Identifying and assessing research impact

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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 indicators of 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 is a community benefit that 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 approved for use in healthcare
  - Research study cited in private insurance benefit plan in support of coverage
  - Curriculum guidelines

**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 a common heart disease leads to early treatment for myocardial infarction, a leading cause of death worldwide.
  - A critically acclaimed evaluation model that research outputs from a research study demonstrate an effective intervention strategy in reducing head injuries: "Reducing bicycle helmet reduced the risk of sustaining a head injury following an accident by 70%." The Ocular Hypertension Treatment Study (OHTS) demonstrated that medical treatment of people with intracocular pressure (IOP) of 19 or 24 mm Hg reduces the risk of the development of primary open-angle glaucoma (POAG) by 50%.

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

- Smoke-free Air Acts
- Automatic External Defibrillators (AED) Acts
- ANSI Standards
- All guidelines for design and construction of Health Care Facilities
- Testimony given by a research investigator before a governing body supports creation of a bill and/or regulatory change.

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

- Discovery of lithium treatment for mood-depressive disorders saved the US over $145 billion in hospital costs.
- Cochlear implants in profoundly or completely deaf children not only improve their quality of life but are also expected to save society about $53 billion over the individual child’s lifetime, including both direct and indirect costs.

**RESEARCH PROCESS & OUTPUTS**

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

**In order to achieve the above, one must:**
- Assess the impact of research (i.e., research impact, one must be beyond traditional citation analysis and metrics).
- Establish a model for making research impact quantifiable.

**PATHWAYS TO RESEARCH IMPACT**

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

Reference:

**Research Impact: The Ocular Hypertension Treatment Study**

http://ohts.wustl.edu/

“...it is no longer enough to measure what we can – we need to measure what matters.”

-- Wells & Whitworth

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