Partnering with Clients for Info Discovery

The NIH Library has been partnering with their government and other health related clients since 1901. Their staff utilize high level skills to find custom information solutions. Hear about: their staff -- informationists, librarians, scientists and other staff who are highly trained to collaborate and find information solutions, to digitize and curate special collections and databases; their services and the supporting technology.
The Library has 48 fed employees and a dozen contract staff. We have a matrix organization, with most of our staff in three vertical branches reporting up through our three branch chiefs.

We also have three staff in our Translations Office and four in our Business Office.

Each year we also form teams with members from across the library’s branches and offices. These teams focus on both strategic and operational issues.

At NIH we focus on meeting the needs of the intramural research community – the scientists who are federally employed and who do their work in labs here at NIH.

We’re often confused with NLM, but our focus is on meeting the needs of NIH and HHS staff. We collaborate with NLM on shared licenses for a number of journals, and we often host NLM associate fellows.
We organize ourselves into teams and use Balanced Scorecard to manage our strategic priorities. In addition to our vision, mission, and core values, this also shows our strategic themes – or characteristics that we believe will help us succeed in the future. Finally, you’ll see the strategy map listing the seven strategic objectives layered on the four focus areas of budget, people, and processes, all supporting the satisfaction of our customers.
The NIH Library provides desktop or tablet access to nearly 10,000 scholarly journals, most with archives all the way back to the first issue. As a research library focused on post-graduate support, we do not purchase aggregator databases so we manage over 800 different agreements to provide access to our scholarly resources.

The online journals are popular – to the tune of 21,000 articles downloaded each day or over 7M articles a year. NIH is often ranked against country-level usage by scholarly publishers.

We’ve also dramatically grown our eBook collection in the past decade, growing from 200 to over 80,000, all with permanent access rights. Usage has also grown from 300,000 eBook chapters in 2014 to over 700,000 chapters last year.

Another important aspect of our collection management is the database we’re maintaining to manage all of our purchase and usage information. Last year, we moved from a home-grown ERM to ProQuest’s Intota and are now making plans to migrate to Ex Libris’ Alma after the merger.

In addition to serving the needs of NIH scientific staff, the NIH Library also serves as a cost recovery library for 15 other agencies within the Department of Health and Human Services including the Secretary, IHS and CMS. We also collaborate extensively with the FDA Library and CDC Library, especially on collaborative purchases of online journals.
A key component to the success of the NIH Library is the personalized service delivered through the informationist program. This program was started in 2001 as one of the first in the country to merge scientific excellence with professional librarianship in order to more precisely respond to and anticipate our customers’ needs. This service has grown to include 16 Informationists working with 50 groups in 20 institutes and centers, and 17 HHS staff and operational divisions.

The foundation of the informationist program is Evidence Based Medicine – the process of systematically finding, appraising, and using the best available research for clinical decisions.

The informationist concept has evolved over the decade – ideal informationists should now have extensive industry expertise, acute familiarity with organizational structures and processes, deep domain level information mastery and information systems technical savvy. Informationists support transformational initiatives within and across functional areas of an enterprise.

Recognizing the need for a macro and micro level of support and understanding, the library has also broadened the informationists program to include a higher level Point of Contact focus to help the library develop an understanding of the research direction, grand challenges, information needs, and opportunities to get the library’s services in front of each NIH institute and center.
The library is fortunate to be able to devote nearly a quarter of our staff towards this informationist effort. As you can see from this list, we have a wide variety of skills in this team which allows us to offer specialized services that our customers need.

This includes supporting animal research, bibliometrics, bioinformatics, chemistry, data sciences, drug development, editing, and patent/discovery searching.
Recognizing that our customers are not a homogenous group, we’ve compiled information from surveys, focus groups, and regular interactions with our customers, to develop a list of our customer segments.

Our goal is to understand and meet the information needs of our primary customer segments, which are:

- **Administrative/Management Staff** (OD, HHS/NIH Policy & Commercialization)
- **Bench Scientists** (Junior, Senior, PI)
- **Clinical Staff** (MD, PharmD, Nurses, PI)
- **Grant/Portfolio Managers** (Scientific Review Officer/Administrator)
- **Staff in Training** (students, PostDocs, Fellows, etc.)
- **Technicians** (Animal Care, Lab Tech, etc.)

In addition to our primary segments, we acknowledge that there are other segments in our environment that have different information needs but they are not our primary emphasis:

- **NIH Support Services** (ORS, ORF, Engineers, Facilities Maintenance, etc.)
- **NIH Library staff/HHS/CLC**
- **Walk-ins/Non-NIH** (patients, visitors to NIH, NIH staff not using resources, conference attendees)
Based upon our understanding of the industry and NIH, we have created a number of non-traditional services, building upon the success of the embedded informationist model. I’ll touch quickly on five of them. The first is Bibliometrics.

