An Evaluation of Evidence Synthesis Work at IUB Libraries

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Introduction

Evidence Synthesis (ES) is a unique area of library work that involves the intersection of several different expertise: deep knowledge of sources and collections and their use, consultation and instruction, and collaboration with researcher partners. This makes ES ideal for examining and evaluating in order to demonstrate the value and impact of librarians' contributions to research.

ES is an important methodology in the life sciences and increasingly in the social sciences. It aims to create comprehensive, unbiased, and reproducible literature reviews focused on well-formulated research questions and is above and beyond a paper – evidence synthesis is a research project, regularly requiring a year or more to complete. ES requires a team of researchers and is more time intensive than a traditional literature review. The results of ES are highly structured documents, similar to research articles, that are often published in peer-reviewed journals. These reviews are important to a wide variety of researchers and practitioners and play a vital role in evidence-based decision making across an array of fields from medicine to public policy.

ES for librarians represents an extension of their depth of understanding of disciplinary information resources and thinking. ES work requires significant intellectual contributions from librarians, even in the case of basic consultations, and so categorically goes beyond what we might consider a research "support" service. Rather, librarians are often considered indispensable and equal partners in ES-related projects because they have unique and valuable expertise that represents an essential part of successful ES efforts.

ES by nature entails the analysis of existing evidence in order to establish new and more rigorous evidence, primarily via systematic reviews. So, ES librarians are involved in the process of evidence creation, and the stakes involved in ES efforts, particularly those involving health and medicine, are high. For example, a poorly performed systematic review can have negative impacts on health-related policy as well as the health of individuals. Further, ES efforts conducted without consulting a librarian can lack rigor and produce incomplete or inaccurate results. Librarians do not simply add value to ES, rather, they are essential. Thus, ES librarians recognize that ES work is among the highest impact of all of their efforts.

While ES efforts are technically described as either a consultation or a co-authorship, the reality reflects that those two categories lie on either end of a spectrum of effort. Examining this spectrum is worthwhile as it sheds light on how we might more accurately and effectively evaluate librarians' intellectual contributions in other areas of our work. Regardless, all librarians could benefit from having a basic understanding of ES work. This

report is the result of an initiative to examine the current practices and attitudes of ES librarians at IUB in order to better understand the work itself and the potential value it brings to researchers, the Libraries broadly, and the ES librarians themselves. The 4 ES librarians at IUB were individually interviewed in June 2025 with group discussions held before and after the interviews. The combination of the discussions and interview transcripts are summarized in this report.

"You cannot have a reproducible study if you do not have a librarian who understands the systems and sets up the criteria in such a way that you could rerun it."

Expertise and Training Required for ES Collaborations

ES librarians acknowledge that most graduates from a library science degree program would have a foundation of knowledge from which to build expertise in ES, particularly in the areas of searching, syntax, controlled vocabulary, thesauri, and understanding of disciplinary information resources. However, to be successful in ES, librarians require further training and experience in several key areas: ES methodologies, a more detailed understanding of disciplinary research and the concept of reproducibility, and the ability to collaborate with researchers as an equal partner. To that end, ES librarians have invested significant time in developing their ES expertise, whether through meetings and practice or through professional development courses. The chart below illustrates the ES protocol process in chronological form including individual stages and the librarian's relative contribution level to each.

Stage	Knowledge and Use of Sources	Search Building: Syntax, Controlled Vocabulary, and Thesauri	Methods and Scope	Screening of Results	Quality Assurance and Bias Risk	Reporting
Librarian Contribution	High	High	Medium	Low	Medium	Medium
Researcher Contribution	Low	Low	Medium	High	High	High

Stages of ES Work. The level of intellectual contributions of librarians and researchers varies at different stages of an ES project reflecting their unique skillsets and illustrating the necessity for partnership. Regardless of the order of authorship, both parties are equally essential to the quality and success of the project.

ES librarians acknowledge other types of skills that librarians often possess that seem to be very helpful in ES collaborations. For example, librarians are often skilled in the inquiry process (e.g., reference), which is essential in determining effective ES-related searches.

In other words, just as a user at the reference desk, researchers often need librarian assistance in refining their searches. Also, and possibly related, librarians tend to be process-oriented and less likely to take key steps for granted, while some researchers might be more focused on the "end goal." Finally, librarians are often more familiar with the nuances of differences among disciplinary information sources and structures.

Experiences of ES Librarians

ES librarians at IUB engage in a spectrum of ES interactions ranging from consulting to co-authorship, with the majority being consultations. At what point an interaction might go from consulting to co-authoring, however, is not always clear. For example, a single consultation in which an ES librarian advises on a search string may result in multiple follow-up meetings to revise and refine the string. With multiple consultations, the intellectual contribution increases, and the work inches closer in nature to that of a co-authorship. Likewise, advising on methodology might be seen as a small step away from authoring a methodology. Co-authorship carries with it increased responsibility and a significantly greater investment of time but also has many benefits: more credit and recognition, more control over the ES process from beginning to end, and possibly advantages for promotion and tenure purposes. However, even a basic consultation where a librarian consults on search techniques is high impact, as the success of the effort ultimately depends on an exhaustive and effective search.

