Public Health System Research: Building Evidence for the Future

PHC 6102
Principles of Health Policy and Management
Objectives

• Identify the main components and issues of the development, organization and delivery of health services and public health systems in the U.S.

• Apply concepts of … “system thinking” to organizations and organizational problems in public health and health services
  – Role of Partnerships
Evidence for the Future

• Americans spend more on health services than any other nation but have higher mortality and morbidity than many other industrialized countries

• Terrorism and emerging infectious diseases have brought attention to gaps and inadequacies in the basic public health infrastructure

• Substantial evidence indicating wide variations in availability and quality of public health services across communities

Role of Research in Public Health Improvement

• Strengthening the nation’s public health systems requires information to organize, finance, and deliver public health services to improve population health.

• The academic and research communities have responded by applying the concepts and methods of health services research to the study of public health practice.
What is Health Services Research?

- “Health services research is the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations.”

(Academy for Health Services Research & Health Policy, 2000)
Role of Research in Public Health Improvement Cont.

• Public health systems research has emerged as a specialized branch of health services research (HSR) focusing on operation and impact of public health systems
  – HSR has traditionally focused on the organization, financing, and delivery of medical care

• Public health systems research is a field of inquiry that examines the organization, financing, and delivery of public health services within communities, and the impact of these activities on population health

The Role of Research in Public Health Improvement Cont.

- Some studies examine public health systems in their entirety.
- Other focus on specific components within these systems such as:
  - local health departments, community-based initiatives, community-based initiatives, and linkages between medical care and public health providers.
- Much of the health services research conducted to date has focused on the organization, financing, and delivery of medical care.
Intervention Research vs. Systems Research

• Much of research done in public health settings can be classified as *intervention research*.

• These studies focus on testing efficacy of specific public health interventions in improving health-related outcomes
  – studies of health education programs designed to reduce rates of tobacco use among youth
  – studies of exercise programs designed to increase proportion of adults engaged in regular physical activity
Intervention Research vs. Systems Research Cont.

• *Public health systems research* focuses on identifying ways of implementing and sustaining public health interventions within real-world public health settings.

• Type of research seeks to identify organizational, financial, technical, & human resources needed to operate public health interventions successfully and efficiently.
## Comparison of Intervention Research & Systems Research in Public Health (PH)

<table>
<thead>
<tr>
<th>Intervention Research</th>
<th>Systems Research</th>
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<tbody>
<tr>
<td>Goal is to determine whether a specific public health intervention improves outcomes of interest</td>
<td>Goal is to identify how best to implement and maintain effective PH interventions in real-world PH settings</td>
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<tr>
<td>Uses experimental research designs and controlled trials</td>
<td>Uses observational research designs and participatory research approaches</td>
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<tr>
<td>Measures of interest typically reflect health, behavioral, and/or economic endpoints</td>
<td>Measures of interest often reflect elements of PH system performance such as service availability, accessibility, quality, efficiency, and/or equity</td>
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<tr>
<td>Comparisons are made between groups that are exposed or not exposed to the intervention</td>
<td>Comparisons are made across different PH settings defined by characteristics such as organizational, financial, human, and technical resources</td>
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Intervention Research vs. Systems Research Cont.

- Systems research often must rely on observational research designs that collect data during the normal course of operations in public health settings.
  - Randomly assigning communities to different types of public health systems in order to compare the outcomes is not feasible.

- Systems researchers usually compare outcomes observed in different PH settings and/or across different time periods, using advanced statistical methods to control for factors that may confound the analysis.
What Can Be Learned From Public Health Systems Research?

• Descriptive studies on the current organization and operation of public health systems

• The scope and scale of public health services needed within communities

• How organizational and financial characteristics affect the effectiveness and efficiency of public health systems

• How public health system performance affects community health
Research Opportunities & Priorities

• The Institute of Medicine (IOM) report *The Future of the Public’s Health in the 21st Century (2002)* identifies a number of important roles that the research community can play in strengthening public health.
  – Developing accountability and accreditation systems for public health
  – Monitoring and strengthening the competency of the public health workforce
  – Strengthening governmental public health infrastructure and partnerships with other sectors
  – Making evidence the foundation of decision making in public health.
Keys to Building Capacity for Public Health Systems Research

• Research-quality data resources to support system-level research
  – lack of current & longitudinal data on basic characteristics of the nation’s public health infrastructure

• Research-practice partnerships
  – PH systems research is a practice-based field of inquiry that requires strong partnerships between researchers and PH practitioners to be successful

• Methodological advancements
  – Challenges of defining PH systems and measuring what they do are daunting given enormous diversity that exists in the organization and delivery of PH services
Research and the Future of Public Health Systems

• Public health professionals are far behind their counterparts in the medical profession in having a base of reliable and relevant research on which to base their decisions.