- Bibliometrics – analyzing the impact of research based upon publication and citation data
The NIH Library’s Bioinformatics Support Program was developed to provide researchers with powerful tools to analyze and understand the biological significance of a variety of data. The program is highly successful and it has served more than 6000 scientists since its inception in February 2009. The program consists of:

- One-on-one consultations
- Online Tutorials
- Classroom Training
- Analysis Tools & Datasets

The Program is coordinated by Dr. Medha Bhagwat. Medha has a PhD in biochemistry and came to the NIH Library with several years of bioinformatics experience at NCBI. NCBI is a component of the National Library of Medicine and serves as a major biomedical hub for the country. The Bioinformatics program was so successful that the library hired Dr. Lynn Young, who has PhD in physics, to expand the computational capabilities of the program.
In support of the informationists, the NIH Library created the Custom Information Solutions service several years ago.

- Simply put, our job is to 'geek squad' to the librarians who work closely with various research or clinical teams at NIH. When they need a technology solution, we offer to help.
- Since we offer expertise in BOTH information organization/architecture and in IT, we can deliver more targeted solutions than typical IT departments
- However, we still work closely with those IT departments to ensure the solution fits into their infrastructure

Our services fall into 4 primary areas:
- Bulk data support including APIs to commercial sources, batch purchase of bibliographic data, and building support of NIH and federal data sources
- Digitization of government publications
- Technology community building
- And creation and project management of Drupal-based websites for NIH customers. This has included online collaboration spaces around content and portfolio analysis sites.
When thinking about data, we need to consider the four V's, specifically:

- **Velocity**: the speed at which data are generated.
- **Variety**: many different types of data which all work together
- **Volume**: a lot of it
- **Veracity**: data quality/trustworthiness is frequently a problem with big data

The NIH Library has developed and staffed Data Services program to help NIH understand, manage, and exploit the data that is being created and made available to researchers. The program includes data management training classes, offered in-person and online, and online tutorials will be coming soon. The program also offers consultations on data management questions and development of customized services to help ICs, agencies, and labs work with their data more effectively and be prepared for data sharing requirements that will likely become policy soon under the former Trans-NIH BD2K initiative.
Our Technology Hub has three goals:

**Explore**
- 3D printing continues to grow and thrive, moving from a Makerbot to a more reliable uPrint printer
- Exploring potential uses of smart pens to augment laboratory notebooks
- Purchased virtual reality equipment to experiment and help NIH find research uses

**Collaborate**
- A key success to the technology hub is successful partnerships with groups that have expertise with the technology.
- We’ve established partnerships with multiple institutes and groups to build community around 3D printing, data science, visualization, Drupal, and virtual reality

**Innovate**
- Continuing to look for new and trending technologies that could have an impact on research at. In addition to what I’ve already mentioned, I’d also include our new Digital production studio – a self-service audio and video room for non-professional production
In addition to gaining an understanding of our customers through the Informationists, our customer segments, and our services, we also try to inform/influence behavior through marketing and communications. Here are some recent examples including a video highlighting the innovative services of the library.
In closing, I can say without doubt that the world has dramatically changed around us. The digital library wave of 20 years ago is now history and we’re now in an era of mobile-first, cloud-first, and big data.

John Cotton Dana, founder of SLA stated a hundred years ago that special libraries are supposed to adapt to the changing needs of their customers.

What are you doing to adapt to the changing needs of our customers?
Here’s what we’re looking at in the near-term future for the NIH Library:

• We’re putting the finishing touches on a new Drupal-based website platform that will not only improve the look and feel, but is also based upon a taxonomy and facet-driven system that will allow us to adapt to changing needs. The development process also embraced Agile to ensure that we don’t do multi-year development projects.

• Our lower level physical space is being remodeled in return for giving up roughly 6,000 sq. ft. of space. To effect this, we donated half of our collection (36,000 titles) to the Internet Archive. The new spaces will include collaborative rooms and small training spaces to supplement what we already have on the main level.

• Bringing together our technology hub, digital recording studio, writing classes, and editing service under the new umbrella of “Digital Scholarship” we’re exploring how to assist our authors to take advantage of the interactive and data-driven publications that are now being offered.

• Working with the rest of the scientific support services at NIH, we are embarking on an effort to understand where research is heading over the next several years and how to best position NIH’s support services to assist.

• Finally, we have purchased a virtual reality setup and made it available in the library for research. We’ve also partnered with a campus interest group on the topic and researchers that are developing models and environments for virtual biomedical research.
Thank You

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