training initiatives. As training initiatives are developed and documented, future studies will verify which initiatives have the greatest success for upskilling information professionals in managing research data in Canadian health sciences libraries.

INTRODUCTION

Research data management (RDM) is an increasingly common set of practices offered in Canadian health sciences libraries. RDM, as defined by Whyte and Tedds[1], “concerns the organisation of data, from its entry to the research cycle through to the dissemination and archiving of valuable results.” RDM organizes data that is created during the overall research lifecycle to make it accessible for current and future users. Managing research data is complex and comprises wide-ranging data services such as planning, data curation, data storage, data hosting, and long-term preservation. Specific services include consultations on funding body compliance, creating informatics, data licensing, depositing data into digital repositories, among others[2].

Though researchers are the ones creating data, they may not be the best managers of data. Conrad, Shorish, Whitmire, and Hswe claim “[m]ost researchers have not been formally trained to manage their own

Continues on p10...

Fuhr, J. (2019). “How Do I Do That?” A Literature Review of Research Data Management Skill Gaps of Canadian Health Sciences Information Professionals. Journal of the Canadian Health Libraries Association / Journal De L’Association Des Bibliothèques De La Santé Du Canada, 40(2), 51-60. https://doi.org/10.29173/jchla29371

Justin Fuhr. MLIS, University of Alberta, Edmonton AB (email: justin.fuhr@umanitoba.ca)

"How do you do it?"
– continues from p9...

data" [3]. Who should manage research data, if not researchers? Library and information studies (LIS) researchers analyzed the impending "data deluge" and recognized librarians could provide services to manage research data [4-5]. Librarians have a long history of organizing and managing digital resources, making RDM a natural fit. Conrad, et al. recognize the link between curation of digital library resources and research data as they write: "[m]anagement of content and data aligns logically with digital curation practices" [3].

However, are health sciences librarians prepared to provide this new service? Do health sciences librarians have the necessary skills to provide expert data services? This paper reviews literature discussing data management services, highlights skills necessary to provide RDM services in different contexts, and identifies training initiatives that could be used in Canadian academic health sciences libraries. Following the literature review, potential research opportunities are presented to study how best to bridge the gap in research data management skills among Canadian health sciences librarians.

METHODS

The author searched the University of Manitoba Libraries' discovery service (Ex Libris Primo) to find an initial set of peer-reviewed resources on research data management in academic and health sciences libraries. The author used the search string: ("research data management" OR "RDM" OR "research data services") AND ("academic" OR "health sciences" OR "medical" OR "medicine") AND librar*. The author limited the search results to scholarly articles. This resulted in 2 142 results. The author completed further searches in MEDLINE, Scopus, and Web of Science using the same search string. In MEDLINE, the search string was modified by omitting quotation marks and searching the following field codes: .ti (title), .ab (abstract), .ot (original title), .kf (keyword heading word), and .hw (subject heading word). The author then used "pearl growing," or scanning of selected reference lists, of reliable and scholarly articles. Reliable and scholarly for the author is defined by articles with a Field Weighted Citation Impact score greater than 1.00 in Scopus. Overall, the author found 38 articles that discussed research data management to build a historical narrative in this emerging area of LIS. As well, these articles list specific skills and training initiatives for information professionals to provide RDM library services. The author prioritized articles with a geographic focus on Canada, however the author found little research in this area. The author had to discard one article due to its focus on bibliometrics despite the title indicating split coverage of bibliometrics and RDM [6]. The author included Cronin [7] and Gieryn [8] to reflect early cross-disciplinary activities based on feedback received from peers. Due to research data services as an emerging field in LIS, sources are largely compiled from the mid-1990s to the present, with a focus on sources published after 2012.

LITERATURE REVIEW

Cross-Disciplinary Activities in LIS

RDM is a new service provided by health sciences libraries, but its roots can be seen as far back as the 1980s in cross-disciplinary scientific research [7-8]. "Before information professionals can begin to improve existing services or develop new approaches that account for the complex needs of contemporary researchers," Palmer writes, "[information professionals] need to understand the activities and patterns involved in the cross-disciplinary research process" [9]. Palmer sees academic librarians as active participants in cross-disciplinary research, which was becoming increasingly common throughout the 1990s. For Palmer, librarians step outside traditional domains of knowledge to support researchers doing "boundary work," or work that interacts with multiple

Continues on p11...

"How do you do it?"
– continues from p10...

fields, such as sharing data between labs. This includes improving access to scholarly documents, which has a direct link to making research data more accessible. Palmer suggests, "[w]e will need to develop new standards and criteria for the presentation of raw data and results and create platforms for discussion around materials." Storing and providing access to research data becomes increasingly significant as research data proliferates, especially in digital formats.

The Data Deluge

Increasing amounts of research data is shared through cross-disciplinary studies in academic institutions. However, it is important to define what research data is. In the late twentieth and into the early twenty-first century, researchers saw an exponential increase in scientific research data, with digital data becoming increasingly common [4, 9]. Hey and Trefethen call this the "data deluge" and predicted the increase in repositories to store data, not unlike current domain or institutional repositories [4].

Much of the increased digital data stems from scientific fields and is given the name "e-science." E-science joins experimental, theoretical, and computational approaches in scientific research [10]. Jim Gray, a respected computer scientist, as quoted in Hey et al., says "[t]he goal is to have a world in which all of the science literature is online, all of the science data is online, and they interoperate with each other. Lots of new tools are needed to make this happen" [10]. The world in which Gray writes is overwhelming and intimidating. Research data spans a diverse range of types and formats. Surkis and Read [11] use the example of studying before and after MRI images of patients in a clinical trial. The data produced in this study includes folders filled with images, spreadsheets of drug dosages, data examining tumour size, and processed data used to create figures for publication [11]. With the amount and variety of research data, it is clear that services are required to manage e-science data.

Services to Manage Research Data

The deluge of e-science data necessitates management. Read, Surkis, Larson, et al., interviewed basic scientists and clinical researchers and found major challenges in managing data including lack of standards, a diverse range of types of data, and low quality of data associated with inconsistent data collection methods [12]. These challenges opened the door for libraries to offer data services. A major white paper published by Tenopir, Birch, and Allard gives RDM services scope [13]. The authors claimed that in 2012, "[o]nly a small minority of academic libraries in the United States and Canada currently offer research data services (RDS), but a quarter to a third of all academic libraries are planning to offer some services within the next two years."

Yakel divides data management into five areas: "lifecycle management of materials; active long-term involvement by data creators and managers; appraisal and selection of materials; provision of access; and preservation" [14]. Lee and Stvilia list many lifecycle models of research data but use the Digital Curation Centre's (DCC) Curation Lifecycle Model in their study of the roles of institutional repository staff [15]. The DCC model lists the sequential activities in curating and preserving data: conceptualize, create or receive, appraise and select, ingest, preserve, store, and access, use and reuse [16].

Looking at the data management lifecycle, Walters and Skinner's report, New Roles for New Times: Digital Curation for Preservation, outlines academic librarian's role as "collaborative network creators and participants," which sees American academic librarians building digital frameworks to make scholarly data accessible [17]. Harkening back

Continues on p12...

"How do you do it?"
– continues from p11...

to Palmer (1996), Pryor and Donnelly describe data practitioners as "hybrid information specialists with boundary-spanning roles" [18]. Lee and Stvilia [15] list specific activities for data curators and metadata specialists: building "data governance structure," helping "data providers to create appropriate metadata for their dataset," maintaining software, and metadata creation. Lyon sees information professionals offering RDM planning, training, citing, licensing, and storage [19].

There are several data management service models proposed throughout the literature to deliver RDM services. Pinfield, Cox, and Smith see a library-oriented model, which sees library staff managing research data directly [20]. Whyte provides further clarity to the library-oriented model [21]. He sees libraries providing 3 levels of data management services: minimal, mediated, and consultancy. Others see librarians collaborating with other departments, echoing Palmer 9. Wittenberg and Elings' case study shows a successful partnership of the University of California, Berkeley's Library with the Research Information Technologies department to manage research data [22]. Wang and Fong's study at Rutgers University-Newark sees health sciences librarians playing a central role by being embedded directly into the research process, including processing data in the lab and developing data management plans [23]. Wherever health sciences librarians physically find themselves, LIS researchers see them being involved in the management of research data.

National Policies on Research Data Management

Antell, Foote, Turner, and Shults explore RDM services in light of requirements by the United States' National Science Foundation (NSF) to have a data management plan before applying for grants [24]. Their work has relevance to Canada since Canadian federal funding bodies have similarities to NSF's requirements, such as the Tri-Agency Open Access Policy on Publications. In this policy, researchers who receive federal funding are mandated to make any peer-reviewed publication stemming from this funding open access within 12 months [25]. Further, Canadian Institutes of Health Research grant recipients are required to deposit "bioinformatics, atomic, and molecular coordinate data" into a publicly accessible database and retain datasets for a minimum of 5 years [25].

A research data management draft policy is currently being circulated for consultation by the Tri-Agencies for managing research data, which complements the existing Tri-Agency Statement of Principles on Digital Data Management [26]. In the draft policy, researchers are required to provide a complete data management plan (DMP) and deposit all research data into a recognized digital repository [27]. In addition, institutions that administer Tri-Agency funds will be required to have a local research data management policy [27]. It is the hope that with this policy, RDM will be seen as an integral step in the research process. Health sciences information professionals are well-positioned to provide services in this emerging area, including providing assistance with creating a DMP and providing support with depositing and preserving data in repositories.

Though Canadian perspectives are difficult to find, Steeleworthy speaks to the Tri-Agency requirements for open access [28]. However, because the Tri-Agencies' policies are relatively new, the policies are in flux and Steeleworthy's article shows its age. Steeleworthy advocates for partnerships with stakeholders and to unravel shifting open access requirements by federal funders. He recognizes managing research data is multi-faceted and includes scholarly communication, information technology, and liaison services in the provision of management services. Guindon presents an informal survey of research data practices at Concordia University, but it is not comprehensive as it only surveys one institution in Canada, nor is it peer-reviewed [29].

