The National Institutes of Health
The NLM Strategic Plan

Leadership in Science Policy Institute
November 7, 2017

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Director, National Library of Medicine
Interim NIH Associate Director for Data Science

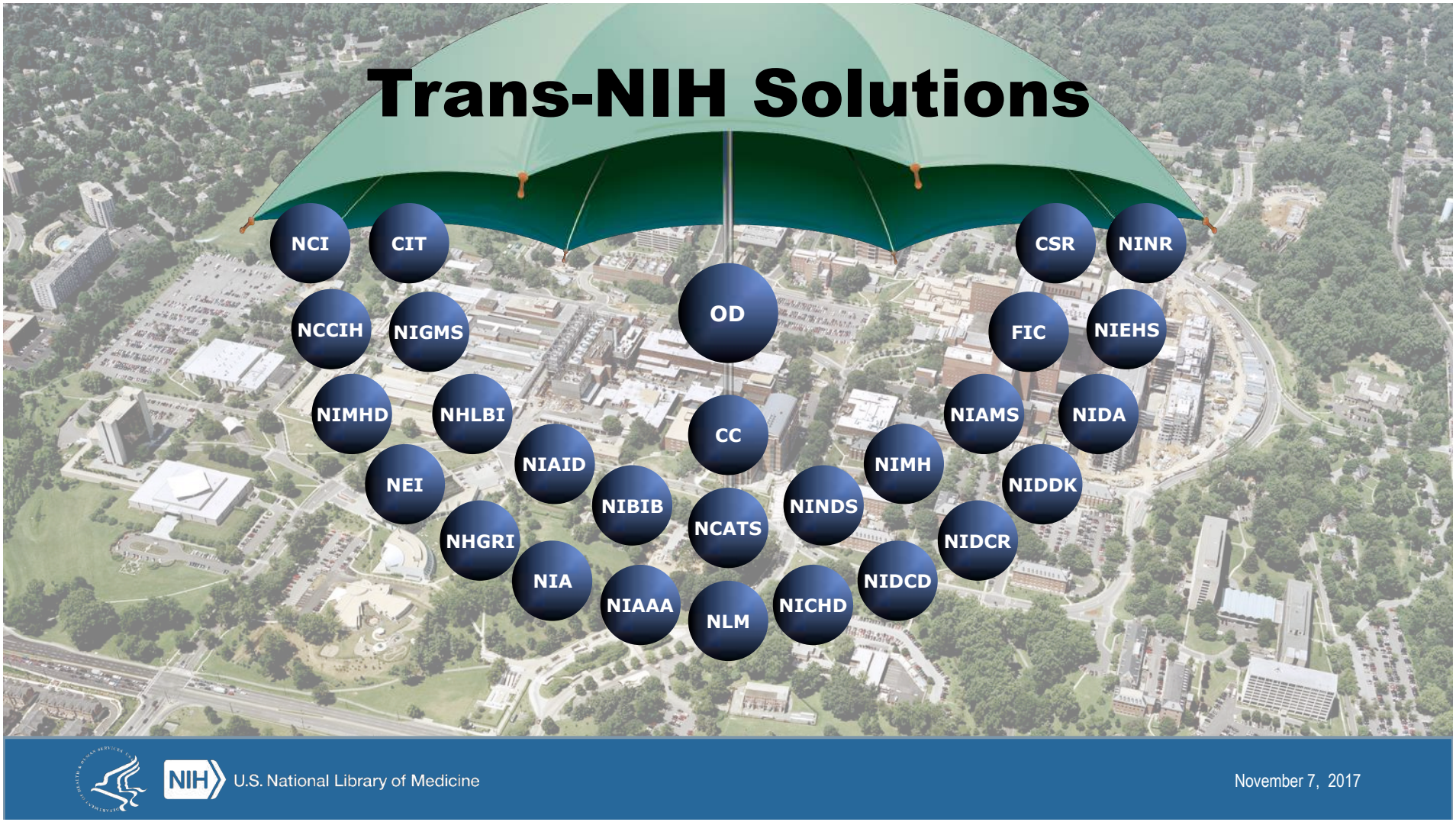
National Institutes of Health

- 27 Institutes and Centers
- $35B per year; 80% distributed to the extramural community
  - NLM is different!
- Priorities:
  - Translating discovery into health
  - Addressing the country's critical health concerns

