Health Economists at CDC

- ~60 PhD economists or health economics researchers
  - Most are alumni of Prevention Effectiveness Post-Doctoral Fellowship Program (9 current fellows)
    - 79 have completed 2-year fellowship since 1995
    - 42 alumni currently employed at CDC

- Economists dispersed
  - Clusters of at least 3 health economics researchers
    - National Center for Health Statistics
    - National Center for Chronic Disease Prevention and Health Promotion
      - Division of Cancer Prevention and Control
      - Division of Diabetes Translation
    - National Center on Immunization and Respiratory Diseases
    - National Center on Birth Defects and Developmental Disabilities
    - National Center for Injury Prevention and Control
      - Division of Violence Prevention
    - National Center on HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
      - Division of STD Prevention
      - Division of HIV/AIDS Prevention
    - National Institute for Occupational Safety and Health (NIOSH)
    - Center for Global Health
      - Global AIDS Program
Health Economics Research at CDC

- Health services research
- Cost-of-Illness (COI) studies
  - Medical expenditures
  - Human capital
- Program cost studies
- Economic evaluation of interventions
  - Cost-effectiveness (CEA)
    - Health utilities
  - Cost-benefit (CBA)
    - Willingness-to-pay
- Cross-cutting evidence synthesis
- Health policy modeling
- Economic and econometric analysis
National Center for Health Statistics (NCHS): Data Collection and Linking

• Data collection
  – Household surveys
    • National Health Interview Survey (NHIS)
    • National Health and Nutrition Examination Survey (NHANES)
  – Health care facility surveys
    • National Hospital Discharge Survey
    • National Hospital Ambulatory Medical Care Survey
    • National Ambulatory Medical Care Survey
    • National Nursing Home Survey
    • National Home and Hospice Care Survey

• Data linkages
  – NHIS, NHANES, and LSOA (Longitudinal Study on Aging) files linked to
    • National Death Index for mortality
    • Medicare enrollment and claims data
    • Social Security benefit history data
  – [http://www.cdc.gov/nchs/data_access/data_linkage_activities.htm](http://www.cdc.gov/nchs/data_access/data_linkage_activities.htm)
NCHS: Research to Inform Policy

- **Tracking Health Insurance Coverage Rates**

- **Medicaid Policy and Health and the Use of Health Services**

- **Use of Medical Care for Chronic Conditions**

- **Aging and the Use of Health Services**
Division of Cancer Prevention and Control and Economic Analysis

• Key research questions
  – Program costs for publicly funded programs
  – Health and economic impacts of cancers
  – Use of health services for cancer screening and treatment
  – Cost-effectiveness of early detection or prevention
  – Health disparities by socioeconomic status
National Breast and Cervical Cancer Early Detection Program


Other Recent DCPC Economic Analyses

Division of Diabetes Translation

Main areas of economic research

- National and state health and economic burdens of diabetes, chronic kidney diseases, and vision disorders
- Impact of diabetes, chronic kidney diseases, and vision disorders on health related quality of life
- Economic analysis of randomized clinical trials
- Modeling lifetime cost of diabetes and cost-effectiveness of diabetes interventions
- Evaluating impact of health policies related to diabetes and risk factors (e.g., mandatory insurance coverage)
- Health service research (e.g., access to care and quality of care)
DDT Recent Economic Studies


Economics Evaluation of US Diabetes Prevention Program


Division of Nutrition, Physical Activity, and Obesity (Research Contracts)


Immunizations Against Infectious Diseases (Multiple Centers and Divisions)

• Types of economic studies
  – Costs of vaccine-preventable diseases
  – Economic evaluations of immunizations
  – Assessments of health states preferences
  – Costs of administering vaccines
  – Supply and demand for vaccines
  – Modeling disease and health infrastructure

• Policy support
  – Advisory Committee on Immunization Practices
  – Pandemic influenza
  – Disease outbreaks
Economic Evaluations of Immunizations

• Benefit-cost analyses

• Cost-effectiveness analyses

• Other
Health State Preferences

• Joint Initiative in Vaccine Economics (JIVE), Harvard and CDC

• Benefits and risks of new adolescent vaccines: HPV
  – RTI International and CDC
National Center on Birth Defects and Developmental Disabilities: COI Studies


Economic Evaluation: Folic Acid Fortification and Birth Defects

  – 20%–30% reduction in NTDs
  – Fortification cost $3 million per year
  – Direct costs averted $146 million per year
  – Direct and indirect costs averted $425 million per year

  – 50% reduction in NTDs
  – Fortification cost $0.2 million per year
  – Direct costs averted $2 million per year
  – CE ratio using WHO-CHOICE method is $89 per DALY

- Birth defects surveillance program contacted women with an NTD-affected pregnancy and offered counseling and supplements
- 85% of women accepted
- No recurrences vs. 3% background recurrence
- Cost-utility analysis
  - $42,587 per QALY base-case analysis
  - $15,798 per QALY if one includes healthy births in place of terminations following prenatal diagnosis
Micronutrients, Supplements, and CDC-Sponsored Economic Analyses

• CDC Vision Health Cost-Effectiveness Study Group, Division of Diabetes Translation

• Division of Blood Disorders
  – Cost-effectiveness of screening for iron overload and hereditary hemochromatosis – Work in progress
Cross-Cutting Economic Evaluation Initiatives at CDC: The Community Guide

- Task Force for Community Preventive Services
  - Non-federal advisory group sponsored by CDC
  - Publishes recommendations based on systematic evidence reviews
  - Systematic reviews of economic evaluations conducted for recommended services

- Example: School-based programs promoting nutrition and physical activity
  - Review in 2004 found insufficient evidence

- Example: Worksite programs to control overweight and obesity
  - Three cost-effectiveness analyses reported net costs from $1.44 to $4.16 per pound of loss in body weight.
Cross-Cutting Economic Evaluation Initiatives at CDC: Prevention Priorities

- National Commission on Prevention Priorities
  - Convened by Partnership for Prevention
  - Sponsored by
    - CDC
    - Robert Wood Johnson Foundation
    - WellPoint Foundation
  - Analytic work by HealthPartners Research Foundation

- Projects
  - Ranking of evidence-based clinical preventive services
  - Ranking of evidence-based services recommended by the U.S. Task Force on Community Preventive Services – in progress
Cross-Cutting Economic Evaluation Initiatives at CDC: The Purchaser’s Guide

• Purchaser’s Guide to Clinical Preventive Services
  – Published by National Business Group on Health
  – Funding and staff support from CDC
  – Cosponsored by AHRQ

• Presents business case rationale for employers to cover recommended preventive services

• Example: screening pregnant women for iron-deficiency anemia and providing iron supplements
  – Screening by hematocrit or hemoglobin count (<$20 according to claims data)
  – Insufficient information to assess return on investment (ROI)
Health Policy and Health Disparities

Health Policy Modeling

• HealthBound simulation model
  – Model of policy scenarios
    • Expand health care coverage
    • Improve health care quality
    • Promote healthier behaviors and build safer environments
  – Outcomes modeled over 25 year time horizon
    • Morbidity – unhealthy days
    • Mortality
    • Health care expenditures