What the Himmelfarb Library can do for translational science researchers

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CTSI-CN Research Guide

http://libguides.gwumc.edu/ctsi
Evaluating impact beyond citation analysis using the Becker model of research assessment

**ADVANCEMENT OF KNOWLEDGE**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Evidence</th>
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<tbody>
<tr>
<td>Description</td>
<td><strong>Advancement of Knowledge</strong> represents research outputs and/or activities that contribute to the scholarly record.</td>
</tr>
<tr>
<td></td>
<td><strong>Publication Metrics</strong>&lt;br&gt;Publication generated by the research study accessed online.&lt;br&gt;Publication generated by the research study is downloaded.&lt;br&gt;Supplemental material generated by the research study accessed online.&lt;br&gt;Supplemental material generated by the research study is downloaded.&lt;br&gt;Publication generated by the research study is assigned a ranking factor by a reviewer based on significance of the research study.&lt;br&gt;Publication generated by the research study is awarded a “Best Paper” award by a publisher.&lt;br&gt;Publication generated by the research study is reviewed by Facultyof1000.&lt;br&gt;Publication generated by the research study is noted as a Breakthrough of the Year in AAA Science Magazine.&lt;br&gt;Publication generated by the research study is noted as a Top Scientific Discovery in Wired.&lt;br&gt;Publication generated by the research study is noted in “Data and Rankings” in Science Watch.&lt;br&gt;Author/s in publication generated by the research study is noted in “Data and Rankings” in Science Watch.&lt;br&gt;Publication generated by the research study is noted as a SciVerse ScienceDirect Top 25.&lt;br&gt;Publication generated by the research study is noted as a Hot Paper in Essential Science Indicators.&lt;br&gt;Publication generated by the research study is noted as a Core Paper in Essential Science Indicators.&lt;br&gt;Publication generated by the research study is noted as a Highly Cited Paper in Essential Science Indicators.&lt;br&gt;Research study itself is referred to in a publication without a reference.</td>
</tr>
<tr>
<td>Reprint Requests</td>
<td>Requests for reprints (print or electronic) for journal articles generated by the research study.</td>
</tr>
<tr>
<td>Requests for Information</td>
<td>Physicians, policy makers or consumers contact research study investigators for more information on research findings.</td>
</tr>
<tr>
<td>Research Methodologies</td>
<td>Research methodologies developed by the research study are used by others. Examples include:&lt;br&gt;  - Scientific analysis method.&lt;br&gt;  - Conceptual framework.&lt;br&gt;  - Algorithm.</td>
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<tr>
<td>Research Practice</td>
<td>Research study leads to change in bench or clinical research practices.</td>
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Libraries can also bring expertise and resources to help answer questions related to issues affecting the success of translational research projects:

<table>
<thead>
<tr>
<th>Category</th>
<th>Evaluation questions</th>
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<tbody>
<tr>
<td>1. Is it worth the effort?</td>
<td>Does the new technology’s intended use address a compelling health need? \   Is the scientific rationale strong, and does it suggest a possible medical benefit when compared with existing therapies?</td>
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<tr>
<td>2. Is there an adequate potential commercial market?</td>
<td>Does the size and type of market indicate a high likelihood of economic viability? \   Is the intellectual property protection solid? \   Is the technology likely to be cost-effective?</td>
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<tr>
<td>3. What can be inferred from human and animal data about likely safety and efficacy?</td>
<td>Is there a human genetic disorder that affects the therapeutic target? \   If so, does the phenotype support the efficacy and/or safety of the agent? \   Are the animal models used to assess efficacy and safety convincingly representative of the human disease?</td>
</tr>
<tr>
<td>4. Can the agent be delivered to its target at an adequate concentration?</td>
<td>Are the pharmacokinetics and pharmacodynamics acceptable for the intended use, based on direct assessment of the effects on the target molecule or meaningful functional assays?</td>
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<tr>
<td>5. Is there an industry partner that can develop the technology effectively and efficiently?</td>
<td>Is there an industry partner willing to make the development program a high priority? \   Will the industry partner ensure that the preclinical and clinical development groups exchange ideas throughout the development process? \   Is there an industry partner that will refrain from excessive secrecy? \   Can the technology be manufactured easily and at a reasonable price?</td>
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<tr>
<td>6. Can a pivotal study be designed and completed?</td>
<td>Can a study be designed with a medically meaningful endpoint? \   Can the study be designed to reflect clinical equipoise and be attractive to both participants and their clinicians? \   Can a study be designed with sufficient statistical power to detect the endpoint?</td>
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Data management planning

What is a Data Management Plan?

Most government agencies that fund research require those who receive grants to create a data management plan as part of the grant request process.

A complete data management plan addresses the following:
- Data Collection: collecting data that is reliable and valid.
- Data Storage: collecting and storing the appropriate amount of data such that your research can be reconstructed.
- Data Analysis: the interpretation of your data, how conclusions are derived from data.
- Data Protection: insuring that sensitive data is not tampered with or stolen.
- Data Ownership: the legal rights pertaining to your data.
- Data Retention: determining how long data must be kept and how long to destroy sensitive data.
- Data Reporting: publication of data.
- Data Sharing: sharing data with other researchers and the general public when you should not share data.

Archiving your publications
Help manage compliance with federal open access mandates

From July 2013 NIH will delay continuation grant awards until articles are deposited into PubMed Central

MyNCBI Bibliography linked to eRA Commons account showing noncompliant articles

Deposit text into PubMed Central
Researcher instruction

• Library resources e.g.
  – Scopus to identify highly cited articles/researchers/institutions
  – Journal Citation Reports to identify high impact journals in your field
  – RefWorks to organize your citations
Help with systematic reviews

**PRISMA 2009 Flow Diagram**

1. **Identification**
   - # of records identified through database searching
   - # of additional records identified through other sources

2. **Screening**
   - # of records after duplicates removed
   - # of records screened
   - # of records excluded

3. **Eligibility**
   - # of full-text articles assessed for eligibility
   - # of full-text articles excluded, with reasons

4. **Included**
   - # of studies included in qualitative synthesis
   - # of studies included in quantitative synthesis (meta-analysis)
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