Continues on p13...

"How do you do it?"
– continues from p12...

Infrastructure of Research Data Management

Health sciences information professionals currently or are able to provide a wide variety of services to manage research data, but adequate infrastructure is needed to properly preserve data. Long-term storage of scientific data is a consideration for RDM as this is how data will be preserved and made accessible. Digital repositories are one way to deposit, store, and make research data accessible. These online platforms host and provide access to research documents and data. Among the 3 types of digital repositories (domain, discipline, and institutional), academic institutions commonly offer institutional repositories which store theses, dissertations, and data produced at the university [30]. All U15 research institutions in Canada have institutional repositories, such as the University of Alberta's Education & Research Archive, the University of Toronto's Tspace, and the University of Manitoba's Mspace [31].

However, generally institutional repositories are not capable of ingesting large amounts of research data. Rather, Canadian institutions such as the University of Manitoba and Dalhousie University have implemented Dataverse, software for managing research data which also includes a repository.

Pinfield, Cox, and Smith highlight the need for secure storage of research data, albeit in a UK context [20]. In semi-structured interviews with librarians, they found data storage was often prioritized in their institutions and one of the major reasons research data services were being offered in the first place. The researchers note necessary collaboration with IT departments may limit libraries' access to storage, important to note for health sciences libraries without internal storage solutions.

DISCUSSION

Health Sciences Librarians' RDM Skill Sets

With new and evolving roles in data management, it should not be a surprise that health sciences librarians are currently under skilled to offer fully developed data management services. For example, Read, et al. found a perception from basic scientists and clinical researchers that librarians "do not understand research data and have no role to play in data management" [12]. This suggests a gap in skills, a lack of advocacy and marketing to show librarians' value, and a failure to translate traditional librarian skill sets to this new domain. While not a prerequisite to managing research data, Lyon claims few librarians have direct experience working in scientific environments, such as a laboratory, and do not feel comfortable providing data curation for research studies [32]. Lyon terms this the "curation domain disconnect" [33].

Cox, Kennan, Lyon, and Pinfield point directly to data management skills that are lacking among librarians [34]. The researchers developed a maturity model to benchmark current RDM services in academic libraries. The authors use studies led by Carol Tenopir, et al. to highlight areas of significant management and operation concerns [35-36]. This includes the capability of library staff to provide RDM services and technical gaps including the curation of active research data. Cox, et al. provide an international scope, which includes information professionals from Australia, Canada, Germany, Ireland, the Netherlands, and the UK. Librarians may be adequately prepared for advising or consulting but lack technical skills such as data cataloguing and curating, which may be necessary for health sciences librarians to know.

Research from Auckland [37] and Cox and Pinfield [38] highlight several areas that librarians should focus on to reduce RDM skill gaps, including preserving research data, data curation, advising on funder mandates. These are areas which saw service need and growth since Auckland's report was written and where librarians were currently deficient [38]. The

Continues on p14...

"How do you do it?"
– continues from p13...

researchers also highlight data curation skills that are lacking among librarians and are needed now and in the future.

Lyon identifies many skills required for information professionals to manage data [19]. She identifies "strong informatic skills," along with "working knowledge of the research practices and workflows... an awareness of the national and international data centres where research data in that domain are deposited, and a good grasp of the data publication requirements of the leading scholarly journals." Delserone documents the need for adequate infrastructure and curation by information professionals [39]. Delserone includes quotations from researchers at the University of Minnesota: "[d]ata storage is fundamental to all of us" and "[t]he Libraries could facilitate the curation and preservation of data by scholars, and teach researchers how to better organize it." Lee and Stvilia list additional skills, including "metadata knowledge particular for research data" and "technical details of repository software, server, and its architecture" [15]. Nicholson and Bennett claim "sound and consistent methodologies" are needed to ensure data is available to access [40]. Auckland, speaking on her research from UK libraries, recognizes the need for preserving research outputs via repositories, data analysis, and knowledge of data manipulation tools [37]. Heidorn suggests grant proposal assistance will be necessary for library staff to provide, especially in light of library staff who are familiar with "digital object access and preservation" [41].

Recent research from Federer shows data librarians need an immense skill set [42]. Somewhat surprisingly, while Federer suggests there is little consensus on what specific skills are needed to manage data, her research shows soft skills such as oral communication and teamwork are rated as very important by data librarians.

Though researchers throughout the literature disagree on precisely what skills are needed to provide RDM services as information professionals due to differing levels of service maturity, and differing contexts, Table 1 below summarizes the author's findings of what skills are needed and may be missing by information professionals to provide a wide range of RDM services.

RDM Training Initiatives

Pryor and Donnelly want to establish a clearly defined career path for research data management practitioners [18]. The authors seek to

Continues on p15...

Skill Set	Source
Knowledge of research methods, practices, and workflows	Cox, et. al. (2017); Lyon (2012); Nicholson & Bennett (2011)
Legal, policy, and advisory skills	Cox, et. al. (2017)
Data curation and preservation	Cox, et. al. (2017); Delserone (2008)
Data mining and analysis	Auckland (2012)
Data visualization and informatics	Federer (2018); Lyon (2012)
Awareness of national and international data centres where data is deposited	Lyon (2012)
Data publication requirements of leading scholarly journals	Lyon (2012)
Grant proposal expertise	Heidorn (2011)
Data description and metadata knowledge of research data	Cox, et. al. (2017); Lee & Stvilia (2017)
Technical details of repository software, server, and its architecture	Delserone (2008); Lee & Stvilia (2017)
Soft skills such as oral communication, teamwork, and developing relationships with researchers and faculty	Federer (2018)

TABLE 1 – Identified skills for providing research data services

entrench competencies for librarians during academic training, though they recognize restructuring LIS curricula is difficult. Lyon is another proponent of ensuring data management skills are taught in library and information science graduate programs [19, 32]. Wang and Fong recognize the lack of RDM training when they write, "research data services are new and few library school programs offer formal training in this area" [23]. Lyon suggests three initiatives where LIS graduate programs could bolster RDM skills: define core components of data management, encourage potential students with science-related backgrounds into LIS graduate programs, and set up an international data informatics working group [19]. Lyon and Brenner see the potential for graduate programs to offer what they call the Capability Ramp Model [43]. This model leverages three areas that library and information science graduate programs excel at: education, research intelligence, and professional practice.

Heidorn [41] echoes Lyon's [19] suggestion for training in graduate program. He notes the LIS programs at University of Illinois, University of North Carolina, and the University of Arizona offer courses that train students in skills necessary for RDM. In the years following Heidorn's research, many more programs offer data management and data services courses, documented by Research Data Management Librarian Academy [43].

Federer also suggests training information professionals in data management while potential data librarians are in graduate school [42]. Her study focuses on identifying key competencies and skills data librarians require. While Federer is hesitant to identify specific training in graduate programs due to the ever-changing needs of library patrons, her point of bolstered data services in LIS programs is a strong one and echoed by other researchers [2, 18, 23, 32, 41, 43].

Wang and Fong want data librarians to keep up to date with resources, including scholarly literature and online tools [23]. Brown, Wolski, and Richardson's case study of an academic librarian at Griffith University (Australia) successfully transitioning to a research data support role highlights key training opportunities such as mentorship, background reading, and participation in a massive open online course on metadata [45]. Brown, et al. propose the development of a support network that consists of trained specialists with specific domain knowledge, which information professionals could call upon when needed [45]. This idea has similarities to Lyon's [2] proposed international data informatics working group.

Cox and Pinfield, in their research surveying academic librarians, found the majority of librarians surveyed thought they had adequate RDM skills, with some caveats [38]. Their research found librarians claim development of staff combined with recruitment would fill skill gaps slowly over time. This hints at the bolstered graduate programs suggested by Lyon and Brenner above [43].

Conrad, Shorish, Whitmire, and Hswe [3] support professional development workshops held by the Association of College and Research Libraries (ACRL) [46]. These workshops, called "roadshows," travel to institutions, organizations, and conferences to teach skills in a specific area. One roadshow focuses on data management: "Building Your Research Data Management Toolkit: Integrating RDM into Your Liaison Work," which has its roots in a 2015 ACRL preconference workshop [3]. Read describes success in hosting library workshops for clinical researchers at New York University's Health Sciences Library [47]. These workshops were primarily attended by clinical professionals such as research coordinators, research managers, and faculty, but could be applied to library staff as well.

Another option are online courses. The National Library of Medicine and the National Network of Libraries of Medicine Training Office offer a

Continues on p16...

"How do you do it?"
– continues from p15...

7-module course on data management, entitled "Biomedical and Health Research Data Management for Librarians" [48]. This course can be taken online and is an option for Canadian health sciences librarians to upgrade their RDM skillset. Another online course is the Research Data Management Librarian Academy (RDMLA), set to launch in Fall 2019 [44]. RDMLA is a collaboration between Elsevier and several American post-secondary institutions. Canadian health sciences associations would do well to offer similar courses if the programs above do not satisfy current Canadian health information professionals. Another option is mid-career fellowships to upgrade existing skills for already experienced information professionals.

More research is required to determine which RDM skills should be prioritized, as well as which training initiatives are most successful at Canadian health sciences libraries. Training initiatives will be beneficial as health sciences information professionals are increasingly providing some level of data services.

LIMITATIONS

The author recognizes this paper is not a full systematic review. Articles were selected from a pre-defined set of criteria for a concise review of relevant literature. As well, the focus of this paper is on academic health sciences libraries rather than other health contexts such as hospital libraries, of which little literature currently exists. The author also recognizes he excluded non-English sources in the identified scholarly articles. As such the results of this paper are intended to be an introduction for Canadian health sciences librarians to ensure research data management initiatives are implemented. More robust research will be required for libraries to implement evidence-based practices with regards to how to train information professionals to provide RDM services.