NLM by the numbers

- FY17 expenditures……$406,604M
- Employees ……..1700
  - NCBI ……..700
- PubMed daily visits……4M
- Molecular, clinical & specialized data users per day ..0.5M
- National Network of Libraries of Medicine……..6500
- RxNORM calls per minute……>1000
- University training programs (T15 & T32)……30
- Environmental Disaster Responses in 2017……..6

Nucleotide BLAST
nucleotide ▸ nucleotide
PubMed
MeSH
MeSH on Demand
WISER
Pillbox
Search
DRUG INFORMATION PORTAL
ClinicalTrials.gov
A service of the U.S. National Institutes of Health
LiverTox
Clinical and Research Information on Drug-Induced Liver Injury
THE VISIBLE HUMAN PROJECT™
FROM THE NATIONAL LIBRARY OF MEDICINE
NCBI
MEDLINE
PubMed labs
Search
NIH NLM NNLM
LHNCBC
Genetics Home Reference
PubChem
MTI NLM Medical Text Indexer
Biomedical Literature
MTI MTIFL
MeSH Suggestions
Haz-Map @NIH
PEOPLE LOCATOR
OPEN
PubMed Central
GTR
ClinVar
MedGen
TOXMAP classic
TOXNET TOXICOLOGY DATA NETWORK
NLM
db GaP
GENOTYPES and PHENOTYPES
Protein BLAST
protein ▸ protein
DOCLINE®


Trans-NIH Solutions
NCI
CIT
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NEI
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U.S. National Library of Medicine
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NLM Strategic Plan

U.S. National Library of Medicine

November 7, 2017

Transforming Information into Discovery

NLM as a platform for biomedical discovery & data-powered health

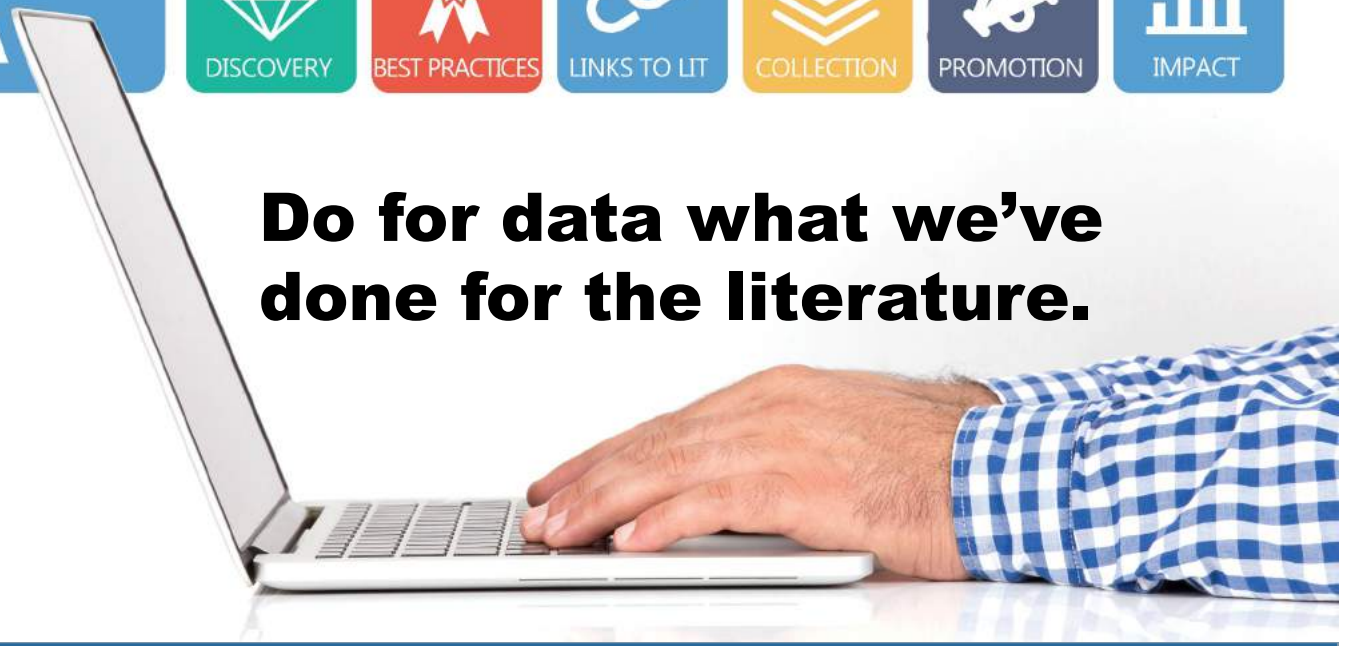
Effective dissemination of information across a broad range of users

