Behavior change and reducing health disparities: Priorities of NIH and OBSSR.

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http://obssr.od.nih.gov
Goals for Today’s Talk

• Brief overview of the NIH and OBSSR

• Current Funding Climate


• New Directions for OBSSR
NIH Institutes and Centers

DPCPSI: OBSSR, ORWH, OAR, ODP
Soon to be added: Office of Data Science
“Science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life and reduce illness and disability.”
NIH Extramural & Intramural Funding
FY 2012 Enacted: $30.9 Billion

- Spending at NIH
  - $5.0 B Intramural Research
  - $3.3 B Intramural Research

- Spending Outside NIH
  - $25.9 B
  - Supports over 325,000 Scientists & Research Personnel
  - Supports over 3,000 Institutions
  - $1.5 B Research Management & Support
  - $0.2 B Buildings and Facilities, Other

- $5.0 B

16%

84%
Biomedical Research Funding Changes 2011-2012

Source: Funding in 2012: Great Recession Starts to Bite. Cell, 148, 12 online
Trends in e_{50}, Females

Source: Chapter 2, Diverging Trends in Life Expectancy at Age 50: A Look at Causes of Death, D. Glei, F. Mesle, J. Vallin

Source: Glei et al. 2010
• Commissioned by OBSSR and NIH Partners
• IOM Panel on Understanding Cross-National Health Differences Among High-Income Countries
• Chair: Steven H. Woolf, MD, MPH
• Completed January 2013
17 Peer Comparison Countries

- Australia
- Austria
- Canada
- Denmark
- Finland
- France
- Germany
- Italy
- Japan
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- The Netherlands
- United Kingdom
- United States
Among the 17 peer countries, the US had 2\textsuperscript{nd} highest NCD mortality rate in 2008 (418:100,000)
Among the 17 peer countries:

- US had 4th highest infectious disease mortality rate in 2008 (34:100,000)
- US had the highest incidence of AIDS (3rd highest in OECD, exceeded only by Brazil and South Africa).
- AIDS incidence in the US (122 per million) was almost 9 times the OECD average (14 per million).
Life Expectancy at Birth in 21 High-Income Countries, 1980-2006

The problem is longstanding and worsening. In 1980, US life expectancy among females was about average, and was near the bottom for males, but by 2006 US life expectancy for both sexes had fallen to the bottom ranks.
For decades, American youth have been less likely to survive to age 50 than people in other rich nations.
Are there health determinants that medicine is not attending to?
Life expectancy (light green) and disability free live expectancy by neighborhood deprivation in England: 1999-2003

From Marmot Report: Fair Societies - Healthy Lives

Strategic review of health inequalities in England post-2010
A Short Distance to Large Disparities in Health

Washington, D.C.

Red Line between Union Station in Washington and Shady Grove in Montgomery County, Md. are 17 metro stops spanning 30 miles and an estimated nine year difference in life span.

Orange Line between Metro Center in Washington and East Falls Church in Arlington County, Va. are nine metro stops spanning 10 miles and an estimated eight year difference in life span.

Green Line between Gallery Place in Washington and Greenbelt in Prince Georges County, Md. are 11 metro stops spanning 17 miles and an estimated three year difference in life span.

Blue Line between Foggy Bottom in Washington and Springfield-Franconia in Fairfax County, Va. are 10 metro stops spanning 12 miles and an estimated nine year difference in life span.
Change In Female Mortality Rates From 1992–96 To 2002–06 In US Counties.
What Are the Underlying Causes of Death in the United States?
From Schroeder, N Engl J Med 2007; 357:1221-1228

- A variety of different analyses consider the factors underlying the most common cause of death.
- Across studies, the high estimate for the benefits of health care is 20%, with most studies estimating around 10%.
The initial findings from the Framingham heart study were published 50 years ago.

By 1961, we knew that the major risk factors for CHD included:

• Tobacco smoking
• High blood pressure
• High serum cholesterol
• Diabetes
Case Study: Improving the dissemination and implementation of treatments for high cholesterol and high blood pressure.

Awareness, Treatment, and Control of Hypertension in 2004 NHANES

- **Awareness**
  - Latino
  - Black
  - White

- **Treatment**
  - Latino
  - Black
  - White

- **Control**
  - Latino
  - Black
  - White
• Awareness: 80%
• Treatment: 70%
• Control: 50%

\[ .8 \times .7 \times .5 = .28 \]

Only 28% of people with high blood pressure are being successfully treated.
Behavioral reminders for cholesterol treatments are estimated to prevent 7X more deaths than replacing older cholesterol-lowering drugs with more potent medicines.

Source: Woolf & Johnson 2006
Some New Directions for OBSSR

- Planning for the next generation of behavioral and social sciences research
  - The next generation of measurement and data
  - Delivering services in a reforming health care system
  - Training the next generation of research investigators
Big Data = Big money!

NIH is Launching BD2K:
Big Data to Knowledge - $40M
www.bd2k.nih.gov

RFA-HG-13-009
Centers of Excellence for Big Data Computing in the Biomedical Sciences (U54)
OBSSR is a Partner
mHealth

- mHealth = Mobile Health

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Network on Inequalities Complexity and Health (NICH)

- Funded by NIH’s Office of Behavioral and Social Sciences Research through a contract to George Kaplan (U Michigan)
- NICH Brings together health disparities researchers and systems science methodologists multiple times per year for five years (approximately 20 members)
- Several pilot projects underway; most if not all are ABMs
- Next year is the last year, final event is a conference **February 24-25, 2014** at NIH (Bethesda, MD, USA).
Systems Science Applications in Health Promotion and Public Health

HEB Special Issue October 2013

http://heb.sagepub.com/content/by/year

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Guest Editors: Patricia Mabry and Bobby Milstein
Society, Genetics, and Health
AJPH Supplement, Volume 103, Issue S1

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http://ajph.aphapublications.org/toc/ajph/current

Guest Editors: Michael Spittel, Bethany Deeds, & Erica Spotts

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Current OBSSR Training Initiatives

Training Institutes

- Annual Summer Training Institute on Randomized Clinical Trials involving Behavioral Interventions
- Summer Institute on SW Research
- Institute on Systems Science and Health
- Mobile Health (mHealth) Summer Institute
- Training Institute for Dissemination and Implementation Research in Health (TIDIRH)

http://obssr.od.nih.gov/training_and_education/training.aspx
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