CONCLUSION

RDM is poised to be an essential library service across health sciences libraries. Canadian post-secondary institutions are beginning to integrate these services, all the more relevant due to the forthcoming Tri-Agency Research Data Management Policy. The author foresees a trickle-down effect of research data services in health sciences and specialized libraries, regardless of affiliation with a post-secondary institution. In light of these developments, information professionals of all types of libraries need to ensure staff have key competencies, especially if they find themselves in a role where they directly manage data.

Future Research

While the literature is populated with a number of studies from an American, UK, and Australian perspective, Canadian health sciences libraries would benefit from further research. Research exists that highlights specific skill sets, captured in Table 1 above, but work could be completed to confirm whether these skills are relevant for Canadian information professionals. Furthermore, more in-depth research should emerge verifying which initiatives have the greatest success as RDM training is developed across Canada. A future research study can explore current RDM-focused graduate-level courses offered at Canadian post-secondary institutions, complementing the work completed by RDMLA researchers. Using this information, Canadian health sciences libraries and library associations could implement professional development opportunities to bridge skills gaps to provide high-level, mature RDM services.

Acknowledgments

The author would like to thank Dr. Tonyia Tidline for her guidance in preparing this article.

Statement of Competing Interests

No competing interests declared.

Continues on p17...

"How do you do it?" – continues from p16...

REFERENCES

1. Whyte, A, Tedds, J. Making the Case for Research Data Management [Internet]. DCC Briefing Papers. Edinburgh: Digital Curation Centre; 2011 [cited 2018 Nov 18]. Available from: http://www.dcc.ac.uk/resources/briefing-papers
2. Lyon L. The Informatics Transform: Re-Engineering Libraries for the Data Decade. International Journal of Digital Curation [Internet]. 2012 Mar [cited 2017 Oct 30];7(1):126–38. Available from: http://dx.doi.org/10.2218/ijdc.v7i1.220
3. Conrad S, Shorish Y, Whitmire AL, Hswe P. Building professional development opportunities in data services for academic librarians. IFLA Journal [Internet]. 2017 Mar [cited 2017 Nov 3];43(1):65–80. Available from: https://doi.org/10.1177/0340035216678237
4. Hey T, Trefethen A. The Data Deluge: An e-Science Perspective. In: Berman F, Fox G, Hey T, editors. Wiley Series in Communications Networking & Distributed Systems [Internet]. Chichester, UK: John Wiley & Sons, Ltd; 2003 [cited 2017 November 18]. p. 809–24. Available from: http://doi.wiley.com/10.1002/0470867167.ch36
5. Hey T, Hey J. E-Science and its implications for the library community. Library Hi Tech [Internet]. 2006 Oct [cited 2017 Oct 29]; 24(4): 515–28. Available from: https://doi.org/10.1108/07378830610715383
6. Corrall, S, Kennan, M, Afzal, W. Bibliometrics and research data management services: Emerging trends in library support for research. Library Trends [Internet]. 2013 Jan [cited 2017 Oct 19];61(3): 636–74. Available from: https://doi.org/10.1353/lib.2013.0005
7. Cronin B. Invisible colleges and information transfer: A review and commentary with particular reference to the social sciences. Journal of Documentation [Internet]. 1982 Mar [cited 2017 Oct 24];38(3): 212-36. Available from: https://doi.org/10.1108/eb026730
8. Gieryn TF. Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists. American Sociological Review [Internet]. 1983 Dec [cited 2017 Nov 5]; 48(6): 781-95. Available from: https://www.jstor.org/stable/2095325?seq=1#page_scan_tab_contents
9. Palmer CL. Information work at the boundaries of science: linking library services to research practices. Library Trends [Internet]. 1996 Oct [cited 2017 Nov 2]; 45(2): 165-91. Available from: https://www.ideals.illinois.edu/handle/2142/8089
10. Hey S, Tansley S, Tolle K. Jim Gray on eScience: A transformed scientific method. In: Hey S, Tansley S, Tolle K, editors. The Fourth Paradigm: Data-Intensive Scientific Discovery [Internet]. Redmond, WA: Microsoft Corporation; 2009 [cited 2017 November 18]. p. xvii-xxxi. Available from: https://www.microsoft.com/en-us/research/wp-content/uploads/2009/10/Fourth_Paradigm.pdf
11. Surkis A, Read K. Research Data Management. J Med Libr Assoc [Internet]. 2015 Jul [cited 2017 Nov 7]; 103(3): 154-56. Available from: https://dx.doi.org/10.3163%2F1536-5050.103.3.011
12. Read K, Surkis A, Larson C, McCrillis A, Graff A, Nicholson J, Xu J. Starting the Data Conversation: Informing Data Services at an Academic Health Sciences Library. J Med Libr Assoc [Internet]. 2015 Jul [cited 2018 Apr 8]; 103(3): 131-35. Available from: https://doi.org/10.3163/1536-5050.103.3.005
13. Tenopir C, Birch B, Allard, S. Academic libraries and research data services: current practices and plans for the future; an ACRL white paper [Internet]. Chicago, IL: Association of College and Research Libraries; 2012 [cited 2018 Nov 18]. Available from: http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/Tenopir_Birch_Allard.pdf
14. Yakel E. Digital Curation. OCLC Systems & Services: International Digital Library Perspective [Internet]. 2007 Nov [cited 2019 Apr 3]; 23(4): 335-40. Available from: https://doi.org/10.1108/10650750710831466
15. Lee DJ, Stvilia B. Practices of research data curation in institutional repositories: A qualitative view from repository staff. PLOS ONE [Internet]. 2017 Mar [cited 2017 Nov 5];12(3):e0173987. Available from: https://doi.org/10.1371/journal.pone.0173987
16. Higgins S. The DCC curation lifecycle model. The International Journal of Digital Curation [Internet]. 2008 Dec [cited 2017 Nov 4]; 1(3): 134-40. Available from: http://dx.doi.org/10.2218/ijdc.v3i1.48
17. Walters T, Skinner K. New Roles for New Times: Digital Curation for Preservation [Internet]. Washington, DC: Association of Research Libraries; 2011 [cited 2018 Apr 18]. Available from: https://vtechworks.lib.vt.edu/bitstream/handle/10919/10183/nrnt_digital_curation17mar11.pdf;sequence=1
18. Pryor G, Donnelly M. Skilling Up to Do Data: Whose Role, Whose Responsibility, Whose Career? International Journal of Digital Curation [Internet]. 2009 Oct [cited 2017 Oct 19];4(2):158–70. Available from: http://dx.doi.org/10.2218/ijdc.v4i2.105
19. Lyon L. The Informatics Transform: Re-Engineering Libraries for the Data Decade. International Journal of Digital Curation [Internet]. 2012 Mar [cited 2017 Oct 30];7(1):126–38. Available from: http://dx.doi.org/10.2218/ijdc.v7i1.220
20. Pinfield S, Cox AM, Smith J. Research Data Management and Libraries: Relationships, Activities, Drivers and Influences. PLoS ONE [Internet]. 2014 Dec [cited 2017 Oct 24];9(12):e114734. Available from: https://doi.org/10.1371/journal.pone.0114734
21. Whyte A. Delivering research data management services. In: Pryor G, Jones S, Whyte, A, editors. A pathway to sustainable research data services: From scoping to sustainability London, UK: Facet; 2014. p. 59-88.
22. Wittenberg J, Elings M. Building a Research Data Management Service at the University of California, Berkeley. IFLA Journal [Internet]. 2017 Mar [cited 2018 Apr 15]; 43(1): 89-97. Available from: https://doi.org/10.1177/0340035216686982
23. Wang M, Fong BL. Embedded Data Librarianship: A Case Study of Providing Data Management Support for a Science Department. Science & Technology Libraries [Internet]. 2015 Jul [cited 2017 Nov 3];34(3):228–40. Available from: https://doi.org/10.1080/0194262X.2015.1085348
24. Antell K, Foote JB, Turner J, Shults B. Dealing with Data: Science Librarians' Participation in Data Management at Association of Research Libraries Institutions. College & Research Libraries [Internet]. 2014 Jul [cited 2017 Oct 22];75(4):557–74. Available from: https://doi.org/10.5860/crl.75.4.557
25. Government of Canada. Tri-Agency open access policy on publications [Internet]. 2016 Dec 21 [cited 2017 Oct 17]. Available from: http://www.science.gc.ca/eic/site/063.nsf/eng/h_F6765465.html?OpenDocument
26. Government of Canada. Tri-Agency statement of principles on digital data management [Internet]. 2016 Dec 21 [cited 2017 Oct 17]. Available from: http://www.science.gc.ca/eic/site/063.nsf/eng/h_83F7624E.html
27. Government of Canada. Draft: Tri-Agency research data management policy for consultation [Internet]. 2018 May 5 [cited 2018 Nov 16]. Available from: http://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html
28. Steeleworthy M. Research Data Management and the Canadian Academic Library: An Organizational Consideration of Data Management and Data Stewardship. Partnership: The Canadian Journal of Library and Information Practice and Research [Internet]. 2014 Jun [cited 2017 Oct 26]; 9(1): 1-11. Available from: https://journal.lib.uoguelph.ca/index.php/perj/article/view/2990

Continues on p18...

"How do you do it?" – continues from p17...