Challenges Encountered in ES Work

ES librarians reported a variety of challenges faced in their experiences. One set of challenges involves the researchers themselves and their understanding (or lack thereof) of the ES process. Some may not be very familiar with how information resources and tools work and might be reluctant to acknowledge it, and some are unclear on what role each collaborator plays in the process. In at least one case, researchers had already promised a systematic review as part of a grant-funded project without consulting an ES librarian first. ES librarians encounter other challenges as well: setting boundaries for how much responsibility they can feasibly accept on a project, knowing and communicating limitations to their expertise as the ES process proceeds, and, in some cases, limited support resources or tools for ES in their specific discipline. Finally, in cases where there are personnel changes among the research team mid-project, librarians sometimes have concerns regarding consistency and the quality of project outputs.

Strengths and Weaknesses of the Current ES Structure

The current team of ES librarians does not operate within a traditional branch of the organizational chart. While there is leadership among them, there is no specific department head or formal supervisor. There could be some benefit to making ES a more formal structure with a clear chain of oversight (increased recognition, advocacy, budgeting, resources), though ES librarians recognize and enjoy many benefits to the current mode. They find advantage in being from diverse backgrounds and departments, independently invested in the work, able to determine their own types of services based on

constituent need, and able to balance ES responsibilities with their other duties on their own.

Demand for ES and Balancing Responsibilities

Demand for ES support from the Libraries is broad, but leans towards disciplines that traditionally publish systematic reviews, like the health sciences, and those disciplines that are newer to evidence synthesis, like education and psychology. Collaborators come from the School of Public Health (with participation from all five departments), the School of Nursing, the School of Public and Environmental Affairs, and the departments of Speech, Language, and Hearing Sciences, and Educational Psychology. The ES librarians have seen some increase in demand since the beginning of their efforts and at times have had a waitlist for more complex projects that require extensive librarian involvement. To date, ES librarians have done little (beyond emails to individual departments) to promote their services widely, largely because they might not have the capacity to meet the demand with existing resources. Also, there was some concern expressed that widespread promotion might result in more interest overall, but that the quality of their efforts might suffer:

"We don't want to become the next en vogue scavenger hunt."

According to job descriptions, no ES librarian currently allots more than 20% of their time to ES, though the workload by nature ebbs and flows, and to estimate each librarians' actual contribution would be difficult. Regardless, an increase in demand would require additional ES librarians, or require the current ones to allot more time for it. In that scenario, and considering the consensus that ES is among their highest impact work, ES librarians reported the following duties that they could potentially replace with more ES work: collection development, certain service responsibilities, meetings, and exhibits. Nonetheless, most ES librarians seem somewhat content with their current balance and recognize a kind of symbiosis between ES and their other duties: it improves their understanding of resources and searching, which improves their ability to provide things like reference and instructional services.

Conclusion

To date, ES librarians have accomplished a great deal with relatively few resources. In addition to the ES work itself, they sought salient professional development opportunities and initiated novel service solutions to enhance and support their work. They regularly meet with IUI and Ruth Lilly Medical librarians to troubleshoot problems, learn, and discuss issues. They created a user-focused Library Guide to help researchers understand the ES process better, and are conducting their own scoping review to better understand the ES process from start to finish. Also, because ES methodologies are constantly being refined, continuous professional development is necessary and can have high associated costs. While the status quo of the ES program is stable, further planning and strategizing are needed to ensure sustainability. Some near term efforts to consider may be creating

additional instructional resources to make consultations more efficient, storing effective searches in a repository, and performing needs assessment to determine what researchers, programs, and/or departments are most likely candidates for ES partnerships. Especially if ES work were to be expanded, the program would need additional resources, whether increased staff or readjusting the responsibilities of existing staff. As ES is among the most high-potential and high-impact work done by librarians, future expansion of the program deserves consideration.

Annotated Bibliography

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    - Demand for evidence synthesis support from librarians has increased in the sciences, humanities, and social sciences.
    - Evidence synthesis support is labor-intensive and not sustainable without appropriate investment of time and training.
- Grossetta Nardini, H. K., Batten, J., Funaro, M. C., Garcia-Milian, R., Nyhan, K., Spak, J. M., Wang, L., & Glover, J. G. (2019). Librarians as methodological peer reviewers for systematic reviews: Results of an online survey. *Research Integrity and Peer Review*, *4*(1), 23. https://doi.org/10.1186/s41073-019-0083-5
    - Librarians can serve as methodological experts with journals & editors should include librarians to help improve quality of published reviews.
- Pawliuk, C., Cheng, S., Zheng, A., & Siden, H. H. (2024). Librarian involvement in systematic reviews was associated with higher quality of reported search methods: a cross-sectional survey. *Journal of Clinical Epidemiology*, *166*, 111237.
    - While Systematic Reviews are considered the gold standard of evidence, many are of poor quality.
    - Of 191 included studies, those systematic reviews that included a librarian saw a 15.4% higher quality assessment score. Librarian involvement improved 12 of the 18 SR quality elements, especially providing a reproducible search strategy, searching relevant databases, and searching at least 2 databases [note 3 is considered the minimum for many methodologies].
    - Those that did not include a librarian did not do so because they did not think it was necessary (75%), did not know it was possible (22%), did not have a librarian to ask (22%), or had the librarian refuse (1%).