Public Access to Taxpayer-Funded Research Strengthens Biomedical Research

The Medical Library Association (MLA) and Association of Academic Health Sciences Libraries (AAHSL) support legislative and federal initiatives that increase public access to the results of federally funded research. These initiatives facilitate scientific collaboration, strengthen biomedical research, accelerate innovation, and support better patient care.

The 2013 Office of Science and Technology Policy (OSTP) memorandum, “Increasing Access to the Results of Federally Funded Scientific Research,” furthers these objectives. The OSTP’s directive requires federal agencies with $100 million in the annual conduct of research and development expenditures to develop plans to support increased public access to the results of research funded by the federal government.

Completion of department and agency public access plans means that researchers, innovators, entrepreneurs, educators, and the general public will have greater access to publications and data resulting from federally funded research. MLA and AAHSL are pleased that today 22 federal departments and agencies accounting for more than 99% of US federal research and development expenditures now have public access plans in place (https://www.ncbi.nlm.nih.gov/pmc/about/public-access/). In addition to the National Institutes of Health (NIH), ten other federal agencies have agreed to use the National Library of Medicine’s (NLM’s) PubMed Central (PMC) to support their public access policies:

- U.S. Department of Health and Human Services
  - NIH - National Institutes of Health, HHS
  - ACL - Administration for Community Living
  - AHRQ - Agency for Healthcare Research and Quality
  - CDC - Centers for Disease Control and Prevention
  - FDA - Food and Drug Administration
  - ASPR – Office of the Assistant Secretary for Preparedness and Response
- EPA - Environmental Protection Agency
- NASA - National Aeronautics and Space Administration
- NIST - Department of Commerce National Institute of Standards and Technology
- DHS - Department of Homeland Security
- VA - Department of Veterans Affairs

In January 2019, the number of articles collected under the NIH Public Access Policy (Division F Section 217 of PL 111-8, Omnibus Appropriations Act, 2009) reached the one million article milestone. Additionally, these papers, resulting from publicly-funded research, have now been accessed over one billion times in PubMed Central.

NLM’s experience in operating PMC, developing related tools, and engaging the scientific and health sciences library communities in outreach will be essential to effectively and efficiently implementing federal-wide policies and improving compliance with those policies.
With more than 5.1 million full-text articles and more than 2.5 million users on the average weekday, PMC has become a valuable tool for accessing the biomedical research literature. The following graph illustrates the continued growth in numbers of data for PMC articles that were available and retrieved by month between January 2013 and November 2018.

![Graph showing PMC Articles Available and Retrieved by Month: January 2013 - November 2018]

**Discovering Data in PubMed Central (PMC)**

Articles in PubMed Central now include Associated Data Boxes, to allow for discovery of data association with the article. From here, users can easily find data citations, data availability statements, and supplementary materials, when available for an article. The National Library of Medicine’s Strategic Plan, *A Platform for Biomedical Discovery and Data-Powered Health*, notes the importance of linking literature with associated datasets to further research and discovery. This new feature raises awareness of the growing number of data citations in PMC (1300 articles included data citations in 2018, versus approximately 440 in 2016).

PMC is also a valuable data resource for researchers doing large-scale analyses of scientific texts. In 2018, the number of articles available in the PMC Text Mining Collections surpassed 2 million. Through these collections, scientists are able to analyze the text of open access and papers resulting from publicly-funded research and further apply the findings of NIH-funded and other research to generate new discoveries.

*The Medical Library Association (MLA)* is a nonprofit, educational organization with 3,500 health sciences information professional members worldwide. Founded in 1898, MLA provides lifelong educational opportunities, supports a knowledgebase of health information research, and works with a global network of partners to promote the importance of quality information for improved health to the health care community and the public.

*The Association of Academic Health Sciences Libraries (AAHSL)* supports academic health sciences libraries and directors in advancing the patient care, research, education, and community service missions of academic health centers through visionary executive leadership and expertise in health information, scholarly communication, and knowledge management.