Recent Research Trends in Research Data Services in the Health Sciences Field
보건학 분야 연구데이터서비스 최신 연구 동향

김수정(Soojung Kim)
전북대학교 문헌정보학과 부교수 | 문화융복합이해연구소 연구원
kimsoojung@jbnu.ac.kr

1. Introduction

본 연구의 목적은 보건학 분야 연구데이터서비스의 최신 연구 동향을 제시하는 것이다. 이 분야의 연구 동향은 1) 보건학 분야 연구자들의 데이터 관리 및 공유 동향, 2) 연구데이터서비스의 일반 동향, 3) 연구데이터서비스에 관한 사례 연구 등 세 범주로 나누어 정리하였다. 선행연구에 따르면, 보건학 분야의 연구데이터서비스는 이제 시작 단계에 불과하다. 향후에는 연구데이터서비스 제공을 위한 사서 교육에 관한 연구, 다양한 환경에서 일하는 보건학 연구자의 데이터 관리 현황에 관한 연구, 보건학 고유의 특성을 고려한 연구데이터서비스 수립에 관한 연구 등이 필요할 것이다.

※키워드 : 연구데이터서비스, 연구데이터 관리, 의학도서관, 연구동향

ABSTRACT

This article aims to highlight the recent research trends in research data services (RDS) in the health sciences field. Research trends are summarized in three categories: 1) health sciences researchers’ data management and sharing practices, 2) current state of RDS in general, and 3) case studies of RDS. Previous research indicates that RDS in this field is still in its infancy. Potential areas of future research include training needs of librarians, health sciences researchers’ data management practices in various settings, and establishment of RDS specific to the health sciences field.

※Keywords: Research data service, Research data management, Health sciences libraries, Research trends
1. Introduction

Over the past decades, the increasing volume of data-driven research and federal funding agencies’ mandates for data management have posed a great challenge for researchers. In response, many libraries have extended their roles to research data services (RDS) to adequately address researchers’ growing demand for data management support. However, such services tend to be generic, rather than discipline-specific, to apply to a wide variety of researchers (Kerby, 2016). Researchers in different disciplines have different attitudes and perspectives on data management (Akers & Doty, 2013). It is important, therefore, for librarians to understand the practices of different disciplines and deliver services that are tailored to the particular needs of each discipline.

In this sense, his paper presents a general review of research related to RDS in the health sciences field. A recent systematic review identified a new role of health sciences librarians: “data management librarian” (Copper & Crum, 2013). However, health sciences libraries lag behind in developing RDS (Goldman, Kafel, & Martin, 2015). Considering the unique characteristics and abundance of clinical and research data, it is imperative that health sciences librarians understand the current situation of RDS and play a leadership role in data management. The research trends introduced in this article will have value for both librarians and researchers by providing an overall picture of RDS research in this field and suggesting future directions investigations may take.

2. Literature review

The research on RDS in the health sciences field can be categorized into three groups: 1) health sciences researchers’ data management and sharing practices, 2) current state of RDS in health sciences libraries, and 3) case studies of RDS.

2.1 Health sciences researchers’ data management and sharing practices

Many studies have dealt with data management practices and the educational needs of health sciences researchers with an aim to ensure the library services that are being developed align with those needs. Previous studies investigated different groups of health science researchers such as translational researchers (Bardyn, Resnick, & Camina, 2012), biomedical researchers (Federer, 2013; Federer et al., 2015, Read et al., 2015), public health researchers (Hunt & Bakker, 2018), and health scientists in general (Kim & Kim, 2015; Joo, Kim, & Kim, 2017).

Although the identified areas that education programs should concentrate on vary across the studies, some common practices and attitudes were observed. First, many health science researchers are not well versed
in practices for data management and sharing due to lack of needed skills. Second, they are unwilling to share data with a broader audience despite the widely perceived benefits. The personal or sensitive nature of health data especially exacerbates concerns about data sharing and reuse in this field (Akers & Doty, 2013). Third, many health sciences researchers are unaware that librarians have a role to play in data management. Fourth, data management practices and education needs vary even within the same field depending on, for example, the nature of research (e.g., basic science research vs. clinical research).