29. Guindon A. Research data management at Concordia University: A survey of current practices. Feliciter [Internet]. 2014 Apr [cited 2017 Nov 15]; 60(2): 15-17. Available from: http://community.cla.ca/2014/04/

30. Witt M, Cragin M. Introduction to institutional data repositories workshop [Internet]. Libraries Research Publications; 2008 [cited 2018 Nov 24]. Available from: http://docs.lib.purdue.edu/lib_research/83

31. Canadian Association of Research Libraries. Repositories in Canada. 2017 [cited 2018 Apr 3]. Available from: http://www.carl-abrc.ca/advancing-research/institutional-repositories/repos-in-canada/

32. Lyon L. Librarians in the Lab: Toward Radically Re-Engineering Data Curation Services at the Research Coalface. New Review of Academic Librarianship [Internet]. 2016 Oct [cited 2017 Oct 28];22(4):391–409. https://doi.org/10.1080/13614533.2016.1159969

33. Lyon L. Reflections & challenges, preparing the workforce for digital curation: the iSchool perspective [Internet]. 2014 Feb [cited 2017 Nov 18]. Available from: http://www.dcc.ac.uk/sites/default/files/documents/IDCC14/Panels/LizLyon_Panel.pdf

34. Cox AM, Kennan MA, Lyon L, Pinfield S. Developments in research data management in academic libraries: Towards an understanding of research data service maturity. Journal of the Association for Information Science and Technology [Internet]. 2017 Sep [cited 2017 Nov 4];68(9):2182–200. Available from: https://doi.org/10.1002/asi.23781

35. Tenopir C, Hughes D, Allard S, Frame M, Birch B, Baird L, Sandusky R, Langseth M, Lundeed, A. Research Data Services in Academic Libraries: Data Intensive Roles for the Future? Journal of eScience Librarianship [Internet]. 2015 Dec [cited 2017 Nov 4]; 4(2): 1-21. https://doi.org/10.7191/jeslib.2015.1085

36. Tenopir C, Sandusky RJ, Allard S, Birch B. Research Data Management Services in Academic Research Libraries and Perceptions of Librarians. Library & Information Science Research [Internet]. 2014 Apr [cited 2017 Nov 17];36(2):84–90. https://doi.org/10.1016/j.lisr.2013.11.003

37. Auckland, M. Re-skilling for research: an investigation into the role and skills of subject and liaison librarians required to effectively support the evolving information needs of researchers [Internet]. Research Libraries UK. 2012 [cited 2017 Nov 4]. Available from: https://www.rluk.ac.uk/portfolio-items/re-skilling-for-research/

38. Cox AM, Pinfield S. Research data management and libraries: Current activities and future priorities. Journal of Librarianship and Information Science [Internet]. 2014 Dec [cited 2017 Oct 24];46(4):299–316. Available from: http://dx.doi.org/10.1177/0961000613492542

39. Delserone LM. At the watershed: preparing for research data management and stewardship at the University of Minnesota Libraries. Library Trends [Internet]. 2008 Oct [cited 2017 Oct 14];57(2):202-10. Available from: https://doi:10.1353/lib.0.0032

40. Nicholson SW, Bennett TB. Data sharing: Academic libraries and the scholarly enterprise. Portal: Libraries and the Academy [Internet]. 2011 Jan [cited 2017 Nov 5]; 11(1): 505-16. Available from: https://muse.jhu.edu/article/409890

41. Heidorn PB. The Emerging Role of Libraries in Data Curation and E-science. Journal of Library Administration [Internet]. 2011 Oct [cited 2017 Nov 5];51(7–8):662–72. Available from: https://doi.org/10.1080/01930826.2011.601269

42. Federer L. Defining data librarianship: a survey of competencies, skills, and training. J Med Libr Assoc [Internet]. 2018 Jul [cited 2017 Nov 2];106(3): 294-303. Available from: http://jmla.pitt.edu/ojs/jmla/article/view/306

43. Lyon L, Brenner A. Bridging the data talent gap - positioning the iSchool as an agent for change. International Journal of Data Curation [Internet]. 2015 Mar [cited 2017 Oct 30]; 10(1): 111-22. http://dx.doi.org/10.2218/ijdc.v10i1.349

44. Research Data Management Librarian Academy. Training [Internet]. 2018 [cited 2019 June 5]. Available from: https://github.com/RDMLA/home/raw/master/Training.pdf

45. Brown RA, Wolski M, Richardson J. Developing new skills for research support librarians. The Australian Library Journal [Internet]. 2015 Jul [cited 2017 Oct 22];64(3):224–34. Available from: https://doi.org/10.1080/00049670.2015.1041215

46. Association of College and Research Libraries [Internet]. ACRL roadshows. 2017 [cited 2017 Oct 15]. Available from: http://www.ala.org/acrl/conferences/roadshows

47. Read K. Adapting Data Management Education to Support Clinical Research Projects in an Academic Medical Center. J Med Libr Assoc [Internet]. 2019 Jan [cited 2019 May 10]; 107(1): 89-97. Available from: http://dx.doi.org/10.5195/jmla.2019.580

48. National Network of Libraries of Medicine. Biomedical & health research data management for librarians [Internet]. 2019 [cited Apr 18]. Available from https://nnlm.gov/classes/biomedical-and-health-research-data-management-librarians

MEMBER SPOTLIGHT

CINTAMANI BROWN
FAST FACTS

HLA member since: 2019
First professional position: HHS Librarian Southern Cross University, Gold Coast
Current Position: HHS Librarian Southern Cross University, Gold Coast
Education: Bachelor of Communication (Griffith University, Gold Coast, Graduate Diploma in Education (Primary), Graduate Diploma of Library & Information Studies (Curtin University, WA)
Favourite Website or Blog: Library Planet, https://libraryplanet.net/

What do you find most interesting about your current position?

Meeting with students and academics gives me an opportunity to do research in many different areas, and since I do not have any formal education in the Health Sciences I am always learning new and interesting things.

What has been your biggest professional challenge?

Becoming comfortable with teaching information literacy classes to students and improving my public speaking.

How did you join Health Librarianship?

It was an organic process whereby I began supporting the main Health Librarian as the workload for this discipline grew.

What was your previous employment background?

I worked as a primary school teacher and also in the hospitality industry.

What would you do if you weren't a health librarian?

Hopefully another discipline specific librarian! Or a teacher librarian for a primary school.

What do you consider the main issues affecting health librarianship today?

The volume of research currently being conducted and published means we have an overflow of available information and not all of it is quality research. This impacts on the length of time it takes to search and retrieve the best information to use for evidence based healthcare.

What is your greatest achievement?

Being part of the team who worked on creating and developing our library's online Research Ready Info Literacy tutorials for new students. The tutorial has been taken up by a number of units as a requirement which means lots of students are learning/practising important information literacy skills.

What is your favourite non-work activity?

Reading a good fantasy series and being by the beach.

What advice would you give to a new member of HLA or a new graduate information professional?

Network as much as you can with other librarians and learn from those who have been in the industry for a long time. Nothing can compare to the knowledge which comes from experience.

Anything else you would like to share about yourself?

For me, being a new librarian and working with people who have been in the industry for a long time felt a little daunting. But if I could give any advice, I would say never be afraid of asking questions, librarians are always happy to share knowledge and information – that's why we are here ;)

HEALTH LIBRARIES AUSTRALIA

2019 PROFESSIONAL DEVELOPMENT DAY ABSTRACTS

Record of event held on 18 and 19 July 2019 at Monash University Caulfield Campus, Melbourne
Where available, you can access individual presentations by clicking on the BLUE paper title (if you are new to HLA News you might not realise all blue text indicates hyperlinks – except this explainer!)

"All about data – what do health librarians need to know in the data driven world of ehealth?"

DAY ONE	Session title
9.00am- 9.15am	**Welcome** – Gemma Siemensma HLA Convenor and Angela Smith Program Convenor, with Cassandra Freeman/Penelope Presta, Monash University Library.
9.15am-10.00am	**Keynote 1** **Living Evidence – Partnerships and technology for up to date, reliable evidence** Julian Elliott, Lead – Evidence Systems at Cochrane, Senior Research Fellow at Cochrane Australia and HIV Physician, Department of Infectious Diseases, Alfred Hospital and Monash University.
10.00 am -10:30am	**Keynote 2** **Better Connections: The future of digital health** Angela Ryan, Chief Clinical Information Officer - Australian Digital Health Agency and representative from KPMG.
10.30 am	Morning tea - including networking with sponsors and colleagues
11.00am -11:30 am	**Keynote 3** **Being data savvy – What do health librarians need to know?** Liz Stokes, Senior Research Data Skills Specialist, Australian Research Data Commons.
11.30am – 12:00pm	**Keynote 4** **Down the rabbit hole - challenges and opportunities for librarians in health data** David Groenewegen Director Research – Monash University Library.
12.00 pm	**Panel Discussion with Gold Sponsors: Where's the common ground - Exploring collaborative partnerships.** Facilitator: Ann Ritchie with Wolters Kluwer, OCLC, EBSCO and library partners.
1.00pm – 2:00 pm	Lunch - including networking with sponsors and colleagues
2:00pm – 2:40pm	**Presentations, including HLA/Medical Director Health Informatics Innovation Award** (2019 winner plus presentation from 2018 winner)
2:40pm - 3:20 pm	**Your authors will love you - Classifying search results to reduce numbers to screen** Anne Parkhill LaTrobe University. **Using machine learning to semi-automate abstract screening in a systematic review** Dr Leo Ng, Senior Lecturer, School of Physiotherapy & Exercise Science, Curtin University. **Ask an informationist – Choosing Wisely at Austin Health** Helen Baxter & Michele Gaca, Clinical Librarian and Chief Librarian Austin Health Library.
3.20 – 3.50pm	Afternoon tea - including networking with sponsors and colleagues
3.50pm – 4.30pm	**Research data management - is this a niche role for health librarians?** Patrick Splawa-Neyman, Health Data Librarian/Project Manager, Data Management Appraisal Project (DataMAP), Monash University. **"I want what she's got" – providing a liaison librarian-supported metrics service** Chrissy Freestone, Health Liaison Librarian, Deakin University. **Bibliometric analysis of University of Newcastle systematic reviews** Debbie Booth Senior Research Librarian, Library Services, University of Newcastle.
4.30pm – 5.00pm	**HLA reports and future directions:** Ann Ritchie/Gemma Siemensma (Digital Health Information Services Course, New Competencies for Health Librarians, HeLINS update, Census update) **Resource Sharing Futures update**: Cheryl Hamill, Head of Dept, Library & Information Service for staff in EMHS and SMHS, South Metropolitan Health Service, Perth.

