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Designing a Successful Practice-Based Research Network in Public Health: Key Concepts

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DESIGNING A SUCCESSFUL PRACTICE-BASED RESEARCH NETWORK IN PUBLIC HEALTH:

KEY CONCEPTS

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Successful public health practice-based research networks (PBRNs) will require organizational, financial, and intellectual resources that allow practitioners and researchers to mount relevant studies in real-world public health settings. This brief outlines characteristics likely to be important to the success of public health PBRNs, based on the experience of PBRNs in other practice settings.

Geographic Scope

Public health PBRNs may find it beneficial to organize around members that serve a common geographic area such as a single state or collection of neighboring states. Along with the benefits of proximity, this regional focus allows for some degree of commonality in the geographic, cultural, demographic, economic, political, and/or environmental conditions facing network members and the communities they serve—thereby facilitating decision-making on research priorities.[1,2] Networks may choose to span two or more states where feasible, in order to allow for some within-network variation in state organizational and policy context, thereby increasing opportunities for comparative research and natural experiments on policy change. In some cases, networks may choose to sacrifice geographic proximity in order to encompass a broad cross-section of practice settings or to reach a homogenous group of settings defined by other attributes such as population size, demographic composition, or organizational structure.

Membership Size and Type

A public health PBRN may include both state and local governmental public health agencies as core network members. Many of the organizational structures, financing strategies, and delivery issues surrounding public health practice are influenced by both state and local actions. Because implementation of public health practices and policies often occurs at the local level, PBRNs may require sufficient numbers of local agencies to serve as intervention and comparison sites for specific research projects. In some cases, it may be feasible to include large numbers of agencies in a single network if local agencies are organized within a larger regional or statewide system that facilitates communication and coordination across agencies.

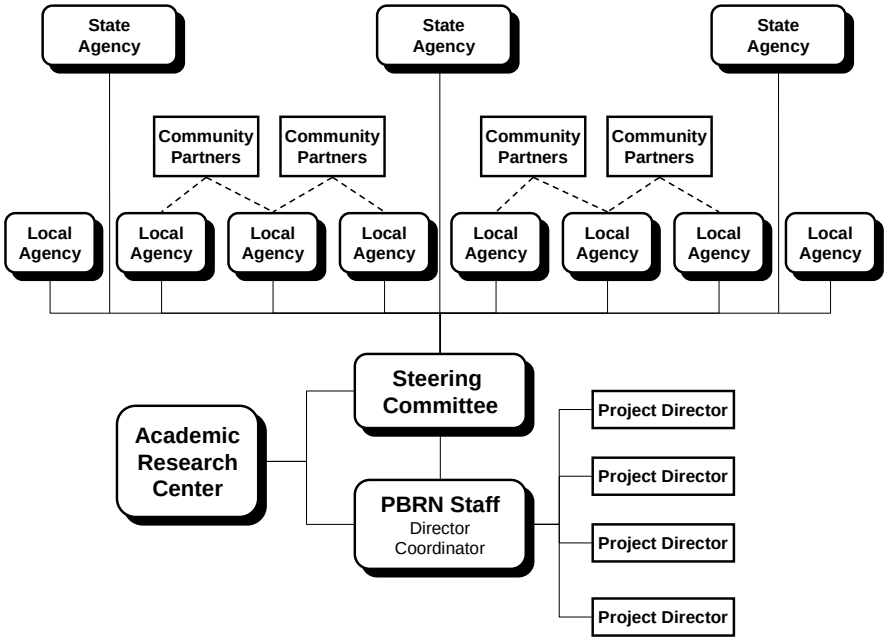
Local governmental public health agencies are likely to be the most prevalent type of member in many PBRN networks, but these networks should also include representation from ***state public health agencies*** where this is feasible and useful. Additionally, PBRN members should involve their ***community partners*** in specific research projects that address topics of relevance to these partners. All networks must include an ***academic research center or institute*** that offers methodological expertise in research design, data collection, and data analysis along with experience in applied public health research studies. All organizations included in the membership of a PBRN should have an interest in improving public health practice through participation in applied research, along with the willingness and ability to contribute time and effort toward this goal.

Organizational Structure

A PBRN should designate one of their member public health organizations to serve as the lead sponsoring organization, providing an institutional home for the network. This organization will establish and maintain formal relationships with all other organizational members. In many cases, a state or local public health agency may function as an effective lead PBRN organization, where such agencies have sufficient administrative infrastructure to oversee key project activities such as developing network partnerships, dispersing funds to partner organizations, engaging expert consultants, and organizing data collection and analysis activities. Placing public health agencies in leadership positions within PBRNs will strengthen the visibility and voice of practitioners within the research enterprise, thereby ensuring that the resulting studies are designed to address real-world questions in public health practice and policy.[3] However, PBRNs must also substantively engage research partners that can provide the methodological and analytical expertise required for designing and conducting rigorous studies. PBRNs that

designate another type of organization as the network's lead organization—such as a public health institute, university research center, or private organization—should consider carefully the rationale for this decision. If the lead organization is not a practice agency, network developers should give emphasis to other mechanisms that will ensure that practice agencies have a leading voice in establishing the network's research agenda and scope of work.[4] Regardless of the type of sponsoring institution, successful networks will need to engage experienced public health researchers, multiple public health practice agencies, and relevant community partners in the proposed research process.