Taken together, these studies confirm the need for educating health sciences researchers. Librarians must promote the importance of RDS and increase libraries’ responsiveness to researchers’ needs. Providing customized training programs designed for specific segments of the research community would also be useful (Federer, Lu, Joubert, 2016).

2.2 Current state of RDS in health sciences libraries

While a handful of large-scale surveys and content analysis have been conducted to describe the overall landscape of RDS in academic libraries as a whole in the U.S. or internationally (e.g., Tenopir et al., 2017; Yoon & Schultz, 2017; Cox et al., 2017), mostly relatively small-scale surveys have been reported in the health sciences field.

Creamer et al. (2012) surveyed 63 health sciences libraries in six U.S. states. Results show that only a small percentage of libraries were involved in RDS to respond to infrequent data services requests. Goldman, Kafel, and Martin (2015) surveyed 16 New England medical libraries to discover what types of RDS were currently offered, only to find that few libraries engaged in the services. The challenges the libraries encountered during the planning process include ambiguity surrounding the definition of “data services,” raising awareness of data management issues, changes in staff and administration, and lack of staff time and expertise. Kerby’s survey (2016) with 44 veterinary medicine libraries revealed a similar conclusion that the librarians only rarely or occasionally provided RDS while expressing confusion about the definition of RDS.

RDS are still in the inception stage in this field. Health sciences librarians must learn more about RDS to better prepare for the data-focused services. To do this, continued administrative support and professional development are needed (Creamer, Martin, & Kafel, 2014).

2.3 Case studies of RDS

The focus of RDS research has been on case studies of particular institutions (Antell et al., 2014). Those case studies are valuable as they inform libraries which are considering adding RDS in other settings. However, only a few case studies are explicitly concerned about health sciences libraries.

Knight (2015) outlines how the London School of Hygiene and Tropical Medicine set up small-scale
RDS. This study shares significant issues to consider for RDS implementation, including setting objectives, strengthening policies, and implementing infrastructure. Johnson, Butler, and Johnston (2012) describe the establishment of RDS in the Health Sciences Libraries at the University of Minnesota with an emphasis on user needs assessment. Surkis et al. (2017) present a case study of the New York University Health Sciences Libraries regarding data instruction. The library collaborated with outside instructors to serve a wide range of data instruction effectively. Unlike other case studies revolving around an individual organization, Federer (2013) reports on the experience of an embedded research informationist, who was sent from NIH to a research team at UCLA to provide RDS at the site of practice. The study illustrates how a librarian can become an integral part of a research team by offering expert guidance and instruction on data management.

Key issues discussed by these studies apply to academic libraries in general: user needs assessment, collaboration with other teams, and organization structure change. In detail, however, topics or skills addressed in instruction, tools needed for research, and metadata standards are specific to the health sciences field, which requires more attention.

3. Directions for future research

According to the research trends identified in this paper, the following implications may direct future research.

First, except the study of Creamer et al. (2012), little has been done to identify the training needs of health sciences librarians. Previous research reveals that some health sciences librarians do not have a clear understanding of RDS, not to mention the needed skills and expertise to offer RDS. Further research that identifies the core capabilities required in practice would be valuable for designing LIS courses or professional development programs, which will equip them to serve as data specialists.

Second, previous research tends to focus on academic settings. Accordingly, the introduced services are geared toward (under)graduate students and faculty members. Future research could be extended to include other user communities in different environments, for example, postgraduate researchers in government agencies, and health professionals in hospitals and other healthcare delivery settings.

Third, different subgroups of health sciences librarians should be explored more deeply regarding data management practices and the associated needs for education. Future research could identify differences among subgroups along with factors affecting those differences.

Fourth, future research should delve into more detailed discipline-specific topics such as norms for data management and sharing, popular resources, and tools for instruction, and accepted metadata standards in the health sciences field.
4. Conclusion

This article presents a broad description of RDS research in the health sciences field by identifying recent research trends in three categories. RDS is still in its infancy in this field. However, future research will advance our understanding of health science librarians’ role in RDS and their user communities.
참고문헌


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