FINAL REPORT

Establishing and Maintaining Public Health Infrastructure in Rural Communities

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Executive Summary

Background

The Institute of Medicine in their seminal 1988 report, The Future of Public Health, stated that, "no citizen from any community, no matter how small or remote, should be without identifiable and realistic access to the benefits of public health protection, which is possible only through a local component of the public health delivery system."[1] Yet rural communities continue to experience gaps and shortages in their public health systems.[2] Despite well-documented rural health disparities such as higher rates of chronic disease, obesity, and smoking, not all rural communities have a governmental local public health presence.[3, 4, 5, 6] Where local public health units do exist, rural communities may still face limited access to public health services due to constraints in funding, staffing and technological capacities.[7] Additionally, rural governmental public health agencies face unique challenges such as heavy reliance on inflexible federal funding streams, telecommunications challenges, and insufficient population sizes for robust disease surveillance.[8]

Given the unique health needs of rural residents and the challenges faced in assuring access to public health services in rural communities, the NORC Walsh Center for Rural Health Analysis conducted a study, funded by the National Rural Health Association (NRHA), to explore recent efforts to establish and maintain rural public health infrastructure and services in rural jurisdictions. In this study we present findings from a series of interviews with state health department employees and key local stakeholders representing or providing public health services to communities with limited services, to describe their perceptions of the barriers to establishing public health infrastructure. We then describe Maine's experience developing and implementing a state-wide local public health system, which was recently

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[1] *The Future of Public Health*. Institute of Medicine (IOM), National Academies Press; 1988.

[2] For this report a 'public health system' refers to the combined governmental and non-governmental stakeholders, policies, workforce, funding, and information systems that support the health of a population.

[3] *National Healthcare Disparities Report 2009*. Rockville, MD: Agency for Healthcare Research and Quality, 2009.

[4] J. Elizabeth Jackson, Mark P Doescher, and Anthony F Jerant. "A National Study of Obesity Prevalence and Trends by Type of Rural County." *The Journal of Rural Health.* 2005;21(2):140–148.

[5] *Health, United States, 2001: With Urban and Rural Health Chartbook*. Hyattsville, MD: U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2001.

[6] *Bridging the Health Divide: The Rural Public Health Research Agenda.* Bradford, PA: Center for Rural Health Practice, University of Pittsburgh at Bradford; 2004.

[7] *Ibid.*

[8] *Ibid.*

codified in Maine public health statutes. This case study focuses on the opportunities and challenges experienced in developing local public health infrastructure and factors that facilitated and impeded its establishment.

Methods

We utilized a mixed-method qualitative approach in conducting this study, consisting of: semi-structured interviews with state and local stakeholders in states that had either reported areas that were unserved by local public health or were known to have had recent experience in infrastructure development; a site visit to a state that had previously reported areas unserved by local public health, which included focus groups with state and local stakeholders; and a vetting session to review findings and recommendations with local public health officials.

Interviews with state and local stakeholders were conducted by telephone, and focused on access to public health services, particularly the availability of public health services and providers in their states/communities, as well as the perceived quality of public health resources available to residents, and successes and challenges in establishing and maintaining public health infrastructure. Site visit focus groups further explored challenges associated with implementing Maine's new public health infrastructure; strategies and recommendations for overcoming barriers to establishing and maintaining infrastructure; and strategies and recommendations for building resident, stakeholder, and policy maker support. Finally, the vetting session was held in conjunction with the 2011 annual meeting of the National Association of County and City Health Officials (NACCHO), and focused on ensuring that findings resonated with a broader, national audience, as well as developing recommendations that could stimulate and sustain infrastructure development in rural jurisdictions.

Summary of Findings

Availability of Public Health Services. Stakeholders in identified states and communities reported access to some basic public health services provided by community organizations, neighboring or state health departments, and others in lieu of a dedicated department of public health. Very often, community health assessments and health improvement planning activities were not performed in these communities and participants reported that this resulted in a decreased understanding of their community's health needs and the services that could be developed to address those needs. Finally, participants reported limited access to a governmental public health workforce, mostly through regional offices. They reported that this workforce was small and geographically scattered with few specialized public health professionals (e.g., epidemiologists). The governmental workforce was supplemented by a diverse but uncoordinated

set of non-governmental local public health partners such as community organizations and coalitions, and local providers, which presented unique assets and challenges. Partners often had good reach into rural communities but frequently did not collaborate, and did not hold explicit public health mandates from the state.

Establishing Public Health Infrastructure. Communities in three states had recently undergone efforts to establish governmental public health infrastructure in their jurisdictions. In two instances, there was an attempt to establish a local department of public health through local legislation and funding (grassroots approach). In the third case, there was a state-directed initiative to develop a state-wide infrastructure that included structures to provide locally based public health services (state-driven approach). Only the latter has been successfully implemented to date. Participants felt that the state-driven approach had the advantage of presenting fewer implementation challenges. The resulting structure, however, relied heavily on the state as its source of funding, which created vulnerabilities related to changing state administrations and priorities. Conversely, while grassroots approaches were harder to initiate due to the need for strong local support, they may have a relative advantage of being less vulnerable to shifting state priorities.

While participants recognized the importance of a strong governmental component as central to an effective public health system, they noted that multi-sector coordination was critical given that public health activities often require buy-in, support, and implementation among diverse community partners. Many also felt that without specific coordination processes – often overseen by governmental public health agencies – this level of collaboration was less likely to occur.

