A Reflective Conversation Between a Librarian and a Radiologist: Lived Experience of Medical Library Usage during COVID-19

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This article is a joint reflection about a Radiologist's experience of using health libraries in England's National Health Service (NHS) during the COVID-19 Pandemic. It is a collaboration between an Academic Librarian and an Interventional Radiologist. It attempts to reflect on the lived experience of the Radiologist and locate that experience within the wider Library and Information Science context. Findings include new insights into the role of librarians within the dissemination of research during the pandemic and analysis on libraries as a therapeutic space, even when operating remotely.

Introduction

As the third year of the COVID-19 Pandemic approaches, it is possible to look back and reflect on the impact it has had within a medical setting. It is also interesting for professionals in allied or separate fields to discuss how the pandemic has changed professional practice and identify lessons for the future. The authors are university friends who share an interest in professional practice and research in our respective fields. Alex Wheeler is an Academic Liaison Librarian working at Manchester Metropolitan University. Dr. Simon Zakeri (henceforth the radiologist) is a Consultant Interventional Radiologist, currently undertaking a Fellowship at Auckland City Hospital but formerly working in National Health Service (NHS) England at the St. Helens and Knowsley Teaching Hospitals Trust. We identified four key observations about the radiologist's COVID-19 experience using NHS Library and Information Services (LIS) and these observations form the basis of this article.

Methodology

Our approach is to reflect upon each of the radiologist's observations in turn. In terms of models, we will use some aspects of Gibbs' (1) reflective cycle to inform our specific reflections on point 4 in the next section. We are explicitly using the radiologist's lived experience as an indicative viewpoint. This approach is grounded in Frechette's (2) observation about journaling and the horizon of significance whilst discussing medical professionals and their lived experience. As such, his observations act as the living journal and his key observation becomes descriptive points that inform our joint reflection within this article.

These observations will then be further explored using the wider literature and discussing avenues for collaboration between information and medical professionals. We must emphasise that this study is based upon experience working in the NHS in England and will explicitly refer to NHS England specific frameworks, such as Quality and Improvement Outcomes Framework for NHS Funded Library and Knowledge Services in England, 2019. We will also refer to specific NHS positions such as consultant ('senior doctors that have completed full medical training in a specialised area of medicine and are listed on the General Medical Council's specialist register') (3). Furthermore, our reflections will be focused on library and information science, rather than medical, considerations. In this way, we hope to complement previous discussions of medical and academic libraries during COVID-19 such as Harnegie and Connell et al (4, 5). However, we will need to provide some medical information, particularly when discussing Observation 1.

The Radiologist's Observations and our Reflection

The numbered observations within this section are based upon the radiologist's experience between March 2020 and December 2021. They represent his personal involvement with NHS LIS during the COVID-19 Pandemic, and his personal knowledge without reference to wider literature.

These observations discuss:

(1) Professional use of LIS by Radiologists.

(2) The importance of library support for research and support for publication.

(3) LIS as a therapeutic space, even whilst working online and remotely.

(4) The LIS' role in continuing to administer access to key resources.

The NHS Librarians who the radiologist worked with during this period were largely working from home and contact was via email, phone and messaging systems such Microsoft Teams.

(1) In the radiologist's opinion his fellow professionals sought to use the LIS to:

- Recognize the X ray and computed tomography (CT) appearances of COVID-19 pneumonia, the typical presenting symptoms and treatment (steroids became essential, as well as novel antivirals in select cases).

- Access Trial data related to the COVID-19 Vaccines. NHS LIS services helped practitioners to navigate to these trial datasets.

- The above aims were accomplished by analysing published case reports, case series and literature reviews. *Radiographics* and Cochrane Reviews are, in the radiologist's professional opinion, the most popular journal and database

respectively, used by his peers and accessed through our hospital's Library and Information Service.

- We also used the LIS service to counter false news circulating during COVID-19. Radiologists exist in the same space as the public and wanted to ensure they were accessing credible information.

Discussion of Observation 1: To reflect effectively on the significance of these observations, we need to include medical information. To truly analyse the importance of this from a Library and Information Science perspective, we need to contextualise our reflection in medical practice. We now recognise that COVID-19 vaccines approved for use in the United Kingdom (including the Pfizer vaccine) are highly effective and safe in preventing serious COVID-19 complications such as requiring intubation and ventilation, or even death (6). However, radiologists were particularly keen from the onset to ensure accurate diagnosis on imaging, to prevent both 'overcalls' (essentially over diagnosing cases as COVID-19, when in fact the signs on X-ray are more typical of bacterial lobar pneumonia for instance) and missed diagnoses. The classical chest X ray appearance of COVID-19 pneumonia is scattered peripheral consolidation.