A workforce prepared to advance data-driven discovery & health

Collect
Preserve
Reach Out
Support Standards
Accelerate Research
NIH NLM

DATA

DISCOVERY | BEST PRACTICES | LINKS TO LIT | COLLECTION | PROMOTION | IMPACT



Do for data what we've done for the literature.

Health Care

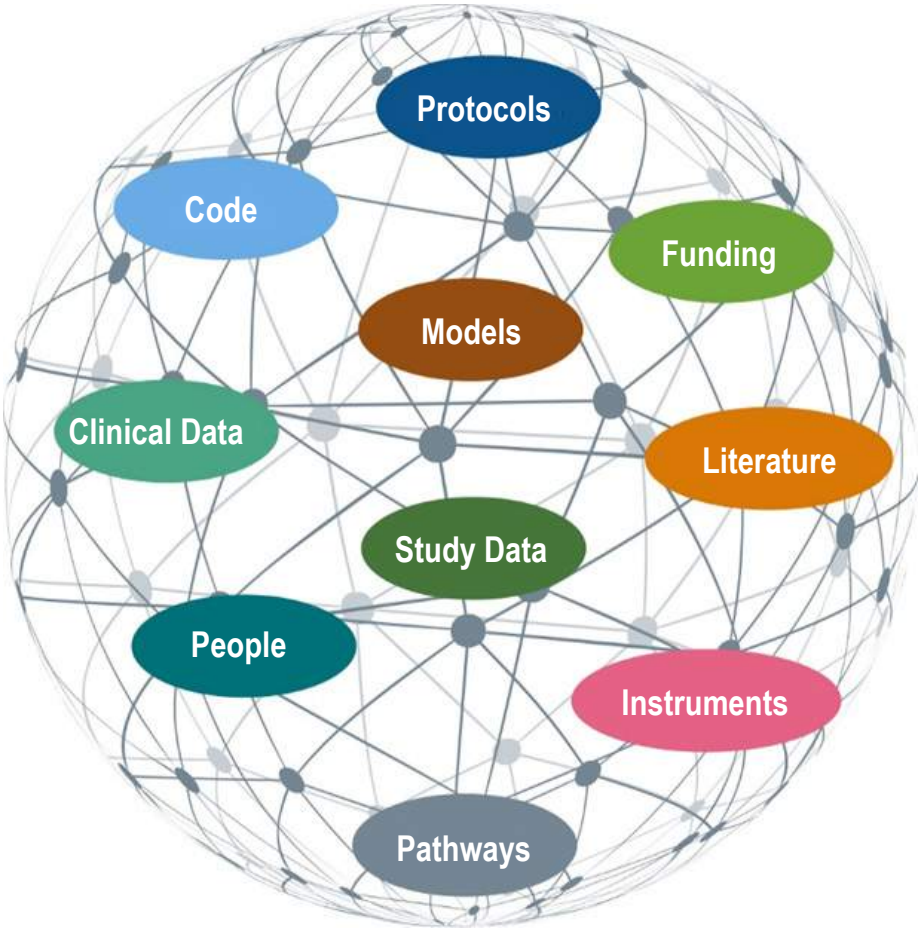
Seamless linking of
clinical and research data