Challenges to Infrastructure Development. Funding, jurisdiction size, and lack of understanding of public health were cited as the main challenges in developing local public health infrastructure. Respondents noted that public health is frequently confused with governmental social programs, which often have negative connotations. Further, inasmuch as public health is seen as a governmental enterprise, residents expressed concern related to the expansion of governmental services and the related impact of infrastructure initiatives on taxes. When infrastructure initiatives were advanced, participants reported challenges in establishing jurisdictions of an appropriate size, and described having to strike a balance between ensuring an area small enough to effectively reach residents in the jurisdiction, yet large enough to have sufficient resources to actually provide these services. Finally, identifying funding sources to support the development of public health infrastructure, whether through local tax levies or state-directed funds, was also seen as a key barrier.

Recommendations

Recommendations were developed based on the input of study participants and local health officials attending the 2011 annual meeting of the National Association of County and City Health Officials.

Recommendations for Establishing Public Health Infrastructure

- Develop public health infrastructure incrementally to allow for "small wins" and to build a foundation for future infrastructure investments.
- Leverage the strengths of both governmental and nongovernmental public health stakeholders to generate resources and buy-in.
- Leverage existing public health system partners.
- Consider regional approaches as possible strategies for developing rural public health infrastructure in order to leverage pooled community resources and ensure a sufficient population base to justify the overall investment.
- Utilize both "top-down" and "bottom-up" approaches when establishing local public health capacities to capitalize on the relative strengths of each.

Recommendations for Generating Support for Local Public Health Infrastructure

- Directly engage legislators and solicit support from influential community partners such as community hospitals.
- Focus on workforce education to ensure a highly competent workforce that can serve as ambassadors for public health.
- Select issues and topics that will resonate with key stakeholders and policy makers.
- Emphasize cost savings that result from public health investments.
- Conduct robust community health assessments and health improvement planning activities to ensure the relevance of public health initiatives, and to justify public health investments.
- Develop consistent and compelling messages to explain what public health does and why it deserves support in an era of diminishing resources, and employ trusted community partners to help carry those messages.

Chapter 1: Introduction

Rural health disparities have been well documented. Rural areas have higher rates of smoking, chronic disease, and obesity, and have the highest death rates for unintentional injuries.[9, 10, 11] Rural residents also tend to have the highest rates of uninsurance,[12] report that they experience conditions such as joint pain, lower back and neck pain, and vision and hearing problems at higher rates than urban residents, and report poorer overall health status than urban residents.[13]

To address these and other health issues, rural public health provides essential services to its communities including disease surveillance, immunizations, school clinics, tuberculosis treatment, maternal and child health services, and home healthcare.[14] Inasmuch as rural public health agencies tend to have fewer available resources, including funding, and staffing and technological capacities, rural residents are likely to have more limited access to these public health services. Further, many rural communities may not have the benefits of a local governmental public health presence, further diminishing their access to public health services.

Where there is rural local public health infrastructure, the public health workforce tends to be small.[15, 16] Further, this workforce tends to have smaller percentages of all public health occupational categories except public health nurses, as compared to the urban public health workforce.[17, 18] This suggests that certain essential public health skill sets may be in short supply. Finally, rural public health professionals

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[9] *National Healthcare Disparities Report 2009.* Rockville, MD: Agency for Healthcare Research and Quality, 2009.

[10] J. Elizabeth Jackson, Mark P Doescher, and Anthony F Jerant. "A National Study of Obesity Prevalence and Trends by Type of Rural County." *The Journal of Rural Health.* 2005;21(2):140–148.

[11] *Health, United States, 2001: With Urban and Rural Health Chartbook.* Hyattsville, MD: U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2001.

[12] *Ibid.*

[13] *The 2008 Report to the Secretary: Rural Health and Human Services Issues.* Rockville, MD: National Advisory Committee on Rural Health and Human Services, 2008.

[14] *2008 National Profile of Local Health Departments.* Washington, DC: National Association of County & City Health Officials; 2009.

[15] Anjum Hajat, Karen Stewart, and Kathy L Hayes. "The Local Public Health Workforce in Rural Communities." *Journal of Public Health Management and Practice.* 2003;9(6):481-488.

[16] Roger A. Rosenblatt, Susan Casey, and Mary Richardson. "Rural–Urban Differences in the Public Health Workforce: Local Health Departments in 3 Rural Western States." *American Journal of Public Health.* 2002;92(7):1102–1105.

[17] *Ibid.*

[18] *Ibid.*, Hajat

tend to have little formal population or public health training,[19] and also tend to lack training in grant writing, which limits the ability of rural health departments to secure funding.[20]

Finding adequate funding is an ongoing challenge for rural public health agencies and providers. Because rural populations tend to be smaller and have lower household incomes than urban populations, rural areas typically have more limited tax bases than their urban counterparts and therefore fewer local resources to supplement state and federal funding.[21] This, in turn, creates a heavy reliance on federal funds (including state flow-through funds) that are most often tied to specific program activities. As a result, rural public health agencies have less flexibility to address locally identified health concerns as compared to their non-rural counterparts.[22]

In addition to staffing and funding challenges, there are also practical challenges to providing public health services in areas with small population numbers. For example, small population sizes pose a challenge to disease surveillance. In smaller communities there may simply be insufficient numbers of cases to identify emerging health concerns.[23] Additionally, there are challenges related to inconsistent access to telecommunications technology. The disparity in high speed internet access between rural and urban areas continues to be noted by academicians and, recently, President Obama in his 2011 State of the Union Address.[24] This, in turn, can impede access to information, surveillance, data sharing, and a host of other processes essential to public health.