Computed tomography (CT) is arguably more sensitive in detecting the disease from an earlier stage, as it depicts changes that are not appreciable on X-ray such as so-called 'ground-glass' consolidation (faint changes likened to glass that has been ground into small fragments and powder), and air-trapping within parts of the lung. It was alarming to many radiologists how severely the lungs were affected in some patients, effectively progressing from pneumonitis (lung inflammation) to full-blown fibrosis (scarring) in a matter of weeks. CT Pulmonary Angiography (using dye to outline the flow of blood in the pulmonary arterial tree) is also the gold standard for detecting

pulmonary embolus (clot in the lung, potentially fatal), which is a widely recognised complication of COVID-19 infection.

The X-ray and CT appearances of COVID-19 pneumonia would not have been recognised and put into local and international hospital diagnostic protocols had it not been for the library providing radiologists with extensive access to subscription only and open-access journals both on and off site during the pandemic. This is especially important since radiology depends on visual observations best depicted in figures from published articles, which are used as a reference point in diagnostic practice.

With regard to Vaccine data (and related advocacy), specific NHS Services Trusts such as Brighton and Sussex University Hospital Trust were involved in communicating key information such as vaccine efficacy, safety and links for patients (7). In a cross over, with points about fake news, the Chairperson of CILIP (Chartered Institute of Library and Information Professionals- the professional body for librarians, information specialists and knowledge managers in the United Kingdom), directly congratulates librarians and their searching skills and notes them as having contributed to the creation of the vaccine (although no specific information is given) (8). The explicit linking of the search for Vaccine data with the library service within the radiologist's experience is a further example of the expertise of library professionals in supporting medical professionals during the pandemic.

In one of the more profound observations relating to institutions and the pandemic is that COVID-19 has been disruptive but prompted creativity (9). The radiologist's observation about continuing use of key journals such as *Radiographics*

demonstrates confidence in pre-existing resources. The continuation of professional engagement with trusted resources indicates the resilience of certain pre-existing patterns underpinned by Library and Information Service support. Taking a wider perspective, librarians working in Health Education England[1] (HEE) curated a central repository of useful searches related to the Coronavirus (10). Considering this engagement by HEE, the experience of the radiologist is reflected within wider librarian action to discharge their professional responsibilities to provide credible academic resources to medical professionals on a macro and micro level.

Points about false news are not surprising. Certainly, the Library and Information Sector in the UK has led several initiatives to counter fake news and misinformation related to COVID-19 amongst other things. It is also fits within wider strategies articulated by CILIP (11).

(2) Meta Analyses and Systematic Reviews, for COVID-19 complications and risks (mortality, stroke, cardiomyopathy), provided by the LIS were essential to my practice. The support for publication within a pandemic context was also essential, especially the need for open access. This was particularly important because of the widespread use of computers within radiology.

Discussion of Observation 2: Using the Radiologist's experience, the continuity of Library function such as the provision of access to Meta Analyses and Systematic

[1] Health Education England provides national leadership and coordination for the education and training within the health and public health workforce within England

Reviews and training in the interpretation of such studies is strongly in evidence. All medical and scientific studies are ranked in order of their level of evidence (with Meta Analyses at the top level), and it is important for the medical community to be able to critique these studies, including classifying the level of evidence and recognizing underlying limitations that can undermine the study implications (12). From their work with medical school students and beyond, medical librarians are involved in training medical professionals through workshops and lectures to enable effective and independent research practice. The concept of 'evidence-based medicine' is widely recognized in the medical community and having the ability to seek out and correctly interpret the evidence can have huge implications in clinical practice – all to the benefit of the patient.

An observation worthy of further analysis is detail about the Librarian's role within supporting publication during COVID-19. It was essential for radiologists to cascade their work, in specific contexts such as the role of COVID-19 in causing pulmonary emboli. The great imperative within radiology, was to make findings available to as many clinicians as possible. This necessitated the publication of key findings using Open Access arrangements with key journals. As such librarians became involved in this process by advising on Open Access publication and the dissemination of COVID-19 research. A key example of the use of COVID-19 related Open Access papers in Radiology is Pulmonary Embolism in Hospitalized Patients with COVID-19: A Multicenter Study by Riyahi *et al* (13). A further imperative was to publish findings quickly, using pre-print repositories as peer review leading to open access publication took too much time in this context (15, 16).

Wider literature has discussed the importance of Open Access resources during COVID-19 in many settings and particularly the access to resources whilst physical spaces were closed (14). Certainly, the increased use of pre-print has been commented upon in *The Lancet* and within the LIS community (15, 16). Additionally, Poole (8) correctly observes that librarians provided both data and technical knowledge to healthcare professionals. However, the observations of the radiologist's experience about the importance of librarians in Open Access publishing relating to COVID-19 findings is indicative of innovative and profound collaboration between medical and information professionals.

