Interdisciplinary Science and Health Care Teams: Preparing US Psychologists for the Future

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US science is becoming more interdisciplinary
- Increased funding for multi- and interdisciplinary science
- The development of the science of team science
- Opportunities and challenges for US psychology

US health care is becoming more interdisciplinary
- Historically, US health care based on biomedical model
- Biomedical model failed to successfully address current US health care challenges
- Paradigm shift from biomedical model to biopsychosocial model and use of patient-centered interdisciplinary teams
- Opportunities and challenges for US psychology
US Science is Becoming More Interdisciplinary

- National Academy of Science report (2005): Facilitating Interdisciplinary Research
  - Most problems facing society are so complex that no single discipline will be able to successfully address them
  - Interdisciplinary science teams can tackle difficult problems more successfully than a single discipline, yielding findings that are of greater scientific significance with greater impact
US National Institutes of Health: Funding for Multi- or Interdisciplinary Science

Number of grants

Funding in millions

http://projectreporter.nih.gov/reporter.cfm
Development of the Science of Team Science

- Although interdisciplinary science is considered essential to answering society’s complex challenges
- Developing successful scientific teams can be difficult
- The science of team science addresses factors that facilitate or hinder the effectiveness of team science initiatives (AJPM 2008, 35:577-389)
- National Cancer Institute has been a real leader in both interdisciplinary science initiatives and the science of team science
  - Largest funder of interdisciplinary science at NIH
Psychology’s expertise in the cognitive, affective, and social aspects of human behavior is critical to the success of many interdisciplinary science teams addressing a wide array of societal challenges from climate change to environmental-gene interactions.

Psychology’s expertise is critical to the science of team science which addresses inherently psychological phenomena: the factors that promote or hinder the development of successful interdisciplinary scientific teams.
Interdisciplinary Science: Challenges for US Psychology

- External challenges for US psychology
  - Lack of appreciation or understanding of what psychological science has to offer by other members of the team
  - Beliefs that psychology is “just common sense;” anyone can do psychology; it is not a “real science” – particularly devastating if held by the team leader
  - Cultural differences across scientific disciplines (e.g., who is the PI, authorship, publication outlet)
Interdisciplinary Science: Challenges for US Psychology

- Internal Challenges
  - Psychology departments emphasize discipline-specific teaching and research
  - Faculty hiring practices discourage cross-department appointments
  - Promotion and tenure practices emphasize first or single author publications and Principle Investigator grant funding
  - As a consequence,
    - few team science psychologist role models
    - few psychology graduate students are being trained to function successfully on interdisciplinary teams
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For more than a century US health care has been based on the biomedical model

- Biomedical model characterized by
  - Reductionism
    - Biologic determinants of disease
  - Mind-body dualism
    - Mental health services “cared out”
Biomedical model has failed to successfully address current US health care challenges

Per cent of US health care expenditures

- Chronic disease: 75%
- Other: 25%

US Dollars Spent Per Person on Health Care by Year

Biomedical model fails to recognize the role of behavior in health and disease

JAMA. 2004;291:1238-1245

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Paradigm shift to the biopsychosocial model in US health care

- From biomedical to patient-centered care
  - The patient is viewed as a whole person
  - All of the patient’s needs are addressed
  - By interdisciplinary health care teams
  - That include health and mental health expertise
  - In a non-stigmatizing environment that considers the patient’s preferences and culture
- From biologic disease indicators to functioning and quality of life as health outcomes
Professional psychologists have the expertise to address mental health, medical decision-making, and behavioral issues relevant to health promotion, disease prevention and disease management.
Interdisciplinary Health Care Teams: External Challenges for US Psychology

- Physicians may be unfamiliar with the particular skills sets psychologists can offer, seeing all “mental health” providers as equivalent.
- Behavioral of mental health services are “common sense” and can be delivered by anyone.
- Others (counselors, social workers) offer to provide mental health services cheaper.
Too many US professional psychologists:

- View themselves as mental health practitioners rather than health practitioners
- Do not have broader health psychology skills (e.g., medication adherence, pain management, coping with serious disease)
- Are unfamiliar with the culture and expectations of the larger health care system
- Have not been trained to work on interdisciplinary health care teams
INTERDISCIPLINARY SCIENCE AND HEALTH CARE TEAMS: PREPARING PSYCHOLOGISTS FOR THE FUTURE

- US science is becoming more interdisciplinary
- US health care is becoming more interdisciplinary
- The challenge for US psychology is to:
  - Educate other scientists and health providers as to the contributions psychologists can make to interdisciplinary science and health care teams
  - Change graduate education in psychology to:
    - Address the “solo” or “silos” nature of current US psychological science and practice
    - Provide education, skills, role models and training opportunities to assure psychologists can function effectively on interdisciplinary science and health care teams of the future