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Identifying and assessing research impact

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The Becker Medical Library Model for Assessment of Research Impact 1 2 provides evidence of impact based on resulting diffusion of research outputs and activities, resources for locating evidence of impact, and also includes strategies that can be utilized by biomedical scientists to enhance their research impact.

The recent emphasis in demonstrating translational outcomes of clinical and biomedical research findings into clinical practice and community benefit has spurred a need for new methods beyond traditional citation metrics to document the impact of research. The Becker Medical Library Model for Assessment of Research Impact can assist with the discovery process by providing a framework to document research outputs and activities, identify collaborative efforts, and assess the diffusion of knowledge and resulting research impact for an individual author or research group.

General Examples of Research Impact

**Advancement of Knowledge** represents research outputs and/or activities that contribute to the scholarly record.

- How was the research output used? How was awareness of research output demonstrated?
  - License agreement granted for use of intellectual property generated by the research study
  - Clinical data generated in support of marketing a medical device
  - Consensus Development Conference
  - Curriculum guidelines
  - Clinical guidelines

**Clinical Implementation** is the adoption of research outputs and/or activities in clinical applications.

- How was translation of research outputs into clinical applications demonstrated?
  - Medical device is registered with FDA and used in delivery of healthcare
  - Research study cited in private insurance benefit plan in support of coverage
  - Healthcare provider report that research output from a research study has affected the way they manage patients

**Community Benefit** is the enhancement of community health outcomes as a result of research outputs.

- How was community health enhanced as a result of research output?
  - A blood test for detection of damage to the heart muscle leads to early treatment for myocardial infarction, a leading cause of death worldwide
  - A critically approved economic evaluation reports that research outputs from a research study demonstrate an effective injury intervention strategy in reducing head injury outcomes: "saving a lifespan reduced the risk of incurring a head injury following an accident by 70%" 3

**Economic Benefit** represents economic outcomes as a result of research outputs and/or activities.

- Discovery of lithium treatment for manic-depressive disorders saved the US over $145 billion in hospital costs.
- Five years ago, only about one-third of optometrists typically treated glaucoma patients themselves. Now, two-thirds of optometrists say they treat glaucoma patients largely on their own.
- "I treat patients with a family history and thinner corneas earlier than I would have before."
- “Five years ago, only about one-third of optometrists typically treated glaucoma patients themselves. Now, two-thirds of optometrists say they treat glaucoma patients largely on their own."

**Legislation and Policy Enactment** represents codification of research outputs into public law, guidelines, or policy.

- How did research outputs influence or result in enactment of public law, guidelines, or policy?
  - Cited references
  - Curriculum guidelines
  - Consensus Development Conference
  - Agency partnerships

**Research Process & Outputs**

**PATHWAYS TO RESEARCH IMPACT**

Diffusion represents knowledge transfer of research outputs into meaningful outcomes. Diffusion is manifested in various pathways.

In order to realize the value of the research, i.e., research impact, one must go beyond traditional citation analysis and metrics.

To understand the true impact of research, it is necessary to analyze the research study process in the clinical and biomedical research environment to identify tangible indicators of research impact that are not readily discernible using citation analysis.

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Identifying and Assessing Research Impact

Research Impact: The Ocular Hypertension Treatment Study

http://ohts.wustl.edu/