A Roadmap for Developing a Public Health Research Portfolio Evaluation Program: Panel Overview

Presented at the 2007 American Evaluation Association Conference
November 10, 2007

Robin M. Wagner, PhD,1 Trevor Woollery, PhD,1 Guijing Wang, PhD,1 Jerald O’Hara,1 John Araujo, PhD, MHSA,1 Catherine Pepper, MLIS, MPH,2 Mona Choi, PhD3

1Office of Public Health Research, Office of the Chief Science Officer
2Coordinating Center for Infectious Diseases
3National Center for Public Health Informatics
Centers for Disease Control and Prevention
Atlanta, GA
Panel Presentations

- Methodology Used to Develop a Research Evaluation Program, Wagner et al.
- Evaluating Public Health Research: Information from the Literature, Wang et al.
- Payback: Achieving Health Impact from Investments in Public Health Research, Woollery et al.
Methodology Used to Develop a Research Evaluation Program

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Overview

- **Context**
  - CDC vision and mission
  - External forces on public health and CDC response
    - CDC strategic plan, CDC Health Protection Goals
- **Agency-wide research portfolio assessment program**
  - Program office description
  - Program mission, guiding principles, and strategic priorities
  - Program highlights
  - Program new directions
CDC Vision and Mission

- **Vision**: Healthy People in a Healthy World — Through Prevention

- **Mission**: To promote health and quality of life by preventing and controlling disease, injury, and disability
Why Change? Many External Forces on Public Health ...

- Emerging Public Health Threats
- Globalization
- Health Disparities
- Changing Demographics
- Rising Health Care Costs
- Information Technology
- Aging Workforce
- Public Health Infrastructure

Human Genome
CDC Actions

- New strategic plan
- New strategic imperatives
- New CDC Health Protection Goals
- New organizational excellence performance measures
- New organizational structure
CDC Overarching Health Protection Goals

Healthy People in Every Stage of Life

Healthy People in Healthy Places

Healthy People in a Healthy World

People Prepared for Emerging Health Threats
Centers for Disease Control and Prevention

OFFICE OF THE DIRECTOR

OFFICE OF STRATEGY AND INNOVATION

OFFICE OF WORKFORCE AND CAREER DEVELOPMENT

OFFICE OF ENTERPRISE COMMUNICATION

OFFICE OF CHIEF OF STAFF

OFFICE OF EQUAL EMPLOYMENT OPPORTUNITY

COORDINATING OFFICE FOR GLOBAL HEALTH

COORDINATING OFFICE FOR TERRORISM PREPAREDNESS & EMERGENCY RESPONSE

COORDINATING CENTER FOR ENVIRONMENTAL HEALTH AND INJURY PREVENTION

COORDINATING CENTER FOR HEALTH INFORMATION AND SERVICES

COORDINATING CENTER FOR HEALTH PROMOTION

COORDINATING CENTER FOR INFECTIOUS DISEASES

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
Mission of OPHR Strategy and Evaluation Team (SET)

To evaluate and monitor CDC’s overall research portfolio progress towards meeting CDC’s Health Protection Goals and the CDC-wide goals-driven research agenda in order for CDC to

- Maximize and report on health impact
- Achieve organizational excellence
- Showcase CDC science and research
- Provide high quality, credible data and results
- Be accountable for resources and results
OPHR’s Research Portfolio
Approach: 3 Guiding Principles

1. Supports CDC’s needs, Health Protection Goals, and organizational excellence measures

2. Employs best available practices gleaned from the research evaluation scientific literature

3. Applies tested and evolving strategies and models used successfully by research portfolio practitioners from other federal agencies and governments
OPHR Collaborates with Other CDC Offices Engaged in Portfolio Assessment

Office of Strategy & Innovation
Office of Public Health Research
Financial Management Office
Technology Transfer Office
Natl Ctr for Public Health Informatics
Procurement & Grants Office
Management Information Systems Office
Portfolio Management Program
Other Offices

EXTRAMURAL RESEARCH MANAGEMENT COMMITTEE (ERMC)

OPHR’S UNIQUE CONTRIBUTION IS TO MEASURE CDC-WIDE RESEARCH IMPACT AND TO SUPPORT EMRC
Lessons Gleaned from Literature

- Conclusions
  - *Minimal* scholarship exists on evaluation of health research investments and even less on public health research investments.
  - Bibliometric analyses are a commonly used method but they can’t show how research knowledge is ultimately translated into impact.
  - Newer approaches show multiple downstream benefits of research investments (e.g., Payback model).
  - There is a need for advances in theory and practice to assess impacts of public health research investments.
Lessons Gleaned from Practitioners

- Research portfolio assessment practitioners from other federal agencies and governments are an invaluable resource
  - American Evaluation Association Topical Interest Group on Research Technology and Development Evaluation
  - Washington Research Evaluation Network
- Most other federal agencies involved in research portfolio assessment use a common evaluation logic model or variant
Logic Model for Communicating About CDC Research Progress and Impacts