Recently, a further challenge has presented itself to rural and urban public health systems alike in the form of a difficult economy. Economists widely believe the current recession to be the greatest economic downturn since the Great Depression.[25] As a result, state and local budgets have been slashed. Rural communities, already receiving fewer public health resources, may be particularly impacted by these further reductions. Finally, the current political climate appears to be shifting away from supporting programs perceived to be governmental in nature.

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[19] Roger A. Rosenblatt, Susan Casey, and Mary Richardson. "Rural–Urban Differences in the Public Health Workforce: Local Health Departments in 3 Rural Western States." *American Journal of Public Health*. 2002;92(7):1102–1105.

[20] Michael Meit, Lorraine Ettaro, Benjamin Hamlin, et al. "Rural Public Health Financing: Implications for Community Health Promotion Initiatives." *Journal of Public Health Management and Practice*. 2009;15(3):210-215.

[21] *Ibid.*

[22] *Ibid.*

[23] *Bridging the Health Divide: The Rural Public Health Research Agenda.* Bradford, PA: Center for Rural Health Practice, University of Pittsburgh at Bradford, 2004.

[24] Transcript: Obama's State of the Union Address. January 25, 2011. NPR. <http://www.npr.org/2011/01/26/133224933/transcript-obamas-state-of-union-address> (accessed August 23, 2011).

[25] Elizabeth McNihol, Phil Oliff, Nicholas Johnson. "States Continue to Feel Recession's Impact." *Recession and Recovery*. Center on Budget and Policy Priorities. <http://www.cbpp.org/cms/index.cfm?fa=view&id=711> (accessed January 23, 2012).

Given the unique health needs of rural residents and the challenges faced in assuring access to public health services in rural communities, the NORC Walsh Center for Rural Health Analysis conducted a study, funded by the National Rural Health Association (NRHA), to explore recent efforts to establish and maintain rural public health infrastructure and services in rural jurisdictions. In this study we present findings from a series of interviews with state health department employees and key local stakeholders representing or providing public health services to communities across multiple states, as well as focus groups conducted with local and state public health stakeholders in Maine to describe their perceptions of the barriers to establishing public health infrastructure. All of the communities represented either currently had limited services or had recently undertaken public health infrastructure development initiatives. We highlight the experience of Maine in developing and implementing a state-wide local public health system, which was recently codified in Maine public health statutes in a case study. This case study focuses on the opportunities and challenges experienced in developing and factors that facilitated and impeded its establishment. This report closes with recommendations on approaches to establishing and sustaining public health infrastructure and services.

Chapter 2: Methodology

We utilized a mixed-method qualitative approach in conducting this study, consisting of semi-structured interviews with state and local stakeholders in states that had previously reported areas that were unserved by local public health and states known to have had recent experience in infrastructure development, a site visit with state and local focus groups in a state that had likewise reported unserved areas, and a vetting session to review findings and recommendations with local public health officials. Semi-structured telephone and focus group discussion guides were developed to explore perceptions of public health underservice and efforts to build and sustain public health infrastructure.

Selection of States and Key Informants

States were selected if they indicated that they had communities in their jurisdiction that were not served by a local public health entity, in their response to a 2009 survey conducted by NORC and the Association of State and Territorial Health Officials (ASTHO). The NORC/ASTHO survey was conducted as part of a study designed to develop a consistent method of classifying state public health systems as centralized, decentralized, shared, or mixed. As part of this survey, the NORC/ASTHO team asked what percentage of the state population was not served by a local public health unit. For the purposes of the study, a local public health unit was defined as an administrative or service unit of local or state government concerned with health, and carrying some responsibility for the health of a jurisdiction smaller than the state. Out of 50 states, six answered that between 0.5% and 30% of their state populations were not covered by any such entity. Four out of those six states are included in this study. Of the two remaining states, one reported that all areas were covered by local public health during the follow up conversations, and the other did not respond to our queries. One additional state was also included in this study as it was known to have had recent experience in local public health infrastructure development.

For those states that participated in the ASTHO survey, initial contact was made with the individual completing that survey. Where the original respondent was not available, we contacted the state official serving as ASTHO's current point of contact. Local key informants were identified by requesting that state key informants identify public health stakeholders or other community leaders familiar with their communities' public health systems and health status. For the additional state with known recent experience in developing infrastructure, key officials involved in the infrastructure effort were identified and contacted.

Semi-Structured Interviews

Semi-structured telephone interviews were conducted with state and local public health stakeholders in identified states to describe the experiences of communities not served by local public health infrastructure. Questions focused on the following topics:

- <u>Access to public health services</u>. We asked participants to describe the availability of public health services and providers in their states/communities, as well as the perceived quality of public health resources available to residents.
- <u>Successes and challenges in establishing and maintaining public health infrastructure</u>. Participants were asked to describe the successes and challenges they had encountered in establishing and maintaining public health infrastructure.

Site Visit and Focus Groups

The NORC team conducted a site visit to Maine, one of the participating states that had achieved success in building its public health infrastructure at the local level. During the site visit, three focus groups were held to explore issues in greater depth. Two focus groups were held with community stakeholders, and one was held with state officials and stakeholders. Topics included:

- Challenges of implementing the new public health infrastructure;
- Strategies and recommendations for overcoming barriers to establishing and maintaining infrastructure; and
- Strategies and recommendations for building resident, stakeholder, and policy maker support.

