From Health Disparities to Building Sustainable Health Communities:
A Paradigm Shift

Data Science & the National Library of Medicine

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Crafting a vision of library as the dynamic interplay of medicine and information
National Center for Biotechnology Information
Research-driven Service; Service-inspired research

**Literature**
- PubMed, PMC, Books
- ~4,000,000 daily users
  - Browsing, reading
  - Small downloads

**Molecular and Clinical Data**
- Gene, Nucleotide, Protein Structure, BLAST, PubChem, Clinical Trials
- ~300,000 daily users
  - Batch retrieval
  - Data analysis
  - Extensive NCBI curation
  - Big Data

**Specialized Datasets**
- SNP, GEO, SRA
- ~15,000 daily users
  - Retrieving whole datasets
  - Expensive per user
  - Extensive Curation
  - Big Data

NIH U.S. National Library of Medicine
National Library of Medicine Collection

- ~17,000 serial titles
- All Serials — journals, annuals, statistics, etc.
- Discoverable in NLM Catalog & LocatorPlus
- NLM provides ILL and ensures archiving

PubMed
- 26.5 M records
- Only bibliographic records

MEDLINE
- ~5600 selected journal titles
- Only bibliographic records
- 93% of PubMed

PMC = PubMed Central Archive
- ~2,000 full participation journals
- 4 million full text articles
- ~1M federally funded public access articles
- Bibliographic records display in PubMed

National Library of Medicine Collection

U.S. National Library of Medicine
Health Information, Health Technology and Health Data Standards Resources
NIH Common Data Element Repository is a tool to search across CDE initiatives, harmonize differences and create new CDEs.
Special Concerns: Toxicology and Environmental Health

- Purpose: The Toxicology and Environmental Health Information Program (TEHIP) organizes and provides access to an extensive array of databases and related information on environmental health and toxicology, particularly as they relate to chemicals.
Purpose: Provides quality information, builds capacity and engages communities in an effort to eliminate disparities in accessing health information. Our outreach programs target health practitioners, scientists, researchers, vulnerable, underserved and minority populations, among others.

Programs
- Training/outreach
- Exhibits
- HealthReach
- Chickasaw Health Info Ctr, Sacred Root
- Environmental Health Info Partnership
- American Indian Health, Arctic Health
Preserving the past
Preparing for the Future
National Network of Libraries of Medicine

8 regions; 6500 members
Discovering Communities through data

• Community Surveys
• Public and government reports
• Sensor networks
  – Air quality
  – Traffic Flows
  – Water table
  – Noise and light
  – Pedestrian behavior
• We’re poise to know more – how can you help us?
Reaching me


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