DAY TWO – Workshops

9.00am – 10.30am Stream 1	**Marketing and Communication and how it can be easily and practically applied to the library setting** Sis Santos, Wolters Kluwer
9.00am – 10.30am Stream 2	**What we count to what really counts - Measure outcomes versus activities for your library using statistical evidence.** Laiman Li, OCLC Account Manager, ANZ Jacinta Cloney OCLC Library Systems Consultant, ANZ
9.00am – 10.30am Stream 3	**Advocacy for Health Libraries** Sue McKerracher, CEO, ALIA
10.30am – 11.00am	Morning Tea - including networking with sponsors and colleagues
11.00am – 12.30pm Stream 1	**Tidy data for librarians Data organization, data cleaning and quality control in spreadsheets** Liz Stokes & Richard Ferrers, ARDC
11.00am – 12.30pm Stream 2	**Implementing a Systematic Review Management Service with Covidence** Anneliese Arno – Covidence
11.00am – 12.30pm Stream 1	**Digital health education strategies for a skilled healthcare workforce: Be part of the conversation and contribute to the future of digital health learning and capability** Angela Ryan Australian Digital Health Agency Steve Clark, Director, Management Consulting, KPMG
12.30 pm – 1.15 pm	Lunch - including networking with sponsors and colleagues
1.15 pm -2.45 pm Stream 1	**Hands on data management skills for health librarians For health librarians wishing to integrate data management advice into their suite of liaison services** Liz Stokes & Richard Ferrers, ARDC
1.15 pm -2.45 pm Stream 2	**Health Library Managers Meeting: Information sharing from the States, networking and leadership agenda** Saroj Bhatia, Director ACT Health Library & Cheryl Hamill, Head of Dept, Library & Information Service for staff in EMHS and SMHS, South Metropolitan Health Service, Perth.
1.15 pm -2.45 pm Stream 3	**Work smarter, not harder: How to utilise data to build an efficient library service** Cameron Wu & Cindy Slater EBSCO Information Services Helen Ried Central Gippsland Health Library Service
2.45pm – 3.15 pm	Afternoon Tea - including networking with sponsors and colleagues
3.15 - 4.45 pm Stream 1	**Person-centred care and its role in health literacy: How librarians can champion its values** Lindsay Barnes, Academic Liaison Librarian, School of Dentistry, University of Sydney
3.15 - 4.45 pm Stream 2	**HLA Editorial Board Meeting**
3.15 - 4.45 pm Stream 3	**Using automation tools to improve the speed of searching for studies for a systematic review** Justin Clark, Senior Research Information Specialist, Centre for Research in Evidence-Based Practice (CREBP) Bond University.
4:45pm -5.00pm	**Wrap up, Evaluations, Close**

GOLD SPONSERS

OCLC Wolters Kluwer EBSCO

SILVER SPONSORS

ELSEVIER CAMBRIDGE UNIVERSITY PRESS MedicalDirector JR MEDICAL BOOKS covidence

Thank you to our sponsors for making this event possible.

DAY ONE

KEYNOTE 1

Living Evidence: Partnerships and technology for up to date, reliable evidence.

Julian Elliott – Lead, Evidence Systems at Cochrane, Senior Research Fellow at Cochrane Australia and HIV Physician, Department of Infectious Diseases, Alfred Hospital and Monash University.

Julian's research is focussed on the use of new technology and systems to improve evidence synthesis and the use of evidence for health decision making. He is chair of the Australian Living Evidence Consortium and leads Cochrane's development of new evidence systems, including co-lead of Project Transform, a major Cochrane project that developed new software systems, artificial intelligence and citizen science to improve the production of systematic reviews. He is also the co-founder and CEO of Covidence, a non-profit online platform for efficient systematic review production. Associate Professor Elliott was previously Chair of the Australasian HIV Guidelines Panel and was the 2017 recipient of the Commonwealth Health Minister's Award for Excellence in Health and Medical Research.

KEYNOTE 2

Better Connections: The future of digital health.

Angela Ryan Chief Clinical Information Officer - Australian Digital Health Agency

Angela Ryan is the Australian Digital Health Agency's Chief Clinical Information Officer. She is also a clinical leadership and health informatics professional with 30 years' experience in hospitals and public sector organisations, with more than two decades experience as a paediatric and adult intensive care Nurse. Angela is a Fellow of the Australasian College of Health Informatics and serves as President of the ACHI Council. In 2017, Angela was awarded a Churchill Fellowship to study methods to prevent patient harm through national digital health safety governance and has recently completed travel to the UK, USA and Canada as part of the Churchill Fellowship research. The report will be published later this year.

This keynote presentation will paint the vision for digital health in Australia. It will give a progress update on how implementation of Australia's National Digital Health Strategy is helping to improve patient health outcomes through integration of digital health services. It will discuss My Health Record and secure messaging between disparate clinical information systems.

KEYNOTE 3

Being data savvy: What do health librarians need to know?

Liz Stokes Senior Research Data Skills Specialist, Australian Research Data Commons

Liz Stokes is a Senior Research Data Skills Specialist in the Skilled Workforce Team at the Australian Research Data Commons. She has supported Health Sciences at the University of Technology Sydney as a Faculty Liaison Librarian, and devised a Data Skills Framework to guide the professional development of her Information Services peers. She has previously worked in Repository Services developing infrastructure for Data Management at UNSW Library; and with the National Perinatal Epidemiology and Statistics Unit at UNSW. Her international collaborations include coordinating a data management planning interest group (Australia and beyond), member of the Library Carpentry Advisory Group and the JISC Research Data Management Toolkit Working Group.

New developments in data intensive research are creating new opportunities for health, from the development of -omics to mechanisms for data sharing and reuse. As trusted facilitators of access to information, librarians are well placed to facilitate the skills, cultural change, and support needed to enable data sharing within the health and medical research community. This presentation will cover recent updates to national policy from the NHMRC and the Australian Code for the Responsible Conduct of Research, and follow trends in how researchers are managing sensitive data. Case studies in how the Australian Research Data Commons is supporting health research will also be shared.

KEYNOTE 4

Down the rabbit hole: Challenges and opportunities for librarians in health data.

David Groenewegen Director Research, Monash University Library

David Groenewegen is responsible for Library client services to the science, technology, engineering and medicine disciplines at the University, as well as the contribution the Library makes to the University's research activity. This includes oversight and development of the institutional repositories and Monash University

Continues on p23...

HLA PD DAY 2019 Abstracts continues from p22...

Publishing. He is also the University's research data management strategy lead and has broad oversight of three branch libraries.

He was a foundation Director of the Australian National Data Service, where he was involved with the development and implementation of data management solutions across the Australian university sector. He has wide-ranging experience working in the areas of electronic information provision and related technology. He holds a Master's Degree in History from the University of Melbourne, and a Graduate Diploma in Information Management from RMIT University.

In many ways, research data management in the health sector should be straightforward - its importance is understood, there is substantial infrastructure to support it, and researchers and practitioners are motivated to do it well. Looking a little closer, it becomes clear that there is very complicated world lurking below the surface, one which librarians can be a part of, even though the rules are not quite clear, and keep changing. This presentation will look at some of the challenges and opportunities for librarians in the health data space.

AFTERNOON SESSIONS (2.40pm to 3.20pm)

Your authors will love you: Classifying search results to reduce numbers to screen.

Anne Parkhill Information Specialist for the Centre for Health Communication & Participation, LaTrobe University.

Anne has many years of in-depth experience of searching and evidence-based practice across the health industry. Her current role as Information Specialist for the Centre for Health Communication and Participation (CHCP) at LaTrobe University has been an opportunity to bring those experiences together. She applies Cochrane Collaboration systems and processes in new ways to support the Editorial team and the Cochrane Systematic Review authors associated with the Centre.

BACKGROUND: With the exponential growth of articles in clinical literature, search result numbers are also increasing. The resultant numbers to screen are proving more burdensome for authors before they even start analysing and presenting their findings for publication.

In searching for Systematic Reviews, Cochrane Information Specialists have developed ways to reduce the numbers of references for authors by using evidence filters as part of the search. They are also able now to cut the numbers significantly by using machine learning (ML) algorithms to retrieve even more specific references.

These algorithms have proven highly accurate for identifying Randomized Controlled Trials (RCTs) but are not used much in practice, in part because the best way to make use of the technology in a typical workflow is unclear.[1]

This presentation will review open access Classifying tools that are readily available for health librarians to use, and introduce the ways they have been applied at Cochrane.

OBJECTIVE: To reduce search results by identifying references that have a higher probability of fitting pre-specified evidence criteria.

METHODS FOR DOCUMENTATION: Search result numbers are recorded at two stages: after filtered search and then following the RCT Classification process.

RESULTS: Numbers for authors to screen are significantly reduced and have a higher probability of fitting to their specified clinical PICO question.

CONCLUSIONS: Authors enthusiastically embrace the opportunity to use their reference screening time more effectively by having fewer references to screen.

1. *Marshall IJ, Noel-Storr A, Kuiper J, Thomas J, Wallace BC. Machine learning for identifying Randomized Controlled Trials: An evaluation and practitioner's guide. Res Syn Meth. 2018;9:602–614.*

Using machine learning to semi-automate abstract screening in a systematic review.

Dr Leo Ng Senior Lecturer, School of Physiotherapy & Exercise Science, Curtin University

Dr Leo Ng started lecturing at the School of Physiotherapy and Exercise Science in 2007. Prior to this, he has worked in a variety of physiotherapy fields including the public hospital, private practice, elite sporting teams, aged care and at other tertiary institutions in Western Australia. Leo's primary research interest lies in clinical research into sports injuries and has published his work in sports science and sports medicine journals and has presented his work in several international and national conferences. Dr Ng also has an interest in researching strategies to improving teaching and learning in the tertiary education sector.