(3) Despite LIS services being physically closed, the online Library acted as respite and a safe-haven from chaotic frontline work. Although often done remotely, it was a therapeutic resource for many because of the pressures of skeleton staffing and personal issues such as mental health illness and shielding.

Discussion of Observation 3: Clearly, this observation acts as a prompt for Gibbs' reflective cycle. The description of the library as 'therapeutic' is illuminating in this context, especially as it is explicitly located in the radiologist's experience and emotions. It is well documented that Libraries act as a therapeutic landscape for the wider community and for users experiencing mental health problems (12). In the COVID-19 context (and drawing on the radiologist's experience), professionals affected by pandemic stress or with extenuating circumstances such as shielding partners were drawn to library support.

Interestingly, Library access was described by the radiologist as occupying the same place as specific wellbeing applications available to NHS staff such as Headspace (17). Indeed, the specific description of the library as a safe-haven is worthy of further comment. In terms of overall service improvement, this conclusion can apply to the academic and public sector equally, so it is important for library staff to remember that libraries will act as a positive space. With 44% of NHS staff reporting increased stress in the year leading to March 2021, this is particularly important in a healthcare setting and should inform service planning (18).

The knowledge that Libraries acted as a therapeutic space for the radiologist during the COVID-19 Pandemic is an important conclusion and worthy of further research. This conclusion is reflected by Cox and Brewster (19) discussing the changing role of academic libraries and their role as a 'good partner' in staff and student wellbeing. Information professionals must also be mindful of the ability of a library to act as a positive space when operating remotely. In terms of action planning, librarians (working in any context) should remember that users will often gravitate towards libraries during stressful periods. This knowledge can inform a range of operations: all the way from planning for a future pandemic to reflection on supportive customer service.

(4) Librarians were incredibly important when setting up access to resources such as personal NHS Athens Accounts (a national authentication system, allowing access to key medical databases). These actions certainly opened doors when it came to research work. Other resources such as Medline, Cochrane database,

PubMed and referencing software (EndNote, Mendeley) were all crucial during the COVID-19 pandemic.

Discussion of Observation 4: From a LIS perspective, the work of Librarians in providing access to key databases may appear to be an obvious comment; however, the imperative to provide access to everyday resources did not (and has not) ended during the pandemic. Indeed, this reflection shows an adherence to The Quality and Improvement Outcomes Framework (part 2) and specifically Outcome 1: 'All NHS organisations enable their workforce to freely access proactive library and knowledge services that meet organisational priorities within the framework of Knowledge for Healthcare' (20). Proactive engagement with resource access, literature searching, and wider publishing infrastructure is present within the radiologist's experience and has wider implications.

The need to draw upon pre-existing working practices is reflected in the wider literature of Libraries and COVID-19. Indeed, within the Academic Sector, Wheeler & Kyprianou-Chavda (21) observed the importance of drawing upon established professional experience and working practices as a pragmatic method of maintaining and developing a service during pandemic operations. Certainly, a key theme throughout our wider reflection has been that librarians continued to maintain access to resources (whether databases or journals) and use their broader literature searching skills in the service of radiologists. As research on phenomena such as pulmonary emboli and acute limb ischaemia required both dissemination and discoverability via database platforms, a clear mutually beneficial relationship existed between information professionals and medical professionals.

Conclusion

In conclusion, it is essential that information services working with medical professionals during times of upheaval continue to provide everyday services, but remain mindful of the potential for innovations in practice and the wider wellbeing role that library and information services provide to its users. The knowledge that an individual radiologist, in an unprompted manner, regards the library as a therapeutic space must inform further research. Indeed, if this a recognisable phenomenon, it could inform planning about the nature of libraries within a professional setting. The insight from the lived experience of professionals must also prompt refection about the role of libraries within all commercial and academic settings about their ability to support the wellbeing of users during unprecedented events. This is particularly profound when considering that medical libraries also provide accurate and up-to-date information in a timely manner.

A profound observation is that there is a great deal of shared interests between those working within Library and Information services and their users, particularly in the medical setting. Clear examples include publication of relevant research, the wellbeing of staff and countering false news concerning COVID-19. The identification of these points of shared interest can only enhance both a service's function and the professional success of the users. The symbiotic relationship between the need for radiologists to publish on COVID-19 related complications and the role of librarians in using open access channels to publish these findings is a profound example of multi-disciplinary collaboration. Further research is needed about the overlapping interests of medical and information professionals and the extent of this collaboration in other areas

within Medicine. Additionally, a larger study interviewing larger numbers of medical professionals about their COVID-19 Library experience would be of great interest.

Finally, we recommend informal conversation and collaboration between friends. In the case of this study, informal discussion prompted a holistic engagement with each other's lived experience and viewpoints that prompted us to reflect on very different yet interlinked professional approaches.

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