**CDC GOALS & OEA PRIORITIES/ SOCIAL FORCES**

- **WHAT**
  - Research Program
  - Customers (Reach)
  - Health Impact

- **HOW**
  - Resources (Inputs)
    - $ Staff Technology Equipment
  - Research Activities (Processes)
    - Extramural Grants Coop Agrmt Contracts
    - Intramural Program Project Contracts
  - Research Outputs
    - Publications Agency Reports CDC Authors PI Authors
    - Patents Trained Staff
  - Research Outcomes
    - PH Guidelines PH Policies & Laws
    - Improved PH Programs & Interventions
  - Short-term Impacts
    - Changes in Customer Decisions & Actions
  - Intermediate Impacts
    - Meet CDC Strategic Objectives
    - Progress on Some Health Conditions
  - Long-term Impacts
    - Attain CDC Strategic Health Protection Goals & OEA
    - Population Health & Quality of Life Improve

- **WHO**
  - Program Managers Have Direct Control
  - Program Managers Have Direct Influence
  - Agencies Have Indirect Impact

- **WHY**
  - CDC Programs Can Be Accountable for Research Contributions that Strengthen Health Decisions & Enable Customers to Achieve Short-Term Outcomes

**RESOURCES**
- Intramural Program Project Contracts
- Extramural Grants Coop Agrmt Contracts
- Publications Agency Reports CDC Authors PI Authors
- Patents Trained Staff

**OUTPUTS**
- PH Guidelines PH Policies & Laws
- Improved PH Programs & Interventions

**OUTCOMES**
- Effective Knowledge Transfer (K2A) to Specific Orgs & Individuals

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Four Related Strategic Priorities

To assess our research portfolio investments* we must
1. Strengthen data systems used to analyze research investments
2. Develop and apply knowledge management strategies to better characterize our research investments and impacts

To demonstrate our research portfolio’s value and attainment of Goals we must
3. Develop or adopt methods to show how CDC research leads to improved health impact
4. Promote CDC research activities and impacts through publications, presentations and service to other offices and partners

*$, staff, technology, equipment→public health interventions
Program Activity Highlights

Strategic Priority 1. Strengthen data systems used to analyze research investments

- Provide guidance and technical assistance to CDC Health Impact Planning Initiative and its new agency-wide portfolio database, HealthImpact.Net
- Work with other CDC offices to improve quality and utility of data in centralized systems used by staff across the agency
Program Activity Highlights

Strategic Priority 2. Develop and apply knowledge management strategies to better characterize our research investments and impacts

- Improve search strategies to retrieve relevant knowledge (Pepper et al.)
- Increase access to public health indexing vocabulary
- Explore knowledge management tools to better classify portfolio
Program Activity Highlights (cont’d)

Strategic Priority 3. Develop or adopt methods to show how CDC research leads to improved health impact

- Conduct literature review on health research evaluation methods (Wang et al.)
- Improve an established economic model (Payback) for measuring net research benefits (Woollery et al.)
- Do trend analysis of # of research papers using data from CDC surveillance system (BRFSS)
- Analyze contributions of CDC research to development of a public health recommendations (Araujo et al.)
Program Activity Highlights (cont’d)

Strategic Priority 4. Promote CDC research activities and impacts through publications, presentations

- CDC Research Profile, Fiscal Year 2005
- Numerous presentations and posters at scientific meetings on research evaluation and health impact
- Planned journal articles from completed work
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Scope of Public Health Articles For Literature Review

MeSH Terms

- Clinical Trials: 96425
- Case-Control Studies: 259733
- Cohort Studies: 407913
- Cross-Sectional Studies: 57201
- Intervention Studies: 3117
- Diffusion of Information: 6014
- Program Evaluation: 26310
- Health Promotion: 21223
- Health Education: 52249

Program Activity Highlights (cont’d)

Strategic Priority 4. Promote CDC research activities and impacts through service to other offices and partners

- Majority of service to date provided to other CDC offices
- Service to external partners will be a focus of future efforts
New Program Directions

- Program strategic directions and activities were reviewed by CDC panel held June 20, 2007
- Increase emphasis on public health impact of research
- Modify annual “Research Profile”
  - Highlight recent CDC research and science accomplishments and impact, with less emphasis on portfolio statistics
  - Include profiles of prominent CDC researchers
  - Useful for promoting CDC research
  - Complement formal research evaluation activities
  - Diverse target audience: Public, policy makers, media, external partners and CDC staff
New Directions (cont’d)

- Increase program visibility within and outside of CDC
- Increase technical assistance to CDC National Centers, Institute and Offices in evaluation of their own research portfolios
- Provide technical assistance to external partners as resources permit
- Continue agency-wide research evaluation with greater consultation of internal and external stakeholders
- Leverage resources more effectively, e.g., consult on data quality issues to other parts of CDC who have primary responsibility for these data systems
Research portfolio assessment is essential to achieving organizational excellence, measuring health impact, and attaining CDC’s Health Protection Goals

Being integrated with internal and external stakeholders key to success

Thank you!
Contact Information

Robin M. Wagner, PhD, MS
Associate Director for Research Planning and Evaluation
Phone: (404) 639 – 4898
E-mail: RWagner@cdc.gov

Jerald P. O’Hara, BA
Team Member, Strategy and Evaluation Team
Phone: (404) 639 – 4856
E-mail: JOHara@cdc.gov

Office of Public Health Research
Office of the Chief Science Officer
Office of the Director
Centers for Disease Control and Prevention

Address: 1600 Clifton Road, NE
Mail Stop D-72
Atlanta, GA 30333