Co-authors: Dr Kevin Chai, Lead Data Scientist, Curtin Institute for Computation (CiC), Curtin University and Mr Peter Edwards, Associate Lecturer, School of Physiotherapy & Exercise Science, Curtin University.

Continues on p24...

HLA PD DAY 2019 Abstracts continues from p23...

BACKGROUND: Systematic reviews are considered highest level of evidence but can take more than 60 weeks to publish. A research team from Curtin University has developed a machine-learning algorithm with an aim to reduce the abstract and title screening time during the workflow of a systematic review process. This may lead to reducing time to disseminate research or may increase research output for research institutions.

OBJECTIVES: To determine if a machine learning algorithm can rank research abstracts and titles in order of relevance.

METHODS: The team reviewed the screening process of five previously completed systematic reviews. Following the search process, these five reviews extracted a total of 395, 891, 932, 2311 and 2618 titles and abstracts respectively from existing scholarly databases. Researchers reviewed all abstract and title screening in alphabetic order to 'flag' possible relevant articles. The researchers then screened the full text of all abstracts that had been 'flagged' and determined 5, 10, 8, 13 and 12 'final' research articles that answered their respective research questions and which were reported in the final systematic review. The team analysed whether these 'final' research articles could be ranked in order of relevance using a custom developed machine-learning algorithm.

RESULTS: Using the machine learning algorithm, the 'final' papers were ranked in the first 50 (13%), 100 (12%), 150 (16%), 350 (15%) and 100 (4%) respectively.

DISCUSSION: If a machine-learning algorithm was able to rank research articles in order of relevance, researchers may only need to screen a fraction of all the abstracts that were extracted from scholarly databases to find all research papers relevant to answer their research questions. This may save them many hours reading irrelevant articles. Further, another use could be to change the search strategy to include a much larger sample of abstracts than previously seemed practical to screen, potentially capturing articles that are more relevant.

CONCLUSION: Initial results show that artificial intelligence may increase the speed of publishing systematic reviews by reducing time taken to screen articles. However, further work is still needed to prospectively validate the system, to include fields outside of health and to quantify time saved in this process.

Ask an informationist: Choosing Wisely at Austin Health

Helen Baxter, Clinical Librarian, Austin Health Library
Michele Gaca, Chief Librarian, Austin Health Library

Helen Baxter is the Clinical Librarian at Austin Health, a major teaching hospital in Melbourne, Victoria. Austin Health Sciences Library works with staff and students across all areas of medicine, nursing, allied health, education and research, and provides support to the Mercy Hospital for Women. As Clinical Librarian Helen's role involves delivering education sessions, being embedded in research meetings, working with individuals to support all aspects of clinical research projects, contributing to policy and guideline development and providing evidence at the point-of-care. Helen is a faculty member for the Australian EBP Librarians' Institute. Prior to becoming a librarian, Helen worked as a registered nurse in hospitals and specialist health centres. She now enjoys being able to combine both nursing and librarianship into the role of Clinical Librarian and has a passion for seeing research evidence translated into clinical practice. Twitter @HBmedlib

Michele Gaca has had a successful career as an Information / Knowledge Manager in a variety of senior roles and spanning the last three decades. A strong focus of these roles has been leading research and evidence based teams in the disciplines of health, science and technology. Michele is currently the Chief Librarian at Austin Health and Mercy Hospital for Women, building a team of evidence based practice professionals to provide effective information and research support to clinical staff, researchers and students. Austin Health is an internationally recognised leader in clinical teaching and training, affiliated with eight universities and the largest Victorian provider of training for specialist physicians and surgeons. Michele was President of Health Libraries Inc. 2013-2018 where she led a diverse state-wide group of information professionals committed to health information provision, resource sharing, professional development, and consortia implementation. Twitter @tomegirl40; LinkedIn. https://www.linkedin.com/in/michele-gaca-864b4a2

ISSUE: The Choosing Wisely framework encourages clinicians and patients to ask questions and examine the evidence around the necessity of tests or treatment options. For clinicians today, the amount of information available can be overwhelming. Does emerging evidence question existing practices; or has a previous finding been overturned through new

Continues on p25...

HLA PD DAY 2019 Abstracts continues from p24...

research? These key questions inform evidence-based practice decisions, enabling delivery of the most appropriate level of care.

OBJECTIVES: Ask an Informationist is an initiative that translates clinical questions into practice. As a member of the Austin Health Choosing Wisely Steering Committee, the Austin Health Sciences Library brings expertise in evidence-based literature searching. A clinical question, directly related to the evidence for tests, treatments or procedures, is submitted to the Steering Committee. The Library team create an infographic as a visual summary of the available evidence, supported by a written report. When coupled with audit data or local policies and procedures, this provides an evidence-rich foundation for clinicians to initiate change and "Choose Wisely" in their delivery of patient care.

OUTCOMES AND IMPACT: To date, six infographics and reports have been produced: intravenous magnesium in atrial fibrillation; continuous intravenous PPIs for acute non-variceal upper gastrointestinal bleed; minimum retesting intervals in microbiology tests; the necessity of opioids for pain management following limb fracture; the management of renal colic; and the use of pregabalin in acute neuropathic pain.

The impact of Ask an Informationist is seen throughout Austin Health. The initiative has: driven change in emergency department practice for intravenous magnesium use; led to delivery of clinical education around PPIs through workshops and media activities; been a catalyst for broader discussion around opioid use throughout the hospital.

Through this collaboration we are engaging with the evidence, encouraging critical thinking and shaping the future of our patient care.

AFTERNOON SESSIONS (3.50pm to 4.30pm)

Research data management: Is this a niche role for health librarians?

Patrick Splawa-Neyman Health Data Librarian/Project Manager, Data Management Appraisal Project (DataMAP), Monash University.

Patrick is the Health Data Librarian and project manager of the Data Management Appraisal Project. This is a co-appointment between Monash University Library and the School of Public Health and Preventive Medicine, in the Faculty of Medicine, Nursing and Health Sciences. He has worked in research data management as a data librarian and project manager for Monash University and La Trobe University and as Product Specialist in Australasia for Figshare. Patrick's interests include digital repositories, researcher engagement, and metadata creation that leads to findable research data. He is particularly interested in raising the profile as well as the pitfalls of open data among researchers. Patrick is also a strong advocate of FAIR data (including for sensitive data) through the research lifecycle.

Monash University Library and Monash University's School of Public Health and Preventive Medicine (SPHPM) jointly appointed a Health Data Librarian to the Data Management Appraisal Project (DataMAP). SPHPM is a leader in large-scale clinical trials, epidemiological studies and biostatistics, and sought to gain a greater understanding of its data management practices through the DataMAP. The objective was to ascertain current data management practices, track and report on research projects, and ultimately to disseminate these findings across the School and the Faculty of Medicine, Nursing and Health Sciences.

The first phase involved the Health Data Librarian interviewing a cross-section of researchers across the School, ensuring a wide coverage of disciplinary knowledge as well as academic level. The interviews ended early as the requisite information was gained with fewer interviews than expected.

The interviews demonstrated that researchers were well versed in matters of data collection, storage, sharing, and analysis. However there were areas where improvements can be made such as in understanding of data backup and archiving, file and folder naming conventions, data access auditing, data destruction and de-identification.

A data management plan is being created in REDCap that will assist researchers to manage their data through the lifecycle. REDCap will also allow reports to be run by the School to take snapshots of research activity such as whether identifiable data is being used and how it is being transferred, how and where data is being collected, the location of data, and data ownership. The flexibility of REDCap will allow the Library to also use it in an altered form with other Departments and Faculties.

My primary graphic will be a research data life cycle timeline that highlights areas researchers are well versed in and where improvements can be made with the assistance of librarians. Other slides will support this message.

Continues on p26...

HLA PD DAY 2019 Abstracts continues from p25...

"I want what she's got": Providing a liaison librarian-supported metrics service

Chrissy Freestone Health Liaison Librarian, Deakin University

Chrissy Freestone is currently a health liaison librarian at Deakin University, based at Waurn Ponds, Geelong. Chrissy's professional interests include all aspects of health librarianship and she is particularly interested in digital literacy skill development for undergraduate students along with designing and creating (hopefully engaging!) Reusable Learning Objects. Outside of working life, Chrissy likes to indulge her passion for bird photography.

BACKGROUND: Deakin Library currently offers a research metrics service, managed and led by the Research Librarians team. As Health Liaison Librarians, we are often the first port of call in providing advice on research metrics to support grant applications and promotions. As we are not specialists in this area, we work in partnership with our research librarians to deliver a range of research metrics reports, providing us with opportunities to upskill in an area that is increasingly in demand.

OBJECTIVES: To explore our role in supporting researchers in collaboration with the research librarian team and the learning opportunities that present themselves in the research metrics field.

METHODS: We examine the outcomes of our involvement in activities such as researcher benchmarking, both against their peers and other institutions; delivery of sessions on Research Impact and Researcher Profiles as part of our suite of academic capacity building sessions; working in partnership with the Research Librarians to construct metrics reports using tools such as SciVal; and participating in researcher workshops delivered by the Research Librarians Team.

RESULTS: Collaborating with the research librarians has increased our research metrics skills, giving us greater confidence in dealing with metrics requests. The success of this service has been demonstrated through an increased number of requests from Health faculty academics, often through positive endorsements by colleagues. This has also led to a request for a series of sessions on research impact and data management targeted at early/mid-career researchers scheduled later this year.

CONCLUSIONS: Learning more about metrics and increasing our capacity to support researchers with their applications has been a rewarding experience and has attracted positive feedback from researchers. We have seen firsthand the significance of the work that our researchers contribute to in their respective fields. Supporting their endeavours is something we would like to contribute to further.

Bibliometric analysis of University of Newcastle systematic reviews.

