National Library of Medicine report for EAHIL

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Search for a new Director of the National Library of Medicine

In the last issue I reported on the recommendations from the Advisory Committee to the Director of the National Institutes of Health (NIH) on the future of the National Library of Medicine. Soon after the report was publicized, NIH posted the announcement seeking applicants for the next Director of NLM. The search committee is reviewing applications and will start interviewing candidates in December.

Biomedical data initiatives at NIH

As many of you know, there are many programs and initiatives about the promise of biomedical "big data" to be used to improve health. Biomedical data is generated and stored in a variety ways but increasingly only in digital formats. There is a lot of data out there, it is steadily increasing, and being able to find and reuse the data is a growing challenge. NIH has several biomedical data science initiatives that I will highlight, hoping that you will think of ways your organization and skills might contribute to the overall goal of using big data to improve health care.

Big Data to Knowledge (BD2K)

BD2K (https://datascience.nih.gov/bd2k) is an NIH initiative to maximize the use of biomedical big data. The focus of this program is to support the research and development of innovative and transformative methods and tools to maximize and accelerate the integration of Big Data and data science into biomedical research. There are four objectives:
- Make biomedical data discoverable, accessible, and citable;
- Develop the methods, software, and tools needed to analyze biomedical data;
- Enhance training in the development and use of methods and tools necessary for data science; and,
- Support a data ecosystem that accelerates discovery as part of a digital enterprise.

The NIH Commons

The NIH Commons (https://datascience.nih.gov/commons) is defined as a shared virtual space where scientists can find, deposit, manage, share and reuse data, software, metadata and workflows – the digital objects of biomedical research. Modules in this initiative include:
- A computing environment, such as the cloud or HPC (High Performance Computing) resources, which support access, utilization and storage of digital objects;
- Public data sets that adhere to Commons Digital Object Compliance principles;
- Software services and tools that include scalability, interoperability, indexing and discoverability, sharing and access, and connectivity with other repositories, registries and resources; and,
- A set of Digital Object Compliance principles that describes the properties of digital objects that enables them to be FAIR (Findable, Accessible, Interoperable and Reproducible).

Precision Medicine Initiative (PMI)

At the State of the Union Address in January 2015, President Barack Obama launched "a new Precision Medicine Initiative (https://www.nih.gov/precision-medicine-initiative-cohort-program) to bring us closer to curing diseases like cancer and diabetes – and to give all of us access to the personalized information we need to keep ourselves and our families healthier." Objectives of this initiative include:

• Accelerate the design and testing of tailored treatments for cancer by expanding genetically based clinical cancer trials, exploring fundamental aspects of cancer biology, and establishing a national "cancer knowledge network"; and,

• Launch a national, patient empowered research cohort of one million or more American volunteers to participate in research.

NIH established a Precision Medicine Initiative Working Group which created a plan to manage the large research cohort envisioned to support this initiative. While the cohort will only include people living in the US, the report examined the experiences of international efforts such as the UK Biobank, in making is recommendations. People will be able to sign up for the PMI Cohort starting in 2016.