Vetting Session

Finally, a vetting session was held at the 2011 annual meeting of the National Association of County and City Health Officials (NACCHO), to review findings from the interviews and focus groups. During this session, key findings were discussed with participants, who were invited to offer their recommendations and interpretations based on their on-the-ground experience. In addition, findings were discussed within the context of how recommendations may be developed that could apply not only to communities seeking to establish public health infrastructure, but also to those that may be struggling to maintain existing infrastructure.

Chapter 3: Findings

Availability of Public Health Services

The availability of public health services and perceptions of public health underservice differed by community due to the variations in state and local governance structures, governmental public health presence at a local level, availability and composition of public health systems partners, and state and community understanding of public health functions and services. Discussions tended to revolve around three general themes: access to specific public health services; a lack of community health assessment and health improvement planning activities; and workforce challenges.

Access to Public Health Services. Interview participants reported that, in lieu of local governmental public health agencies, some public health services were provided by mix of other governmental agencies and non-governmental organizations. These agencies and organizations included community non-profit organizations, hospitals and other health care providers, the state health department, and local public health departments in neighboring communities. In some instances these service providers were under contract with the state or local government to provide services for a particular community. Participants did not feel, however, that these services were sufficient or sufficiently accessible to residents. Among reported services that were lacking, respondents highlighted environmental inspections, restaurant inspections, and emergency management. Many participants further reported that even when services were provided, access remained a challenge as providers were often located far from the communities they served. In fact, it was reported that even residents in communities that were not perceived to be underserved experienced challenges in accessing public health services. Participants felt this was particularly common in rural areas.

Community Health Assessments and Health Improvement Planning. Two activities reported as missing in multiple communities perceived to be underserved were community health assessments and health improvement planning. Where health assessments did occur, they tended to be program specific and/or linked to grant requirements. Among the stakeholders we interviewed, community health assessments and health improvement planning were activities were required by the state health department.

In one focus group community that had recently completed its first community health assessment and health improvement planning initiative (as part of the state's infrastructure investment) participants

reported that going through these processes and analyzing their community's data increased their understanding of their community's health needs and services that could be developed to address those needs. One participant put it the following way, "The MAPP (Mobilizing for Action through Planning and Partnerships) process is helping us look at where the community needs really are and where we should be going forward." Participants also felt that submitting the results of their community health assessments to the state helped ensure that their geographic service area's needs were visible to the state and reflected in the state health improvement plan.

Workforce. Interview and focus group participants described a diverse workforce providing public health services, consisting of a limited governmental public health presence supplemented by public health systems partners. Though many participants reported that both the governmental and nongovernmental components of the workforce are small and geographically scattered, governmental public health was especially so and included few specialized public health professionals such as epidemiologists and sanitarians. Additionally, participants reported that existing governmental and nongovernmental workers tend to have limited public health training. Participants felt that the current situation stemmed in part from their having small populations that may not be able to support a more robust workforce. Other reported workforce support challenges included a lack of state-level training requirements – which would help enhance local public health capacities – and limited access to schools of public health.

Establishing Public Health Infrastructure

In this section we describe respondents' experiences in trying to establish public health infrastructure in underserved communities. Approaches that were tried include development of governmental infrastructure (i.e., local health departments) and development of partner-based public health systems with limited direct governmental activity. In one state these activities were pursued through state-directed activities (state-driven approach) and in the other two states activities were pursued through local referenda to establish public health services (grassroots approach). Challenges and opportunities associated with these approaches are described later in this section, as are the relative advantages of each approach.

Efforts to Develop Governmental Public Health Infrastructure. Participants described three infrastructure building efforts in as many states in the past two years. All three initiatives involved establishing a local governmental public health unit; though in one instance the governmental unit was one component in a multi-sector, state-wide effort. The other two communities focused exclusively on establishing a local department of public health.

The impetus for establishing governmental public health differed between communities. In one community the initiative had been truly grass roots; residents, local academicians, and other community partners lobbied for a board of health and health department in their counties. One informant suggested that the primary driver for the infrastructure initiative was the presence of a local department of public health in a neighboring community. According to the informant, community members had observed their neighbors' access to public health services was superior to their own, particularly in emergency management during H1N1. The other communities' infrastructure efforts came about as a result of state encouragement or legislative resolve. Informants in all communities reported that assuring access to public health services was a primary motivating factor. Other reasons included poor health outcomes such as low birth weight and high smoking rates and perceptions that community partners were providing public health services in an uncoordinated and inefficient manner.

Strategies for establishing infrastructure also varied. In one state, the infrastructure initiative was directed and funded exclusively by the state, while initiatives in the other two states were established at the community level, with stakeholders seeking local policy maker and/or resident support and funding. One of the two community level initiatives consisted of residents voting on a property tax referendum to fund a public health department. In the second, while policy makers were responsible for deciding on a budget item which would have provided funding for a health department, residents, academicians, and other community organizations drove the initiative by actively engaging policy maker support. The state-driven initiative, on the other hand, required the development of a multi-sector working group to develop many components of the new local, multi-sector infrastructure.

