Request for Information (RFI): Request for Information (RFI): Soliciting Input for the National Institutes of Health (NIH) Strategic Plan for Data Science

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The appropriateness of the goals of the plan and of the strategies and implementation tactics proposed to achieve them

The proposed plan addresses the needs for technology/infrastructure development and training of those who will use these developments in research and practice to further the growth of data science at NIH and beyond. Overall, the goals - and accompanying strategies and implementation tactics for achieving these - seem appropriate. In fact, much of this drafted plan aligns strongly with the recently released National Library of Medicine (NLM) Strategic Plan 2017-2027 - "A Platform for Biomedical Discovery and Data-powered Health" (https://www.nlm.nih.gov/pubs/plan/lrp17/NLM_StrategicReport2017_2027.html), which reinforces the importance of "[partnering] with institutions to engage librarians and information specialists in finding new paths...to enrich the data-science ecosystem for biomedical research" (pg.19). In addition to partnering to support training and infrastructure needs for data science, librarians and information specialists have an important role to play in helping practitioners and members of the public become proficient in interpreting and evaluating the information they produce and/or work with. A challenge reiterated regarding data science work is that of the difficulty handling and analyzing data sets due to sheer volume and complexity. There are often infrastructure/tool responses to tackling this challenge, but another component is the importance of education on evaluating data to determine its quality and validity as well as what meaningful information can be derived from it. It is a key component that complements the quantitative focus of data science that this plan articulates. In addition to developing the quantitative and computational skills noted, there is an opportunity to enrich the critical reasoning skills of data scientists as producers and consumers of data.

Opportunities for NIH to partner in achieving these goals

The Medical Library Association (MLA) is committed to partnering with NIH to help further and achieve its data science goals. MLA believes that health science librarians are uniquely qualified to play critical roles in training and infrastructure development. Relevant to training, librarians have the skills and expertise to work with researchers to ensure that research data is FAIR (findable, accessible, interoperable, and reusable), and that researchers understand how to follow data sharing and data management policies (Goal Five: Enact Appropriate policies to promote stewardship and sustainability). Librarians are also beginning to teach data science basics through library workshops and courses, and play a critical role in making data science education available to a wide community of researchers and members of the public. (Goal Four: Enhance workforce development for biomedical data science). Health science librarians are also experts in information organization, and can help design a new biomedical research data infrastructure that takes advantage of evolving open data/linked data environments while still remaining user centered (Goal

One: Support a highly efficient and effective biomedical research data infrastructure). In order to achieve the goals outlined in this plan, MLA reinforces its recommendation (issued in response to the new NLM Strategic Plan) for a data science specialization in partnership with NLM (http://www.mlanet.org/p/cm/ld/fid=1122&&blogaid=1752). Such a specialization would support the continuing data science education needs of MLA membership and ensure that health science librarians have the skills and expertise to fully engage in new and emerging data science activities.

Additional concepts that should be included in the plan

MLA believes there needs to be a stronger articulation of strategies to develop critical reasoning skills as it relates to producing and consuming data as part of data science work.

Performance measures and milestones that could be used to gauge the success of elements of the plan and inform course corrections

Number of participants in data science training events that involve librarians or information specialists and have data literacy as one of the objectives

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Any other topic the respondent feels is relevant for NIH to consider in developing this strategic plan

Team science--collaboration with health sciences librarians, computer scientists, engineers, linguists, anthropologists, designers and artists--to make sense of data will be increasingly more important. Supporting data science methods and training and partnerships that specifically address images, voice, video and their technical and ethical analytic challenges will be especially important.

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Name of Organization

Medical Library Association

Type of Organization

Professional society

For researchers (optional): Please indicate your career level and main area of research interest.

No Response

For members of advocacy groups or professional societies (optional): Please indicate your role and indicate whether you are responding on behalf of your organization.

Director, Information Issues and Policy; responding on behalf of Medical Library Association

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