The Relevance of Translational Research in Physical Therapy

Alan M. Jette, PT, PhD
Health & Disability Research Institute
Boston University
School of Public Health

Goals of my Talk
- Clarify what is meant by Translational Research
- Discuss different types of Translational Research
- Introduce Different Strategies for New Knowledge Dissemination and Utilization in Physical Therapy

What exactly is Translational Research?
- For many, it refers to the "bench-to-bedside" enterprise of harnessing knowledge from basic sciences to produce new devices, new treatments, new clinical interventions for patients
- The end point is the production of a promising new treatment that can be tested & used clinically or commercially

For others...
- Translational research refers to translating research into practice,
- Ensuring that new treatments and research knowledge actually reach the patients or populations for whom they are intended.

Institute of Medicine Clinical Research Roundtable definition...
- T1: the transfer of new understanding of disease mechanisms gained in the laboratory into the development of new methods for diagnosis, therapies, and prevention.
- T2: the translation of results from clinical studies into everyday clinical practice and health decision making.

- T1 research requires mastery of molecular biology, genetics, and other basic sciences.
- T2 research requires mastery of clinical epidemiology, evidence synthesis, communication theory, behavioral sciences, informatics, and organizational theory.
In the United States…

- T_r research seems to overshadow T_2 research.
- CTSA (Clinical and Translational Science Awards)...
  - As of April, 2009, 39 CTSA grants had been funded.
    - 1) Incubator for innovative research
    - 2) Catalyze the application of new knowledge and techniques into clinical practice
    - 3) Nurture a cadre of well trained interdisciplinary researchers.

Avoiding Definitional Creep…

- T_r Research - Preclinical Research: designed to yield a tool or intervention related to screening, risk assessment, prevention, diagnosis, treatment, or rehabilitation that will be suitable for clinical evaluation & use in 10 years.
  - Eg., development of anabolic agents to improve strength and function
- T_2 Research - Applied Research: to determine how best to adapt, implement, or disseminate clinical findings into practice. This can include among clinicians, patients, organizations, or communities. Results would improve the health of people within 5 years.
  - Eg., development and use of clinical databases to conduct comparative effectiveness research

Applied Research ....

- At a time when experts warn of the fragmented health care system and of a widening “chasm” in access, quality, and disparities, interventions to close these gaps – the work of T_2 research – may do more to decrease morbidity and mortality than a new imaging device or class of drugs.

An Organizing Framework for Integrating Research with Practice….

- Strategies for applying new knowledge that is being created in translational research...

A Key Misconception...

- Goals of Knowledge Dissemination =
  Goals of Knowledge Utilization

Knowledge Dissemination – the fairly simple process of communicating new findings and outcomes to the field.
- Knowledge Utilization – applying in the field the new knowledge that is being disseminated
Difficulties arise when dissemination methods (professional conference presentations) are used to achieve utilization goals (adopt a new evidenced-based treatment technique in the clinic).

Knowledge Dissemination & Utilization Framework

- Exposure
- Experience
- Expertise
- Embedding


Exposure
Goal: increase knowledge
Strategies: articles, seminars, email, web-based dissemination.
Examples: professional workshops and conferences

Experience
Goal: increase knowledge and positive attitudes
Strategies: program visits, training CDs, mentorship
Examples: visiting scientists, sabbaticals

Expertise
Goal: increase competence
Strategies: internships, training programs
Examples: post doctoral fellowships

Embedded
Goal: Utilization over time
Strategies: systems level consultation and technical assistance, organizational development.
Examples: NIH R24 Infrastructure grants; Institute for Healthcare Improvement
In Physical Therapy, T1 & T2 Translational Research is needed. More sophisticated strategies to achieve knowledge dissemination and utilization. Success will require close collaborations between research and clinical environments.

Thank You.