Debbie Booth Senior Research Librarian, Library Services, University of Newcastle

Debbie Booth is the Senior Research Librarian for the Faculty of Health and Medicine, and the School of Psychology at the University of Newcastle. This role involves assisting higher degree students and researchers with advice and support for undertaking all types of reviews including scoping and systematic reviews, research analytics, management of research data, and strategic publishing. Debbie has previously worked at Charles Sturt University, the Australian National University, and government department libraries in Canberra.

BACKGROUND: Recent years has seen a sharp increase in the number of systematic reviews published annually, with this global trend also reflected in the number of published reviews authored by University of Newcastle researchers.

OBJECTIVES: This presentation will report on a bibliometric analysis of systematic reviews authored by University of Newcastle researchers published from 2008-2018. The aim of this analysis is to inform strategic planning of the University's publication output through the identification of significant citation patterns and trends.

METHODS: Searches were conducted across the Web of Science, Scopus, Medline and Embase databases for University of Newcastle authored systematic reviews published between 2008 and 2018. Over 1100 reviews were retrieved. A bibliometric analysis was then conducted to identify research area and keyword trends, patterns of co-authorship by individual authors, institutions and countries, co-authorship and international collaborations, choice of journal and open access status.

CONCLUSIONS: This is the first bibliometric analysis of the University's systematic review publication output and provides useful context for analysing publication strengths, and well as identifying trends and research gaps for future publication planning.

Continues on p27...

HLA PD DAY 2019 Abstracts continues from p26...

DAY TWO – Morning sessions

STREAM 1 (9.00am to 10.30am)

Marketing and Communication and how it can be easily and practically applied to the library setting

Sis Santos Associate Director, Wolters Kluwer

Sisenanda Santos (or Sis) is the Associate Director of Global Demand Generation for Asia Pacific at Wolters Kluwer Health Learning, Research and Practice. Sis is an experienced Marketing professional with a demonstrated history of working in the information services and health care industries. She is the author of the workshop. Sis can be contacted via email sis.santos@wolterskluwer.com or via mobile 0434746545.

DESCRIPTION: Attendees will learn the basics about Marketing and Communication and how it can be easily and practically applied to the library setting.

Topics to be covered include:

- What is Marketing & Communication?
- Library Marketing & Communication
- Common Marketing Tools
- The Library Brand
- Messaging
- Participant Activity
- Wolters Kluwer Tools

WORKSHOP OUTCOMES: Attendees will walk away with at least three easy techniques that can be applied at their institution upon their return. These will be workshopped during the activity.

PLANNED FORMAT: Interactive presentation and activity that uses everyday terminology appropriate for the non-marketing professional.

The workshop has previously been run for Health Librarians across Asia and Latin America and it has been noted to be very useful.

STREAM 2 (9.00am to 10.30am)

What we count to what really counts: Measure outcomes versus activities for your library using statistical evidence

Measure outcomes versus activities for your library using statistical evidence.

Laiman Li OCLC Account Manager, ANZ
Jacinta Cloney OCLC Library Systems Consultant, ANZ

Laiman worked as a librarian at the Whitehorse Manningham Libraries for 7 years and an Account Manager at Civica for 2 years. Before joining OCLC, she was a Collection Development Manager at GOBI - EBSCO looking after Academic libraries in Asia. Laiman's current roles at OCLC focus on building relationships with customers, maintaining a strong understanding of industry trends and providing solutions for more efficient workflows to enhance library services.

Jacinta has worked as a librarian at the Australian National University and various positions in university libraries in Canberra. She currently works across both implementation and sales teams at OCLC for system support and project work, with the main area of responsibility being resource sharing for Australia and New Zealand.

DESCRIPTION: Library systems have the capacity to provide impressive outputs of statistical evidence in reports and visualisations. Library staff still need to understand and utilise the data to best advance their objectives. Workshop presented in two parts.

Part 1 (60mins): Data Outputs.
Presentation of various data outputs from library systems that support data driven decision-making.

- WorldShare Report Designer (SAP BusinessObjects Web Intelligence)
- WorldCat Discovery and Google Analytics
- Sustainable Collection Services and GreenGlass

FORMAT: Short presentations of analytical tools followed by group discussion on how data can be used to inform decision-making and to meet library objectives.

OUTCOME: An understanding of various tools and outputs that enable intelligent analysis of library data to support decision-making.

Part 2 (30 mins): User Interaction.
Creating a map of your personal relationship with technology using the Digital Visitors and Residents Mapping App.

Continues on p28...

HLA PD DAY 2019 Abstracts continues from p27...

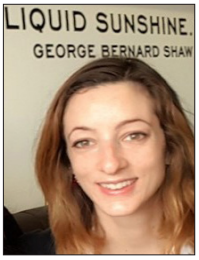
FORMAT: Individual interactive session, either paper-based or via the App. Brief comparison and group discussion on how libraries research user engagement with library systems.

OUTCOME: Insight into OCLC Research Projects focussing on User Studies research undertaken by Lynn Silipigni Connaway.

DETAILS OF PAST PRESENTATIONS:
This workshop has not been previously presented. However, Lynn Silipigni Connaway has presented various presentations on user studies. https://www.oclc.org/research/themes/user-studies/vandr/presentations.html

STREAM 3 (9.00am to 10.30am)

Implementing a Systematic Review Management Service with Covidence



Anneliese Arno Community Manager, Covidence

I am a public health researcher with a love for evidence-based health policy and big data. As a Community Manager for Covidence, I connect with our user community and provide support and troubleshooting, as well as training sessions. My second main goal is to then act as the user voice in making development decisions for Covidence.

In addition to this work, I am working on a PhD at University College London focusing on the adoption and use of automation technologies in health evidence synthesis. This research includes validity testing of specific automation technologies, as well as qualitative research into the user experience and perspective of machine-learning.

This workshop will include a demonstration of the Covidence platform including the new account management interfaces designed specifically for library administrators at our institutional subscribers. Covidence are a non-profit organisation focused on creating a culture of evidence, where the best health decisions and practice are supported by worldwide access to high-quality research knowledge. Covidence streamlines the systematic literature review process and provides a centralized, consolidated view of all activity happening within an organization. When users log into Covidence, they are joining a growing, global community of healthcare professionals and students who are leveraging new technology to bring evidence into practice at rates not previously possible.

STREAM 1 (11.00am to 12.30pm)

Tidy data for librarians: Data organization, data cleaning and quality control in spreadsheets.

Liz Stokes & Richard Ferrers Australian Research Data Commons (ARDC)

Liz Stokes is a Senior Research Data Skills Specialist in the Skilled Workforce Team at the Australian Research Data Commons. She has supported Health Sciences at the University of Technology Sydney as a Faculty Liaison Librarian, and devised a Data Skills Framework to guide the professional development of her Information Services peers. She has previously worked in Repository Services developing infrastructure for Data Management at UNSW Library; and with the National Perinatal Epidemiology and Statistics Unit at UNSW. Her international collaborations include coordinating a data management planning interest group (Australia and beyond), member of the Library Carpentry Advisory Group and the JISC Research Data Management Toolkit Working Group.

Richard Ferrers is a Research Data Analyst at the Australian Research Data Commons, based in Melbourne, Victoria. He also lectures in innovation, Central Qld Uni, (relief), and is researching innovation, as PhD and Research Fellow at the University of Melbourne. His research work seeks to bring a deep understanding of innovation, technology and industry transitions to solve important problems, and improve local innovation practices and drive consumer value. See more detail at Value Management: Innovation 2.0 (http://valman.blogspot.com).

This workshop is for librarians who want some spreadsheet know-how to boost their ability to work with structured data. Participants will learn about good data practices for working with spreadsheets, including data cleaning, quality control and best practices for documentation. This workshop assumes no prior knowledge - beginners are welcome. Participants should bring a device with access to a spreadsheet program, e.g. Microsoft Excel.

Continues on p29...

HLA PD DAY 2019 Abstracts continues from p28...

STREAM 2 (11.00am to 12.30pm)

Advocacy for Health Libraries

Sue McKerracher, CEO, ALIA

Sue has been a media, marketing and advocacy professional for more than 30 years, working in the UK and Australia. In the 1980s, she set up an award-winning full service communications agency in London. Her client list included Ernst & Young, Unilever, Sovereign Capital, the Museums Libraries and Archives Council and British Library.

Moving to Australia in 2007, Sue had her own company in Melbourne providing strategic advice, marketing, communications and project management to federal, state and local governments, cultural institutions, and universities.

In 2012, Sue joined the Australian Library and Information Association (ALIA) as CEO, heading up the team based at ALIA House, Canberra, and staff working in every state and territory. In her current role, Sue works with other stakeholders to pursue a broad range of interests, including lobbying for copyright law reform, supporting humanities research, improving digital access to cultural collections, championing Australian writing, developing an early language and literacy strategy, and ensuring quality education through higher education and VET course accreditation.

In this workshop Sue will set the background for effective advocacy – what's worked and what hasn't – and describe seven ways we can all improve our advocacy skills, before opening up to a workshop session where you will generate your own ideas.

STREAM 3 (11.00am to 12.30pm)

Digital health education strategies for a skilled healthcare workforce: Be part of the conversation and contribute to the future of digital health learning and capability.

Angela Ryan, Australian Digital Health Agency (see profile on Day 1 of program)
Steve Clark, Director, Management Consulting, KPMG

Steve is a leader in KPMG's People and Change practice and understands the themes shaping the future of work over the next five+ years and beyond, and their criticality for HR and business leaders. He has a keen interest in all things digital labour, future of work, automation, artificial intelligence and robotic automation, and a passion for making sense of these topics for his clients.

Steve is driving KPMG's work with major government, financial services, and telecommunications organisations to interpret these themes and the opportunities and challenges specific to their individual workforces.

His work spans strategic workforce planning to anticipate and plan for the 'workforce of the future'; change management to enable transformation programs; organisational design to support strategy delivery; and shaping organisational culture to drive performance.