Figure 1: Example Structure for a Public Health PBRN



Governance

PBRNs require a steering committee to establish strategic direction for the network, make decisions regarding research priorities, and oversee the quality and integrity of the research process.[3,4] Committee members may be appointed or elected by the organizations that comprise the network membership. Networks should include representatives from research centers, public health agencies, and community organizations on their steering committees, and should maintain diversity in membership with respect to professional, organizational, and personal background.

Staffing

Each public health PBRN will require a director who is responsible for day-to-day network management, including communications and outreach activities with member organizations, personnel and financial management duties, and quality assurance processes for research projects.[4] Each network will also require a network coordinator to perform an array of central operations, including maintaining data resources, coordinating the work flow of specific research projects, and developing and implementing research protocols. Individual research projects can be managed by designated project directors who maintain reporting relationships with the network director. Senior faculty and staff from member institutions can serve as project directors.

Research Liaisons

Each participating member of a public health PBRN should designate a research liaison to serve as the agency's primary point of contact for the PBRN, and to facilitate the agency's active involvement in research activities.[3,4] Each PBRN director and coordinator should hold regular conference calls will agency liaisons and research project directors to update members on ongoing research progress, discuss problems and potential solutions in research operations, identify new research ideas, and review potential funding opportunities.

Financial Resources

Public health PBRNs will require start-up funds to cover the costs of core staff and materials needed for initial research development activities.[4] Successful networks will leverage these start-up funds by using their initial research activities to generate preliminary data and findings that will lead to competitive applications for additional extramural funding for larger research projects. Funding opportunities for PBRN-sponsored research projects exist in multiple sources, including the RWJF-supported research programs, federal research programs at CDC and NIH, state government agencies, and other foundation and nonprofit grant-makers.

Information Technology and Data Resources

PBRNs will require processes for collecting and exchanging data among network members for use in research studies.[4,5] Each network should inventory the range of available data sources that could be used in collaborative research, establish agreements for data sharing and use, and ensure that all research staff have adequate training in data security procedures. Existing data sources to be used in PBRN research may include vital records systems, disease and risk surveillance systems and registries, and data from administrative records.

Communication and Decision-Making Processes

Public health PBRNs should establish multiple communication mechanisms that allow public health agencies and researchers to exchange information about research ideas, funding opportunities, interpretation of findings, and implications for practice.[3,4] These mechanisms may include a dedicated website, print and electronic newsletters, an electronic listserv, monthly conference calls, and regular meetings and conference calls.

Research Interests

Each PBRN should identify a small set of priority research interests or topic areas that will provide focus for the network's initial research activities. The topic areas should reflect issues of high importance and relevance for the field of public health practice, and should be responsive to the interests and information needs of the participating practice agencies.[5] The research focus areas should also be responsive to existing research priorities developed within the field of public health systems and services research, to ensure that the network helps to advance this larger field of inquiry.[6,7] Examples of possible priority areas in the field of public health services and systems research include:

- Public health workforce issues, such as the supply and distribution of workers, staffing models used within agencies, approaches to workforce training and competency assessment, recruitment and retention strategies, and leadership development and practice issues;[8,9]

- Issues in public health financing and economics, including agency spending patterns, resource allocation models, funding formulae and mechanisms, efficiency measures, and the cost-effectiveness and economic impact of public health approaches;[10]
- Organizational and governance issues, including inter-organizational and intergovernmental structures, governance models, regionalization strategies, public-private partnerships, and functional coordination and consolidation models;[11]
- Public health delivery and practice issues, including economies of scale and scope in the delivery of public health activities, quality measurement and improvement approaches, performance assessment and accreditation approaches, adoption of and adherence to evidence-based public health interventions, and disparities in populations served by effective public health activities;[11,12] and
- Public health law and policy issues, including the distribution of legal and regulatory authority, enforcement capabilities, processes for policy development, and health and economic impact of laws and policies.

Study Designs

PBRNs will help to build evidence for practice improvement by conducting descriptive, comparative and evaluative studies of current practices in real-world public health settings.[12] Once established, PBRNs can be positioned to support a variety of different types of studies, including:

- Comparative case studies designed to identify problems and/or innovations in how public health activities are currently implemented in different practice settings.
- Large-scale observational studies designed to evaluate practice variation across local and/or state public health settings in order to identify opportunities for reducing unnecessary, inefficient, or harmful variation.
- Intervention studies and community trials designed to test the effectiveness and cost-effectiveness of new public health programs. Such studies may also test the effectiveness of quality improvement initiatives directed at existing programs.
- Policy evaluations and natural experiments designed to monitor the effects of key policy and administrative changes made at local and/or state levels, such as new or modified public health laws and regulations, shifts in program funding or staffing levels, and organizational restructuring such as service consolidation, regionalization or decentralization.

Technical Assistance

Newly forming public health PBRNs are likely to require technical assistance and support on a variety of topics, including network development and recruitment, organizational structure and governance, research priority-setting, information technology for data exchange, research design and analysis methodologies, and approaches for translation and application of findings. Networks should generate an inventory of their technical assistance needs and resources early in their development in order to determine how best to address these needs.

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