Serving the 21st-Century User

NIH NLM

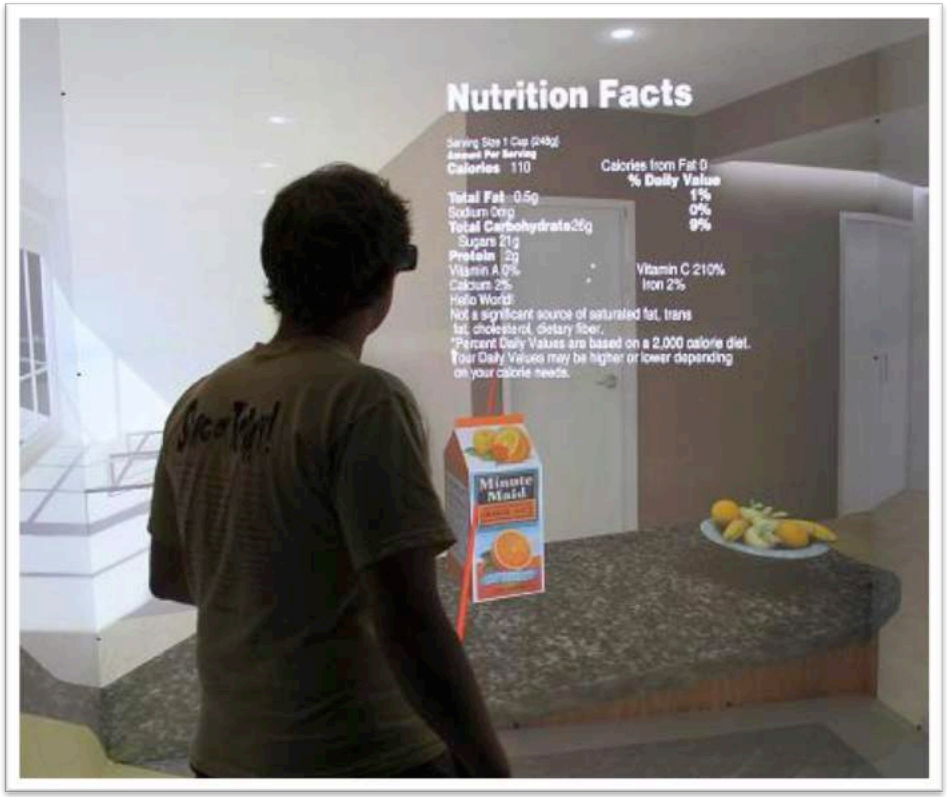
Fostering a sphere of discovery

digital research objects



The Care Between the Care

Go where the care happens.



Data-powered health will require new approaches to NLM-delivered information

Workforce Excellence

Training
• Re-imagine university-based data science training
• Increase intramural data science capacity
• Foster data-savvy clinicians and librarians

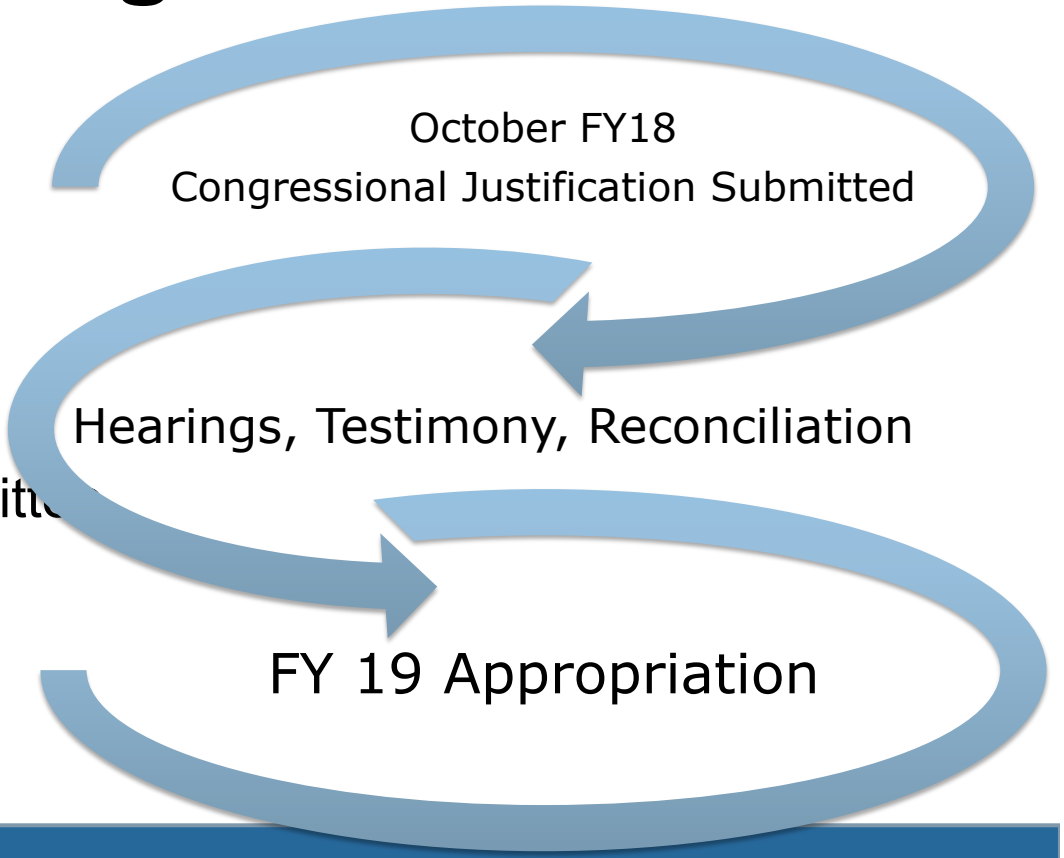
New Initiatives, Budget, Impact and Influence: Balancing IC-Specific and Trans-NIH

