

Joint MLA/AAHSL NIH [Request for Information](#) (RFI) on a Framework of the NIH-wide Strategic Plan

Notice Number: NOT-OD-15-118

Submitted: August 13, 2015

Prepared by Terrie Wheeler, Emily Mazure, Kristine Alpi (on behalf of MLA) and Brenda Seago (on behalf of AAHSL)

The Medical Library Association and Association of Academic Health Sciences Libraries addressed the following areas of opportunity that apply across biomedicine as identified in the National Institutes of Health Request for Information on a Framework of the NIH-wide Strategic Plan.

- **Potential benefits, drawbacks/challenges, and areas of consideration for the current framework**

The NIH-wide framework could be strengthened by including a statement that promotes information or research sharing within the NIH, with NIH's growing partners, and with the public. The framework is appropriately broad, but will require NIH to maintain a close awareness of how it overlaps with the missions of many federal health and science agencies. If this interdependence is embraced and multiple agencies engage together on the bigger picture, this could be an incredibly powerful catalyst for interdisciplinary discovery. The challenge of keeping up with strategic thinking across agencies would be an important example of NIH facing the same challenges nationally that researchers face with keeping up with everything that could possibly impact their domains.

- **Compatibility of the framework with the broad scope of the NIH mission**

To achieve greater compatibility of the strategic plan framework with the broad scope of the NIH mission, the Medical Library Association and Association for Academic Health Sciences Libraries encourage NIH to expand funding opportunities for junior investigators across diverse settings. These are the innovators of today and tomorrow, and accessible funding will attract and keep those focused on research in the biomedical field. Strategies for measuring disease burden by those prioritizing NIH funding should be transparent to assure compatibility of this framework with the broad NIH mission. To ensure successful participation under the broader scope of the NIH mission, NIH should enable widespread access to core training in the responsible conduct of research and community-based participatory research for non-university entities. We encourage NIH to fund projects aimed at using technology and user-centered design to improve the workflow of the research cycle, reduce administrative burden, and meet regulatory requirements. An evaluation of delays and reasons for no-cost extensions of NIH grants could reveal preventable or addressable issues that speed discovery. To further the broad scope of the NIH mission with less purchasing power, NIH could increase its intramural purchasing power and reduce the carbon footprint of its science program through strategic sourcing initiatives that create a workflow to order protocol supplies through the protocol tracking management system. Extramurally, NIH-funded Clinical and Translational Science Awards Consortium could seek similar economies of scale among members. The framework seems to require that NIH consider the overlapping missions of other federal health and science agencies, and identify synergies or

areas of collaboration with a thought to reducing redundancies both within NIH and the federal government. Collaborating with knowledge professionals to enhance research stewardship would facilitate managing information and creating cross-agency resource awareness.

- **Additional concepts in ICO strategic plans that are cross-cutting and should be included in this trans-NIH strategic plan**

In order for concepts in ICO strategic plans to be addressed more globally and uniformly, it is imperative to coordinate funding opportunities with other federal funders, as well as those of private funders. Targeting these funding opportunities to relevant researchers by mining researcher bio-sketches would ensure greater visibility and more compelling responses to funding opportunities. ICO concepts can be made more trans-disciplinary by developing a federal data directory or catalog that unifies all federally deposited data. This would make data findable, accessible and allow data sets to be repurposed similar to how research studies are brought together through the systematic review process. To link concepts in ICO strategic plans with those that cut across disciplines, a crosswalk between PubMed Central and other public access data streams, as well as a place to publish and share negative results is needed. Semantic linking of ICO concepts to those that are trans-NIH through Semantic Medline and other semantic tools can enrich the information ecosystem upon which excellent science is founded. Research that cuts across traditional disciplines will not find a funding home until concepts in ICO strategic plans are linked and leveraged for greater impact. Having a multi-disciplinary approach to traditional research increases the odds of breakthrough science. All of the strategies addressed above, coordinating and targeting funding opportunities, developing a federal data directory, linking concepts in ICO strategic plans with those that cut across disciplines, developing a crosswalk between PubMed Central and other public access data streams, semantic linking of concepts to enrich the information ecosystem are all the work of information professionals who are experts at knowledge management. Engaging trained knowledge workers as core team members at every level of the NIH strategic plan is critical for future success, and finding new cures in a cost cutting environment.

