Evidence of Impact in Biomedical Research

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Some Major Challenges to Assessing Impact

- Easier to measure generation of knowledge (e.g. publications), but far more difficult to connect this knowledge to long-range impacts on public health.

- NIH produces scientific evidence to improve public health, but is not responsible for its implementation.

- NIH is not the only funder of biomedical research.

- Timelines may be incredibly long, and value may change with time.
  - The time lag that occurs between discovery and implementation;
  - One finding may have implications for numerous outcomes;

- Limitations of existing data.
NIH

- **Society**
  - Cost savings from improved interventions and health outcomes
  - Industry/commercial activity from medical products and technologies
  - New businesses/start-ups created

- **Health**
  - Number of people treated
  - Lives saved
  - Quality of life improvements
  - Influence on follow-on FDA approvals, practice guidelines, health policy and services, etc.

- **Science & Knowledge**
  - Growth/emergence of new fields
  - “Spillovers” to other lines of research
  - Increased methodological and technological capabilities
  - Award-winning work (Nobels, Laskers, *Science’s* top discoveries)
Impact Framework

Investment by NIH & Others

- Identification of public health need and scientific opportunity
- Research initiatives
- Funding acknowledgments
- Funding amount (when feasible)

Research-to-Practice Milestones → Timeline

- Publications (basic to applied)
- Patents (role of USPTO)
- Private industry development
- Regulatory activities (e.g., FDA approvals)
- Uptake into programs and services of other HHS agencies
- Adoption into practice (e.g., inclusion in clinical practice guidelines)
- Evidence of "hand-off" to health and medical practice

Organized by Stream of Impact

- Health
- Knowledge
- Society
HHS Data Needs

- Access to comprehensive, structured data with improved ability to search and export:
  - FDA approved drugs, biologics, and devices
  - AHRQ clinical guidelines and evidence reports
  - CMS healthcare utilization data (payments, number of prescriptions)
  - CDC (and other agency-generated) health statistics