Steve brings a strong understanding of technology, strategy and people factors gained over 15 years of business and consulting experience. His passion for these topics is driven by a realisation that leaders in organisations today are making decisions that will affect workforces for generations. He believes we have the opportunity to build a better future.

Gain a holistic understanding of the potential skills and workforce shortages in healthcare. Develop strategies to address these in order to build a healthcare workforce equipped with the skills to meet Australia's future healthcare needs.

Learn about and discuss:

- Strategies already underway
- International approaches to digital health workforce strategy
- New roles and changes to existing roles
- Gaps in digital health capability education and training of healthcare providers
- The role of modern learning models, including blended learning, Massive Open Online Courses (MOOCs) and augmented/virtual reality
- Benefits to the broader health sector from the successful development and implementation of the Workforce & Education Roadmap

DAY TWO – Afternoon sessions

STREAM 1 (1.15pm to 2.45pm)

Hands on data management skills for health librarians. For health librarians wishing to integrate data management advice into their suite of liaison services.

Liz Stokes & Richard Ferrers ARDC

This workshop is for health librarians who want to integrate data management advice into their suite of faculty liaison services. Resources and training materials for developing data management skills will be shared. Participants will reflect and share learnings from the Day 1 presentations, and relate these to local opportunities within their workplace. Outcomes include creating a plan for taking these

Continues on p30...

HLA PD DAY 2019 Abstracts continues from p29...

learnings forward in a workplace setting, and developing a messaging plan for communicating research data management to a targeted stakeholder group.

STREAM 2 (1.15pm to 2.45pm)

Health Library Managers Meeting Information sharing from the States, networking and leadership agenda.

Saroj Bhatia Director ACT Health Library
Cheryl Hamill Head of Department, Library & Information Service for staff in EMHS and SMHS, South Metropolitan Health Service, Perth

Saroj has 40 years national and international experience with medical libraries. Establishing/ managing technologies in the medical library is her passion.

Cheryl Hamill has almost 40 years' experience in health libraries in Australia. She has had a long-standing interest in search skills training in the core databases and was awarded an Anne Harrison Award in 2014 to develop train the trainer modules in PubMed. In 2013, she was awarded an ALIA Fellowship. Cheryl manages Library and Information Services for two area health services in Western Australia - the East and South Metropolitan Health Services. The Library service has bases at Fiona Stanley Hospital and Royal Perth Hospitals and provides services to these and six other hospitals across the areas.

STREAM 3 (1.15pm to 2.45pm)

Work smarter, not harder: How to utilise data to build an efficient library service.

Cindy Slater, EBSCO Information Services with Cameron Wu, EBSCO Information Services and Helen Ried Librarian, Central Gippsland Health

Cindy is a Senior Customer Engagement Manager at EBSCO. She has been with the company since November 2014 and provides training to customers across Australia and New Zealand. Cindy has a background in healthcare, with over ten years of experience working as a podiatrist in the Victorian public health system and the NHS (UK). She has also worked as a secondary school teacher and is a qualified librarian.

Helen has worked across public and private sectors delivering information to a breadth of tertiary, research and health environments. She leads to deliver 360-information access with personality and passion – inclusive and mindful of the most shy and novice library user through to the aloof, confident and independent user. Helen's career began in metropolitan Melbourne before a lifestyle move to regional Victoria. That move drives her in the quest to delivering equity to accessible information for regional health, education and business.

After studying psychology, Cameron moved into software engineering and has worked for EBSCO for three years. Cameron works directly with customers to ensure their EBSCO SaaS products are functioning optimally, and to assist in the setup and implementation of EBSCO SaaS for new customers.

From usage to projections, from security to discovery, data affects your library in more ways than expected. This workshop will show you tools and ideas to empower librarians to create an efficient yet simple system for patrons.

This interactive workshop with Central Gippsland Health and subject matter experts from EBSCO will show real life examples on how to use data to your advantage in creating a more streamlined library service. An open discussion forum will also be included to address any questions that may arise.

STREAM 1 (3.15pm to 4.45pm)

Person-centred care and its role in health literacy: How librarians can champion its values.

Lindsay Barnes Academic Liaison Librarian, School of Dentistry, University of Sydney

Lindsay Barnes completed her Masters of Library and Information Studies from the University of British Columbia in 2018. Before that, she worked as a Registered Midwife for seven years, providing patient centred care to families in urban, rural and remote areas. She has worked in clinical care and population health in Northern Canadian Indigenous communities, rural Uganda and South Africa as well as within large urban centres in Toronto and Vancouver. She is currently the Academic

Continues on p31..

HLA PD DAY 2019 Abstracts continues from p30...

Liaison Librarian for the University of Sydney School of Dentistry and works casually as a Registered Midwife.

The goal of person-centred care is the provision of medical care in harmony with the cultural values, needs and preferences of patients. A moral philosophy that sees patients as unique, sees disease as multidimensional, and values the patient's participation in health care decisions, person centred care poses unique challenges and opportunities for health districts. The Clinical Excellence Commission (CEC) partners with LHDs across NSW to increase consumer engagement and promote the values of person-centred care. This workshop will cover a case study of the Illawarra Shoalhaven Local Health District journey to improve Health Literacy in their facilities. It will also provide an overview of the Institute of Medicine's (IOM) "Ten attributes of a healthcare literate organization" which was the basis for the Health Literacy Framework 2012-2015 of the ISLHD. An understanding of patient centred care can help health librarians improve their informational-interviewing and provide a more holistic reference service in line with current patient expectations.

STREAM 2 (3.15pm to 4.45pm)

HLA Editorial Board Meeting

STREAM 3 (3.15pm to 4.45pm)

Using automation tools to improve the speed of searching for studies for a systematic review.

Justin Clark Senior Research Information Specialist, Centre for Research in Evidence-Based Practice (CREBP) Bond University

Justin is qualified as both a librarian and library technician. He started his career in libraries shelving books for the University of Queensland at the Herston health Sciences Library at the Royal Brisbane and Women's Hospital. Over his career, he has moved through most library roles, from library assistant, to senior library assistant, library technician to librarian and finally library manager. He then took a sideways step into the role of Senior Research Information Specialist and Cochrane Information Specialist at the Centre for Research in Evidence Based Practice (CREBP) at Bond University. He has taken a special interest in Evidence Based Practice and focussed on improving how quickly and easily evidence can be found for answering clinical questions as well as for systematic r3eviews. Most recently, he has focussed on improving the speed and quality of systematic reviews with his work on the CREBP systematic review automation tool called the Systematic Review Accelerator.

BACKGROUND: To improve speed and quality, methodological innovations and automation tools have emerged to support many steps in systematic review (SR) production. One of the first steps of a SR is to search the literature for studies. Although guidance exists to assist the search process, there has been a lack of recent technological innovations in SR searching. As the automation of SRs increases, searching tools are starting to be developed and used more often.

DESCRIPTION: The workshop will focus on four tools that focus on searching and reference handling that can be used to conduct a systematic review.

CONSTRUCTING THE SEARCH: Search strategies are built using a range of methods, including the examination of key terms from reading titles and abstracts of known relevant articles. The tools below can help with this process.

- **The Word frequency analyser**: counts the number of times keywords appear in the title, abstract and keywords fields of articles to help identify key terms that can be used in a search strategy
- **The Search Refiner**: determines how many key articles from a validation set are found by each term in a search, as well as the total number of articles, and visualises it as a term map, it then allows you to modify the search and see the impact on recall and precision from removing any of the terms.

SEARCHING THE LITERATURE: After constructing a search it is important to translate that search to run in additional databases, as a minimum, Cochrane CENTRAL and Embase. The tool below can aid in this process by automatically doing some of the translating.

- **The Polyglot Search Translator**: database search converter, translates search strategies from PubMed or Ovid Medline to multiple databases

DEDUPLICATION: After running the search through multiple databases there are always duplicated search results. Examining these results and removing the duplicates manually is a time consuming process. The tool below can automatically remove the majority of the duplicates with no concern that unique articles will be lost.

- **The SRA Deduplicator**: automatically detects, and then removes duplicate records from search results

EQUIPMENT: To engage fully with the workshop it is recommended that participants bring a laptop.

EVENTS TO SUPPORT YOUR PROFESSIONAL DEVELOPMENT

	EVENT	LOCATION	DATE
Key dates to help you plan your professional development calendar for 2019 and 2020 ...			
	Association For Health Information And Libraries In Africa (AHILA) - 16th Biennial Conference	Nigeria	14 – 17 October
	2019 HIMAA NCCH National Conference	Sydney	23 Oct – 25 Oct
	RDA's 14th Plenary	Helsinki, Finland	23–25 October
	Library 2.0 mini conference 'Emerging Technology'	Online	30 October
	2019 Cochrane Symposium & Handbook Launch	Melbourne	25-27 November
	Advanced searching workshops with Julie Glanville Sponsored by HLA	Sydney Brisbane Melbourne	14 November 18 November 28 November
	ALIA National 2020 Conference	Sydney	4 – 7 May 2020
	EAHIL 2020	Lodz, Poland	TBA
	NASIG 35th Annual Conference 2020	Spokane, USA	8–12 June

TRAVELLERS TIP: If you are looking for conferences that you can link in with your travels, keep an eye on the site "International Library Related Conferences" maintained by James Thull, Associate Professor, Special Collections Librarian, Montana State University Library and Marian Dworaczek, Librarian Emeritus University of Saskatchewan Library and original list creator.

ALIA HLA

HLANEWS DETAILS

Published by
Health Libraries Australia – The national health group of the Australian Library and Information Association,
PO Box E441, Kingston ACT 2604

Editor
Taryn Hunt
Email: HLANewsed@alia.org.au

Sub-editor Helen Giltrap

Contributions
Contributions to this news bulletin are welcome.
Please send by email to the editor
(details above).

See the news bulletin online at
www.alia.org.au/enewsletters/alia-health-libraries-australia-news