- **Comprehensive trans-NIH research themes that have not been captured in the Areas of Opportunity that Apply Across Biomedicine**

As NIH advances fundamental sciences, it must apply advanced knowledge of dissemination research and implementation sciences to ensure findings have influence. Research on biomedical science knowledge sharing and uptake, including open science and electronic lab notebooks, and reproducibility of NIH-funded research should be a trans-NIH theme complementary to other agencies' focus on dissemination of clinical effectiveness research. NIH should be a thought leader in disseminating scientific knowledge and encouraging collaborations, adoption of methods, and re-use of data. Supporting training and conceptualizing career ladders for Masters-level data scientists, information professionals, and research support leadership may speed up the work of labs on this theme. Building on the importance of studying healthy individuals, NIH should support studying healthy groups and populations as entities to address broader health questions. NIH may need to encourage expansion of group-level methodologies and data collection and analysis structures that increase our understanding of group contributions to health, as well as report these

characteristics in NIH-funded data sets. Partnerships to advance treatment that involve industry whether for technological, scientific, or medical purposes must be transparent and cautious. Consumers and health professionals are sensitive to hidden agendas and profit margins. Maintaining public trust in NIH-funded research and in NIH as a source of sound ethical science is crucial to being able to engage individuals and communities in a shared pursuit of knowledge to improve health. Breaking down disease boundaries should address both co-morbidities that impact treatment decisions and outcomes, but also the growing cross-over among researchers studying related areas and populations where several conditions may occur. NIH should encourage matchmaking across extramural applicants, or among intramural and extramural researchers working with similar populations or on related conditions. Better visualization of trans-NIH data on research on certain problems in certain areas could address overburdening study populations and facilitate addressing gaps.

- **Components of the Areas of Opportunity that Apply Across Biomedicine that are not applicable to an NIH-wide Strategic Plan**

All components of the Areas of Opportunity that Apply Across Biomedicine seem applicable to an NIH-wide Strategic Plan. However, the progress that can be made successfully over five-years in several of the areas seems dependent on whether those with whom the NIH-wide plan seeks to engage beyond NIH are ready for this strategic collaboration. It would be helpful to have a sense of how the plan will be calibrated for areas where NIH is clearly the leading partner as compared to areas where progress depends on a positive and energetic response by other organizations.

- **Future opportunities or emerging research needs**

NIH has been a leader in promoting public access to research findings and improved data management and sharing. As other funding organizations implement new data and public access requirements, NIH can facilitate funders are communicating with each other and the systems and processes are easy to use and understand. Researchers should be able to focus their time and effort on their research. By supporting projects that develop or improve technologies and systems that assist in study management and discovery, such as improving the usability of ERA Commons, NIH Reporter, My NCBI, ClinicalTrials.gov, etc., NIH can save researcher time. Many opportunities could be leveraged and time and money saved with improvements in communication, transparency, and sharing of information within NIH, with NIH partners, and with the public. We encourage NIH to leverage the findings from the informationist supplements by emphasizing information organization, dissemination, and reproducibility as key research skills that should be present among the research team personnel being proposed for potential funding and considering specifically information management expertise in the environment in which research will be performed. Improved information management can reduce wasted time and money while advancing science more quickly. Furthermore, opportunities for improving information management within NIH should be explored. Finally, we encourage NIH to explore unique and innovative methods for funding, researching, and distributing research. NIH should partner with other federal agencies to fund projects that bring diverse thinkers from other disciplines together to consider new possibilities. New methods for applying and managing funding, which focus on supporting early-career researchers and projects that are risky in terms of definite or immediate outcomes, should be sought.