NIH Measures of Success

- Discovery
- Impact
  - P – productivity – Relative Citation Ratio
  - Q – quality
  - R – reproducibility
  - S – sharing
  - T – translation -- Patents

The NIH Budget Process

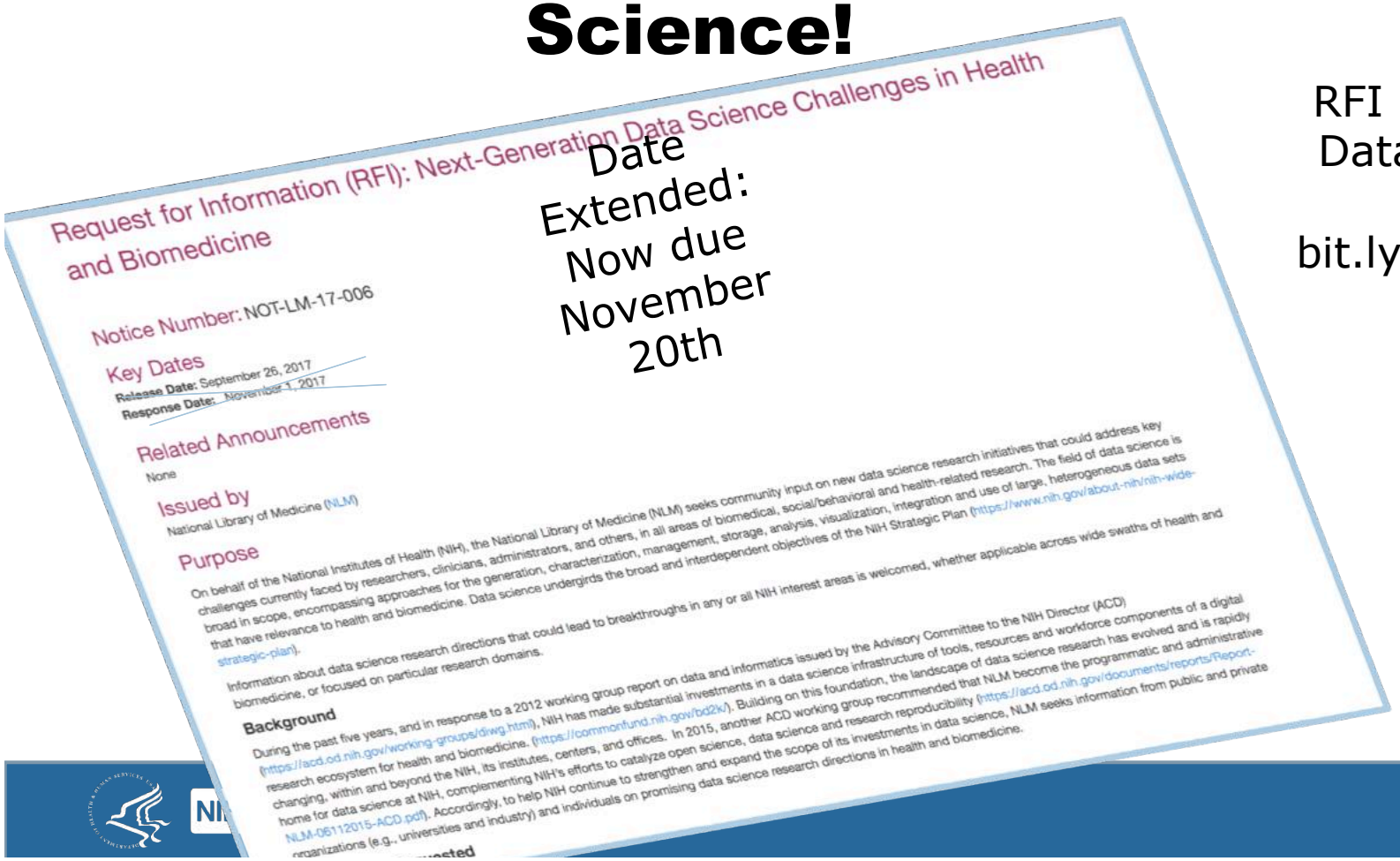
- Annual budget, established by congress
- A tale of many budgets:
  - President's
  - House Appropriations Committ
  - Senate Health, Education, Labor & Pension
- Continuing Resolutions



