# The Medical Library Association Data Services Competency: a framework for data science and open science skills development

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## APPENDIX

### Skills extracted from the literature

This list includes the forty-one skills extracted from thirteen articles and reports reviewed as part of the process of developing performance indicators.

**Data skills**

data curation

data discovery

data ethics and security

data literacy

data management

data management planning

data policy

data sharing

data storage and preservation

data structures and standards

data use and reuse

data visualization

metadata and documentation

repository support

scholarly communication and licensing

versioning and version control

**Programming, software, and technology skills**

extensible markup language (XML)

general computing

geographic information system (GIS)

scientific programming (including R, Python, Java, MATLAB, etc.)

statistical software

structured query language (SQL)

web development and web 2.0

web development and web technologies

**Scientific skills**
experimental design and research methods
subject matter expertise

**Librarianship skills**
general librarianship
reference skills

**Interpersonal skills**
commitment to lifelong learning
communication skills
ethics
evaluation
institutional awareness
interpersonal skills and relationship building
marketing and outreach
personal traits
problem solving
project and time management
service development
strategic planning
teaching skills