Partner-Based (Systems-Based) Efforts. Participants in multiple states noted the importance of partner-based, multi-sector involvement in public health initiatives. They explained that partnerships with community interest groups and organizations, health care providers, and others may be beneficial for all communities--even those with established governmental public health infrastructure--because an integrated public health system could create opportunities to engage communities and improve health status. One participant also noted that many activities, particularly emergency response, require participation from individuals in multiple sectors. Furthermore, he noted that even when skill sets outside of public health were not expressly needed, having additional partners involved who could take care of logistics relieved some of the burden of an emergency response from public health. Finally, where multi-sector public health partnerships existed, participants reported that regular contact with members of different sectors providing different kinds of health services helped stakeholders understand the nature of the services being provided in their communities as well as identify service gaps.

Participants also noted the need for public health leadership to coordinate among partners in order to promote participation, facilitate communication, and define public health roles. In Maine, the state health department created public health statutes concerning partner roles and responsibilities and participation in public health activities and meetings. Participants reported that this was helpful not only in promoting multi-sector collaboration but also mutual understanding. As one participant noted, "At every [regional] meeting I come away with a deepened understanding and appreciation of some of the needs and priorities of some of the other groups and also some of the possibilities of the economies of scale." In states where roles were less defined, participants reported that sectors operated in silos and rarely interacted. However, there are some examples of engagement of public health partners at the local level, even in the absence of a governmental public health authority serving as convener. While these partnerships were less frequent, less consistent, and often did not include governmental partners, they typically revolved around key issues identified at the community-level.

State versus Local Drivers of Change. Participants described relative advantages and disadvantages of implementing and sustaining state-driven versus grassroots efforts to create local public health infrastructure. Participants who had engaged in grassroots initiatives described the intense challenges of getting local buy in and support from policy makers and citizens. Participants reported that gaining community consensus for increased public health infrastructure was slow and difficult at best, often resulting from a lack of understanding of public health, competing local interests, and a general lack of resident and policy maker support for programs perceived to be governmental in nature. Participants noted that this last point was particularly problematic because resident and government support were needed to pass new public health referenda, budgets, and statutes supporting infrastructure. Additionally, participants felt that residents were hesitant to support an effort that threatened to raise taxes. Speaking about the experience of a community that recently tried and failed to establish a local health department, one informant commented, "I think [residents voting down the referendum to establish a tax levy to support a public health department] had everything to do with tax increases and very little to do with the services [a local public health department] could provide." In contrast, participants who had participated in state-driven efforts reported a smoother implementation process as communities were simply required to adopt the state-level initiatives, and were provided with funding to support such efforts.

At the same time, participants noted that one challenge associated with state-driven infrastructure development initiatives is generating local buy-in. Participants in communities where state-driven efforts had taken place reported that local government and resident buy-in for the new infrastructure was low, though this varied by community. The most noteworthy aspect of this limited level of buy-in was the reluctance of local governments to contribute funding to support the new infrastructure. While

participants noted that state-level leadership can require and fund the development of local capacities, there is an inherent risk that priorities can fluctuate and change when new leaders are elected. Without the concurrent local support, the state directed efforts, while easier to establish, may be less sustainable.

Challenges to Infrastructure Establishment

When asked about the challenges associated with establishing infrastructure, participants identified limited resources, difficulties in defining appropriate jurisdictional boundaries, and residents' and policy makers' understanding of and attitudes towards public health.

Funding. Participants in multiple states identified a lack of funding as the greatest challenge to establishing and expanding public health infrastructure. Participants reported that funding for public health at the state and local levels has historically been low and that multiple sectors compete with public health for federal and state funding streams. Participants also reported reduced public health funding due to the current economy. Not surprisingly, funding was considered a primary concern regardless of public health governance structure.

Additionally, participants reported that a growing reluctance among elected officials to fund governmental programs and resident concerns over higher taxes were significant barriers in funding public health activities. For example, focus group participants reported that recent state-level budget negotiations required significantly more advocacy to support retaining public health funding than in previous years. This was attributed to new gubernatorial and legislative leadership who had priorities that did not include public health, which was seen as a governmental social program.

Finally, participants also noted that rural communities and agencies tend to not have the resources of a grant writer or other staff who frequently engage in grant writing activities. This was seen as an additional barrier to securing funding to support rural public health activities and infrastructure.

Public Health Jurisdictions. Interviews and focus groups revealed that establishing local public health jurisdictions as opposed to service areas is important for ensuring access to public health services. Because jurisdictions are statutorily defined whereas service areas are determined at the contract level, jurisdiction boundaries are clearer and much less subject to change than service areas. Also, an agency is with a public health jurisdiction is more accountable for ensuring service provision than an agency with a public health service area.

However, participants also noted that establishing jurisdictions of an appropriate size was challenging in rural areas. Participants noted that, ideally, local public health jurisdictions would be sufficiently small to

ensure that all public health infrastructure components could be easily accessed by residents. At the same time, they felt that such jurisdictions were often not possible in rural areas due to limited resources and small, scattered populations. As a result, participants from multiple states reported insufficient funds and public health personnel to establish health offices in every community.

In order to establish local public health jurisdictions of sufficient size to support basic public health services, participants from multiple states reported having established larger, regional public health service areas. In addition to creating a critical mass to support public health services, participants also reported that larger jurisdictions facilitated broader participation in public health activities among nongovernmental partners such as community-based organizations and hospitals. According to one participant, "We have some district players who could not, would not, should not be at the local level because they cover a much bigger geographic area."

Despite these advantages, participants noted that regionalized structures present challenges as well, such as deciding how to distribute limited funding among communities within the region, and the potential loss of community-specific health needs information. Focus group participants described, for example, a single regionalized service area that encompassed distinct populations with different health needs that were sometimes obscured through aggregate reporting. Also, participants noted that state funding was supplied to the service area. Therefore, despite differing needs for interventions, communities were expected to share resources between them which could divert funding away from high-need populations. One participant suggested that having community health assessments for the multiple, distinct sub-populations may be helpful in addressing some of these issues.