Science Engagement with NIH

- Opportunities for scientists to advise and engage federal science agencies
  - IPA
  - Memoranda of Understanding
  - Office of Science Policy, Office of Legislative Affairs
- To what extent is outside advice sought and in support of what kinds of activities?
  - 38,000 Special Government Employees
  - FACA
- What kinds of advice and modes of engagement are unlikely to be effective?

Help Shape the Future of Data Science!


Request for Information (RFI): Next-Generation Data Science Challenges in Health and Biomedicine

Notice Number: NOT-LM-17-006

Key Dates

Release Date: September 26, 2017

Response Date: November 1, 2017

Related Announcements

None

Issued by

National Library of Medicine (NLM)

Purpose

On behalf of the National Institutes of Health (NIH), the National Library of Medicine (NLM) seeks community input on new data science research initiatives that could address key challenges currently faced by researchers, clinicians, administrators, and others, in all areas of biomedical, social/behavioral and health-related research. The field of data science is broad in scope, encompassing approaches for the generation, characterization, management, storage, analysis, visualization, integration and use of large, heterogeneous data sets that have relevance to health and biomedicine. Data science undergirds the broad and interdependent objectives of the NIH Strategic Plan (https://www.nih.gov/about-nih/nih-wide-strategic-plan).

Information about data science research directions that could lead to breakthroughs in any or all NIH interest areas is welcomed, whether applicable across wide swaths of health and biomedicine, or focused on particular research domains.

Background

During the past five years, and in response to a 2012 working group report on data and informatics issued by the Advisory Committee to the NIH Director (ACD) (https://acd.od.nih.gov/working-groups/dirwg.html), NIH has made substantial investments in a data science infrastructure of tools, resources and workforce components of a digital research ecosystem for health and biomedicine. (https://commonfund.nih.gov/bd2k/). Building on this foundation, the landscape of data science research has evolved and is rapidly changing, within and beyond the NIH, its institutes, centers, and offices. In 2015, another ACD working group recommended that NLM become the programmatic and administrative home for data science at NIH, complementing NIH's efforts to catalyze open science, data science and research reproducibility (https://acd.od.nih.gov/documents/reports/Report-NLM-06112015-ACD.pdf). Accordingly, to help NIH continue to strengthen and expand the scope of its investments in data science, NLM seeks information from public and private organizations (e.g., universities and industry) and individuals on promising data science research directions in health and biomedicine.

Date Extended: Now due November 20th

RFI Next Gen Data Science

bit.ly/**2yHeieT**

Questions & Discussion

Reaching me

DataScience@NIH Blog

Driving Discovery Through Data

@NLMdirector

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