Importance of Clinical Research

Objective
At the end of this module, participants should be able to:

- Define the importance of clinical research
- Describe how practitioners can gain skills in clinical research
- Define the characteristics of practice-based research
- Define the concept of community-based participatory research
NIH Definition of Clinical Research

- Patient-oriented research includes: mechanisms of human disease, therapeutic interventions, clinical trials, or development of new technologies.
- Epidemiologic and Behavioral studies,
- Outcomes research and Health Services research (does it make a difference?)

NIH Definition of Translational Research

- Translational Research transforms scientific discoveries arising from laboratory, clinical or population studies into clinical or population-based applications to improve the health of the community by reducing disease incidence, morbidity and mortality.
Our Best Hope:  
*Transform Medicine Through Discovery*

Different Careers in Clinical Research

- Physician in practice
- Community or practice-based clinical researcher
- Academic clinician - investigator
- Physician - scientist
- Full-time research physician
Why Important?

- **Social Responsibility**: to improve the health and well being of our patients and communities
- **Business Case**: Economic impact - Global competitiveness in Medicine & Science
- **Personal Professional Rewards**

**Social Responsibility**
Eight Americas: Investigating Mortality Disparities across Races, Counties, and Race-Counties in the United States

Christopher J. L. Murray1,2,4,*, Sandeep C. Kalkani6,*, Catherine Michaud1,*, Niels Tomijima3, Maria T. Bulzacchelli7, Torrell J. Iandiorio5, Majid Ezzati1,2,4

Conclusions

Disparities in mortality across the eight Americas, each consisting of millions or tens of millions of Americans, are enormous by all international standards. The observed disparities in life expectancy cannot be explained by race, income, or basic health-care access and utilization alone. Because policies aimed at reducing fundamental socioeconomic inequalities are currently practically absent in the US, health disparities will have to be at least partly addressed through public health strategies that reduce risk factors for chronic diseases and injuries.
The Business Case for Clinical Research

Economic Impact

- Research drives innovation and productivity in science and technology
- Research creates jobs
- Research fuels local & regional economies
Economic Impact: Cost Savings

- Treatments that delay the onset and progression of Alzheimer’s disease by 5 years could save $50 billion a year in health care costs.

- NIH-funded researchers have developed treatments that delay or prevent diabetic retinopathy, saving $1.6 billion a year.

- At least 60% of the U.S. population on public water systems has received fluoridated water since 1990, translating to savings of over $25.7 billion in the past decade in dental treatment costs.

Personal and Professional Rewards
Translating Discovery Into Practice

“You will find wherever research is being done, there good medical care is being given.”

Dr. Henry Helmholtz
Chief of Section, Pediatrics
Mayo Clinic – 1946

Heart Disease

- Then (in 1950)... Heart disease killed quickly and without warning

- Now (since 2002)... Deaths from heart disease in the U.S. (as a whole) have dropped by 60% and is no longer the number one killer of Americans under the age of 85

HIV/AIDS

- Then … In the early 90s, one in four HIV-infected mothers passed the infection on to their babies

- Now … With antiretroviral drugs, the mother-to-child transmission rate has dropped dramatically in some parts of the U.S. And, more affordable drug regimens are being tested in developing countries


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New NIH Initiatives to Promote Clinical and Translational Research
Engaging the Community in Clinical Research

- Practice-based research
- Community-based participatory research

Clinical Research in the Community

The physician in practice
- Curiosity about patterns of disease
- Reads the literature
- Asks colleagues about their experiences
- Questions colleagues who are carrying out research studies
Different Careers in Clinical Research

Practice-based clinical research
- Working in a community practice to carry out research, e.g. in obstetrics, pediatrics, social factors of disease.
- Collaborative, observational, interventional.
- Research that may be part of a larger clinical trial, e.g. a new antihypertensive or diabetes drug
- May spend up to 10 - 20% of effort

Community-based participatory research
- Working in partnership with the community to conceive, design and participate in research in the community.
- Collaborative, observational, interventional.
- May spend up to 10 - 20% of effort
Tools of the Trade

- Curiosity
- Innovation
- Perseverance
- Enthusiasm/excitement
- Training

Facilitating Research by Building Skills

- Course modules from CTSA
  - On-line
  - Asynchronous
  - Short delivery (15-20 minutes)
  - Building CME Credit
  - Delivered by content experts
  - No fee
Physicians and Surgeons
Social workers
Physicians assistants
Information Technologists
Study Coordinators
Lab and X-ray Technologists
Pharmacists
Physical Therapists
Nurses
Psychologist