Resident and Policy-Maker Support. The interviews and focus groups revealed a lack of understanding of public health among residents and elected officials. Participants felt that, in general, public health is confused with social services and that even some public health stakeholders fail to distinguish between the two. Participants described as a contributing factor the "relative invisibility of public health services" and that public health services were often only evident during crisis situations. One participant noted, "People take for granted that we'll always have clean water. 'I had that anyway. I have smoke-free restaurants? I had that anyway.'"

In addition to a lack of understanding, participants also described a culture of self-sufficiency among rural residents that was perceived as a barrier to their acceptance of services that are perceived to be social services. As noted previously, the overall perception of public health as a governmental enterprise also

was seen as a barrier, especially given the current political environment in which there appears to be public and elected official support for more limited governmental services.

Facilitating Factors in Establishing Public Health Infrastructure

One of the objectives of this study was to identify strategies for addressing challenges to infrastructure development and maintenance, particularly solutions relevant to rural communities. The following section describes the strategies identified largely through focus group activities highlighting Maine's experience in developing a statewide public health infrastructure (described in more detail on pages 21 and 22). Focus group participants identified the following key strategies:

- Incremental development of public health infrastructure allowed for "small wins" and built a foundation for future infrastructure investments. Initial activities in Maine to establish community coalitions were later supplemented through formalization of those coalitions and eventual creation of governmental offices to coordinate and support coalition activities. Participants explained that these capacity building efforts remain a foundation for other ambitious infrastructure initiatives that can be attempted when funding becomes available.

- Maine provided educational and training opportunities for organizations and coalitions which fulfilled public health functions—at the time, informally. Local public health coalitions and their partners received training in intervention design, as well as in grant writing. Participants felt that the grant writing training in particular had facilitated the growth of Maine's nongovernmental public health system.

- The newly established system leverages the strengths of both governmental and nongovernmental public health stakeholders. Focus group participants noted that coordination between sectors is particularly important for sustainability, allowing for the leveraging of resources and expanded opportunities to generate buy-in. Participants noted that nongovernmental, non-public health organizations have access to different funding streams and therefore provide the opportunity to bring additional funding to the public health system.

Recommendations for Generating Support for Local Public Health Infrastructure

Findings were vetted among local health officers at the 2011 annual meeting of the National Association of County and City Health Officials. From this session, a set of recommendations was developed for generating support for establishing and maintaining local public health infrastructure. Participants reinforced several strategies identified through interviews and focus groups, and suggested additional

strategies. Key recommendations included:

Directly engage legislators and government officials through educational meetings and leverage support from influential community partners such as hospitals. Match or supplement funding with community partner resources where possible to help justify governmental funding by demonstrating that a modest governmental investment yields a larger return.

- Select issues and topics that will resonate with key stakeholders and policy makers. In particular, address health issues with broad and immediate appeal, such as youth-centered efforts. These may also serve to increase resident support for community health activities.
- Select programs that result in tangible outcomes such as walking paths. Such initiatives help officials demonstrate that their investments have yielded results.
- Emphasize cost savings that result from public health investments. Opportunities to demonstrate the effectiveness of public health initiatives in improving health and reducing costs are key, especially in an era of diminishing resources.

At the same time, participants recognized that there are challenges to crafting effective public health messaging, particularly as they relate to the ongoing difficulty among public health professionals to clearly articulate the core mission and activities of public health. As one focus group participant noted, "Public health is this amoeba out there that takes on so many different things. How do you explain that to people?" To address these issues, participants recommended developing consistent messages about the mission of public health, as well as effective communication initiatives to increase the visibility of public health activities.

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Chapter 4: Recommendations

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This study explored the implications of limited availability of public health services in rural areas, barriers to establishing and maintaining public health infrastructure and services, and strategies for overcoming those barriers. Recommendations are based on findings from interviews and focus groups, as well as feedback obtained through a vetting session with local public health officials from around the country.

Recommendation 1: Infrastructure investments should leverage existing public health system partners in rural areas.

Almost all of the communities we spoke to noted a wide range of governmental and nongovernmental organizations providing public health services. Leveraging existing community partners, coordinating activities, and facilitating cooperation and collaboration across partners expanded the availability of public health services and general community-level buy-in and support for public health. At the same time, having available partners and coordinating activities across partners may be particularly challenging in rural areas due to the geographic distance and smaller populations. When successful, however, these partnerships were seen as resulting in more cost effective and efficient public health service delivery, as opposed to building a new structure to perform similar roles.

Recommendation 2: Community health assessments and health improvement planning are equally important in rural areas and should guide public health investments and activities.

Community health assessments and community health improvement plans are important activities for identifying community partners and focusing public health activities to address unique priority health concerns. Yet most communities in this study reported not conducting community health assessments and health improvement plans in the absence of governmental requirements. Participants felt that this diminished their understanding of available health care and public health services in their communities, as well as priority health issues. Given the limited availability of funding and other resources in rural communities, health assessment and health improvement planning activities were also seen as important for ensuring the most efficient use of resources. Additionally, participants felt that conducting community health assessments and health improvement plans helps assure that the community's geographic service area is appropriately included in state public health assessments, profiles, and improvement plans. Finally, given that both community health assessments and health improvement plans are among the prerequisites for national voluntary public health agency accreditation, rural areas will need to engage in these activities if they are to pursue public health agency accreditation.