• A fundamental question concerning the public health system of the future involves its capacity to achieve continued gains in population health:
  – Can the earlier public health successes in sanitation and immunization be reshaped so as to reduce the behavioral risks now responsible for the bulk of preventable mortality and morbidity?
Focus on the “System”

• More than just the public health agency

• “Public health system”
  – All public, private, & voluntary entities that contribute to public health in a given area
  – A network of entities with differing roles, relationships, and interactions
  – All entities contribute to the health and well-being of the community.
Partnerships: A Functional Local Health Department

- Develops partnerships with public and private healthcare providers, institutions, community-based organizations, and other government agencies
  - e.g., housing authority, criminal justice, education

- Engaged in services that affect health to collectively identify, alleviate, and act on the sources of public health problems
Florida Immunization Taskforce

• Immunization rate for 2-yr olds was 72% in 1995
• Task Force of public health stakeholders formed
• Components of the task force plan implemented successfully included:
  – Local immunization registry for vaccines provided in the public sector.
  – Immunization assessments in private providers’ offices
  – Workplace immunizations.
  – Educational conferences for providers
  – Development of joint vaccine statements to parents distributed through Managed care organizations mail outs
Public Health Partnerships: Strategic Orientation (“strategic alliance”)

1. Opportunistic partnership
   – Limited duration
   – Restricted focus
   – Pursuant to partners’ interest

2. Resource dependency partnership
   – Pursuant to partners’ interest
   – Partners share costs of product or services

3. Stakeholder model
   – Partners pursue a shared mission or set of interests through collective action
Public Health Partnerships: Functional Orientation

1. Service Delivery
   – Joint referral arrangements designed to enhance service accessibility and service coordination at community level

2. Planning and policy development
   – Joint strategic planning and priority setting
   – Adopting mutually developed service delivery standards, guidelines, and policies;
   – Formulating PH policies and lobbying for their adoption by local, state, and federal legislative bodies
Public Health Partnerships: Functional Orientation Cont.

3. Surveillance and assessment
   – Collective efforts to identify health risks & diseases in community
   – Assessing performance of organizations & interventions in addressing community health needs

4. Outreach and education
   – Educating community residents and healthcare
   – Disseminating information on beneficial health behaviors and clinical practices
   – Providing outreach to encourage participation in health programs and services
Public Health Partnerships: Structural Orientation

1. Informal collaboration
   – Mutual expectations and patterns of behavior

2. Contractual agreements
   – Specify organizational roles and performance expectations within multi-institutional ventures
   – Create a legal mechanism for enforcing expectations

3. Shared governance
   – Formalizes decision making & implementation collectively; Adds flexibility to the partnership structure

4. Shared Ownership
Integration of Partnerships in Structural Orientation

Showing increased integration

1. Shared ownership
2. Shared governance
3. Contractual agreements
4. Informal collaboration
Systems Model for Partnerships

**INPUTS**
- Staff (number, type)
- Funds dedicated to the partnership functioning
- Leadership and expertise
- Health dept. capabilities
- Facilities
- Other resources

**ACTIVITIES**
- Recruit members
- Facilitate meetings
- Develop mission
- Establish leadership
- Identify facilitator
- Identify sub-committees or task groups

**OUTPUTS**
- Formal agreement(s)
- Number of meetings
- Number of active committees or task groups
- Percent of members attending meetings
- Number of specific tasks accomplished
Life Cycle of Public Health Partnerships

**FIGURE 3-9** The Life Cycle of Public Health Partnerships

Questions

• What is the role of research in public health improvements?
• How do the partnerships in public health differ?
• What are the differences between intervention and system research?
• What are keys to building capacity for public health systems research?
• Describe the life cycle of public health partnerships.