Why Translational Research?

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NIH ROADMAP

- New Pathways to Discovery
  - Building blocks, Pathways, Nanomedicine
  - Molecular libraries, Bioinformatics
  - Genotype-Tissue Expression, Epigenomics
  - Human Microbiome Project
- Research Teams of the Future
  - Interdisciplinary, Public-Private Partnerships
- Reengineering the Clinical Research Enterprise
  - Clinical Research Networks, Clinical Outcomes Assessment
  - Clinical Research Training, Clinical Research Policy Analysis
  - Regional Translational Research Centers

Zerhouni, E. Science 302:63, 2003

TRANSLATIONAL RESEARCH: DEFINITION

- T1: "Transfer of new understandings of disease mechanisms gained in the laboratory into the development of new methods for diagnosis, therapy, and prevention and their first testing in humans."

  "Bench to bedside"

- T2: "The translation of research from clinical studies into everyday clinical practice and health decision making."

  "Health Services Research"

Sung, NS, et al. JAMA 289:1278, 2003

TRANSLATIONAL RESEARCH

- NIH Award: Clinical and Translational Science Award (CTSA) in 2006
  - 24 centers already by 2007
  - By 2012 60 funded centers with a budget of $500 million/year
- United Kingdom: $450 million over 5 years to establish translational research centers

TRANSLATIONAL RESEARCH

- Progress in fundamental biomedical research (human genomics, proteomics, bioinformatics, molecular imaging)

- Increase healthcare spending appears unsustainable
  - more precise understanding of etiologies and pathogenesis

AAMC 2006 Task Force II on Clinical Research

RESEARCH TEAMS

- T1: Experts in molecular biology, genetics, and other basic science
  - Clinical scientists working in strong laboratories with cutting edge technology
- T2: Community and ambulatory care setting, epidemiology, evidence synthesis, behavioral science, public policy, school officials

COMMUNITY RESEARCH FUNDING

- Agency for Healthcare Research and Quality (AHRQ) – $300 million (1% NIH budget) for T2 research
- In 2002 NIH budget was $787 million (1.5%) for health services research
- CTSA program does encourage community engagement

Moses H. et al. JAMA 294:1333, 2005

TRANSLATIONAL RESEARCH: CHALLENGES

- Must encompass other practitioners
- Too vague, must differentiate T1 and T2
- Increase funding for T2 research
- Communication to the public and health community

TRANSLATIONAL RESEARCH: T1 VERSUS T2

- For many diseases, T2 could save more lives than T1
- Patients might benefit more if health care system performed in delivering existing treatments rather than producing new ones

TRANSLATIONAL RESEARCH: SUMMARY

- NIH has made it a priority
- Bench-to-bedside and health services research
- Mission should be betterment of health