Recommendation 3: Workforce training and capacity building should be conducted as a core part of infrastructure development.

Focus group participants reported that workforce training and subsequent capacity building activities were important facilitating factors in the success of Maine's infrastructure development in that they created a framework upon which future activities could be built. Furthermore, targeted training activities can directly impact the ability of a system to build capacity, as in the case of Maine's grant writing trainings. Workforce training may be all the more important in rural areas because, as participants noted, rural public health workforces tend to lack individuals with diverse skill sets that may facilitate capacity building.

Recommendation 4: Regional approaches should be considered as possible strategies for developing rural public health infrastructure.

Regional approaches may be particularly important to rural jurisdictions with limited population bases to support public health activities. Regional approaches have the potential to create a critical population mass with a sufficient tax base that can help provide justification and adequate funding for local public health. At the same time, focus group participants noted that important local differences can be muted or lost when reporting health indicators at a regional level, making it more difficult to appropriately justify and target resources. They further noted that distributing funding across larger geographic areas creates the potential for smaller communities to get "lost in the mix", and that regional approaches are often challenged by competing interests and competition among communities falling within the broader jurisdiction. Conversely, it was also noted that regional approaches may allow for competing organizations within these regions to partner more effectively by providing a "neutral space" not directly tied to competitive interests.

Recommendation 5: Public health in general, and rural public health specifically, should develop consistent and compelling messages to explain what public health does and why it deserves support in an era of diminishing resources, and employ trusted community partners to help carry those messages.

The current study occurred during a particularly difficult economic period, when public health and other governmental agencies are experiencing unprecedented cuts to staffing and services. In holding discussions about the importance of building and sustaining public health infrastructure during this time, we received much feedback about the lack of understanding and support among the public and among policy makers for public health. Participants felt that this lack of understanding of public health placed recent achievements in building infrastructure in jeopardy, and called for public health organizations to redouble their efforts to develop consistent messages that could be conveyed to explain public health

functions and their value. Two specific concerns were expressed in this regard. First, to the extent that public health is often confused with governmental social service programs, participants were concerned that many individuals carry a negative perception of public health. Second, because public health is seen as a governmental enterprise there was concern that residents may equate support for public health with increased taxes. Establishing community-level partnerships with trusted organizations, such as community hospitals, to help carry newly developed public health messages may be one strategy for increasing local support and appreciation for public health services to overcome these challenges.

Recommendation 6: Combined "state-driven" and "grassroots" approaches should be considered when establishing local public health capacities.

Participants described two different approaches to establishing and maintaining infrastructure. One was a state-driven approach where initial activities are directed by and/or funded through the state. By providing a single funding source and clear requirements, this approach has the benefit of not requiring the same degree of local resident and government investment as would be required by a referendum, and is therefore easier to implement. In contrast, the communities in this study that had tried to implement a locally driven, grassroots approach were unable to generate sufficient local support to initiate development of a local public health infrastructure. The state-driven approach had disadvantages too, in that without strong local buy-in, public health activities could quickly be curtailed when state administrations (and therefore state priorities) change. Blending the state-driven approach with a strong grassroots effort to increase local support for public health activities has the potential to apply the best of both strategies to building local public health infrastructure in underserved communities. In addition to increasing local buy-in, the grassroots approach also allows communities to leverage local partnerships to diversify funding and activities beyond state sources.

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Appendix A: The Development of Maine's Rural Public Health Infrastructure

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Maine Case Study

The state of Maine developed its current public health infrastructure over a decade long period, with the intent of expanding the availability of public health services for its—mainly rural—residents. This case study focuses on the development and implementation of the current public health system in Maine which was codified in Maine's public health statutes in 2009 and highlights the experience of one of the eight state-designed districts.

Maine is a predominantly rural state. Of its 16 counties, 10 are designated by a Rural Urban Commuting Area (RUCA) code of 6 or higher and 42% of Maine's population lives in rural areas.[26] Maine also has an older population and high rates of chronic disease which pose unique public health challenges. 15.6% of Maine's population is over 65, compared to 12.9% nationally[27], and Maine ranks 31st or higher in two-thirds of the United Health Foundation's America's Health Rankings chronic disease indicators.[28]

According to the NORC/ASTHO state health department categorization study, Maine is a largely centralized state with two independent local health departments and the remainder of the state population (approximately 50%) covered under the authority of the state health department, known as Maine CDC. Except for Bangor and Portland, the state has no local tax levies to support public health, so that public health activities are funded primarily with state and state-administered federal resources. Some jurisdictions have been able to supplement these funds with small grants from foundations and/or leveraged community support.[29]

The Downeast District is comprised of two counties, Washington County and Hancock County. Both are rural counties and have older populations as compared to the state as a whole. Despite these similarities and their close proximity, they serve very different populations with distinct health indicators. Hancock

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[26] United States Department of Agriculture, Economic Research Service. "State Fact Sheets : Maine." USDA Economic Research Service. <http://www.ers.usda.gov/statefacts/ME.htm> (accessed September 6, 2011).

[27] United States Census Bureau. "Maine QuickFacts from the US Census Bureau." State and County QuickFacts. <http://quickfacts.census.gov/qfd/states/23000.html> (accessed September 6, 2011).

