Alignment of library services with the research lifecycle

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APPENDIX E

Description of categories and code definitions for biomedical researcher interviews

General
- Competition: Concern for research ideas, funding, or preliminary research results to be obtained, discovered, or disseminated by another researcher.
- Emerging practice: A practice in science that is changing due to evolutions in technology, culture, or external forces.
- Influencing science: External forces affecting how researchers obtain funding, conduct science, or disseminate findings.
- Library support: Support to the researcher or research teams provided by the library.
- Licensing and venture: The process of transferring university intellectual property to a third party for the development of products, services, or applications. Also known as technology transfer.
- Mentor/mentee: The role and relationship of mentors and mentees in the research lifecycle.
- Nonlibrary support: Support to the researcher or research teams provided by nonlibrary personnel.
- Reproducibility and replicability: Activities related to producing science in a way that another researcher can reproduce results of an experiment using the same data or to replicate the study with a different sample.

Planning research
- Bioinformatics tools: National Center for Biotechnology Information (NCBI) tools or other forms of data such as Blast, OncoMine, dbSNP, etc.
- Biosketch: Creation or management of biosketch information for use in grant applications.
- Citation management: Methods used to store and reuse scholarly literature. Includes software such as Endnote, Mendeley, apps, and other online tools.
- Data literacy: Understanding of how to read and use data, the credibility of the source, and permissions and restrictions to its use.
- Grant funding: The process of seeking grant funding, grant administration, or grant citation.
- Grey literature: Seeking non-peer-reviewed information. Examples include conference proceedings, white papers, device manufacturing information, blog, wikis, etc.
- Identify collaborators: The method in which collaborators are identified, includes the use of online tools or in-person networking opportunities.
- IRB/IACUC: Activities related to obtaining or complying with the institutional review board (IRB) or the institutional animal care and use committee (IACUC).
- Literature searching: Searching peer-reviewed literature databases such as PubMed, Google Scholar, etc.
- Methodology: Experimental design and methods used to conduct a scientific experiment.
- Systematic review: Comprehensive review of relevant literature, using a methodology, to provide a complete and exhaustive summary of the current literature relevant to a research question.
Conducting research

Collaborating: Activities of a researcher working with other researchers or those who support research.  
Data analysis: The methods, techniques, and products employed to use and analyze data. Includes activities such as data wrangling or munging and data manipulation. 
Data collection: Process of gathering data in research for the purpose of analysis. 
Data management: The way that data are planned to be managed or are managed during the research process, either individually or as a team. Includes data documentation. 
Data privacy and security: Activities associated with ensuring the protection of data, confidentiality, and compliance with applicable laws or policies. 
Ethics: Knowledge of and adherence to policies and procedures required to conduct ethical research. 
Lab notebook: Electronic or paper-based system for documenting activities connected to research. 
Metadata: Use of data about data including metadata standards, ontologies, or taxonomies. 
Open source software: Use of software in research that is open for further development and is maintained by a community of users. 
Organizing and storing information: The methods that a researcher or research team organizes and stores electronic or non-electronic files, samples, or other objects. 
Pilot experiment: Execution of an experiment prior to or within another experiment for the purposes of investigating potential future research. 
Project management: Activities related to how a researcher or research team plans and manages the research process. 
Proprietary software: Use of software in research owned by an individual or company. 
Statistical methods: Techniques used in research to analyze and interpret data. 

Disseminating research

Attending conferences: Value expressed by the researcher by attending a professional conference. 
Author rights and copyright: Concepts related to the use of intellectual property of others or the rights transferred by researchers when publishing academic manuscripts. 
Citation styles: Information necessary to cite a reference in a particular format used for publications or other scholarly reference. 
Compliance: Adherence to policies and procedures associated with use of grant funding. Includes National Institutes of Health (NIH) public access policy compliance, submission of peer-reviewed articles into PubMed Central as required by NIH. 
Conference selection: The process a researcher uses for selecting an academic conference to submit a presentation to. 
Data preservation: The act of archiving and managing data post-research to ensure the data can continue to be accessed for as long as deemed necessary. 
Journal selection: The process a researcher uses for selecting a peer-reviewed journal to submit an article for publication. 
Open access: Access to, use of, or depositing of scholarly material connected to research. Includes open access articles, open access data, open access publishers, and open access repositories. 
Preprint: Version of a publication made available prior to its publication in a scholarly journal.
Presentation: Activities related to presenting scholarly work include the creation of graphics and PowerPoint poster design.

Social media: Use of social media to promote science, awareness, or reputation management.

Writing: Process or activities related to writing journal papers and grants.

Assessing research impact

Altmetrics: Collection and/or use of nontraditional metrics of scholarly work, including articles, data, and other products of research. Can include downloads, views, or mentions in social media.

Citation metrics: Collection and/or use of traditional metrics connected to scholarly publications of a researcher’s work. Metrics include number of citations, h index, impact factor, etc.