[28] United Health Foundation. "America's Health Rankings: Maine." America's Health Rankings. <http://www.americashealthrankings.org/yearcompare/2009/2010/ME.aspx> (accessed September 6, 2011).

[29] Michael Meit, Jessica Kronstadt, Alexa Brown. *State Public Health Agency Categorization.* NORC at the University of Chicago, MD: Walsh Center for Rural Health Analysis; 2009.

County is the more affluent of the two counties, and health indicators reflect the differences in socio-economic status. According to the Robert Wood Johnson Foundation (RWJF) and the University of Wisconsin's county health ranking initiative, Hancock County is Maine's healthiest county, while Washington County ranks 15th out of Maine's 16 counties.[30]

Drivers of Change

Maine's decade-long process to establish a state-wide public health infrastructure that would reach even the most rural jurisdictions was motivated by poor health indicators, particularly high tobacco use and chronic disease burden, and the recognition that the current system was fragmented, uncoordinated, and lacked transparency. Little collaboration was taking place within or between governmental and nongovernmental public health systems partners and the system lacked mechanisms to direct state and federal resources to the local level. Public health leaders believed that an integrated, well-aligned system that had a strong local presence could more efficiently ensure public health service delivery to Maine's residents. Their approach consisted primarily of organizing existing resources and partners who were already providing services to Maine residents. Initial efforts focused on workforce training and community health coalition building. Between 1993 and 1997 the state and grass roots coalitions collaborated to provide training to coalition members, including grant writing training, which facilitated coalition growth from 8 coalitions in 1997 to 22 in 2001. In 1999 they utilized Maine Turning Point grant funds to begin developing the foundational capacity necessary to establish a more robust infrastructure.

Turning Point grant funds were later supplemented using tobacco Master Settlement Funds in 2001, which allowed Maine to develop the Healthy Maine Partnership program (HMP) which non-competitively funded mostly existing coalitions to focus on policy and systems changes in 31 new service areas which covered most, though not all, Maine residents. Later, in 2005, a second infrastructure development initiative was instituted using emergency preparedness funding. A multi-sector Public Health Work Group (PHWG), which included representatives from the coalitions and other nonprofit organizations; local, county, and Tribal governments; healthcare organizations; and state agencies including Maine CDC, Department of Education, and Department of Environmental Protection developed the local public health jurisdictions – including a new Tribal jurisdiction – which would cover all of Maine and which would be codified in Maine's public health statutes. The PHWG also defined roles and expectations for community health coalitions and created district and state coordinating councils. The PHWG also revised statutes associated with Local Health Officers, a municipal position mainly responsible for investigating and resolving resident-reported public health problems. At the same time,

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[30] Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute. "Maine County Health Rankings." County Health Rankings. http://www.countyhealthrankings.org/maine (accessed September 2, 2011).

the state created an Office of Local Public Health (OLPH), staffed district health offices with existing field staff, and dedicated a position to coordinate local public health partners within a district and serve as liaison between these partners and the Maine CDC, known as the District Liaison.

Successes and challenges

Successes

Focus group participants reported that Maine's new infrastructure has increased collaboration and coordination between partners, given stakeholders a better understanding of their communities' health needs and the services available to them, and has more effectively leveraged resources. Partners felt that, in general, they were better able to direct residents to the resources they need as a result of stakeholders' improved awareness of Maine's public health partners. In discussing specific public health program areas, partners felt that public health emergency management is more robust, as was illustrated during their H1N1 response. During H1N1, the district liaison dedicated his time to coordinating partners -- for example linking public health nurses who were organizing clinic logistics -- with coalition leaders who had on-the-ground awareness of community needs. Participants felt that this had been crucial to Maine's high vaccine uptake, as well as in preventing pediatric deaths.

Other perceived results from Maine's infrastructure development were health policy changes, and improved health outcomes. Participants felt that most of Maine's tobacco policies came about due to the efforts of local coalitions, and Maine's health indicators have improved markedly since the beginning of the infrastructure initiatives. In 2003 Maine was ranked as the 16th healthiest state; in 2010 it was ranked 8th (America's Health Rankings, 2011).

Challenges and Barriers

A number of challenges were identified. First, though they had a better understanding of the health issues facing their communities, participants did not feel that current funding levels would be sufficient to implement necessary interventions. Limited funding has also meant that newly formalized responsibilities have been added without being able to hire additional staff; as a result, existing public health stakeholders must balance full-time obligations with these additional duties. Participants felt that the prospect of additional demands on partners' time was a barrier in obtaining stakeholder participation in public health initiatives, particularly in rural areas. Participants felt that rural stakeholders have relatively more inflexible schedules than their urban counterparts due to limited staffs.

The expansion of state mandates, while an effective way to formalize and ensure public health services, has also created challenges at the local and regional levels. While these mandates have helped to align

partners and define regional program activities, participants felt that mandates left them with fewer resources to dedicate to activities which might not be state priorities but may be important within a particular community.

Finally, participants reported that a key challenge in establishing Maine's infrastructure was the inconsistent understanding of public health among the members of the PHWG, including individuals who had been involved with community health. This necessitated that considerable time be devoted to gaining a common understanding of public health before any infrastructure development activities could take place.

For More Information

Maine CDC Office of Local Public Health

http://www.maine.gov/dhhs/boh/olph/index.shtml

Journal article describing Maine's Turning Point experience:

Campbell P,A. Conway. "Developing a Local Public Health Infrastructure: The Maine Turning Point Experience." *Journal of Public Health Management and Practice*. 2005;11(2):158-164