

From Patchwork to Package: Implementing Foundational Capabilities for State and Local Health Departments

Daily public health responses are threatened by the inadequate capacity of public health agencies. A 2012 Institute of Medicine report defined a package of foundational capabilities that support all programs and services within a health department. Standardizing foundational capabilities may help address the increasing disparity in health department performance nationally.

During the Fall of 2013, we collected information on how much state and local health departments knew about foundational capabilities. To our knowledge, this was the first study to assess current health department infrastructure as it relates to foundational capabilities. (*Am J Public Health*. 2015; 105:e7–e10. doi:10.2105/AJPH.2014.302369)

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THE RECENT ECONOMIC

recession further destabilized the already fragile public health infrastructure in the United States.¹ Nationally, local and state health departments have lost 10%–12% of their staff since 2008 as a direct result of budget reductions and cost-saving strategies.^{2,3} Although departments across the United States did not all experience losses equally, these workforce reductions exacerbated an existing disparity in public health funding, services, and staffing.⁴ The continued erosion of public health agencies' capacity across the United States threatens their ability to deliver timely clinical and population-based services, as well as address day-to-day public health needs. Although public health services have been credited with providing 25 of the 30 years of increased life expectancy in the 20th century,⁵ the eroding public health infrastructure challenges our ability to maintain these gains and threatens our capacity to confront the mounting epidemics of chronic disease and emerging infectious disease.⁶

In 2009, the Institute of Medicine (IOM) formed a committee to consider the structure, functions, and financing of the governmental public health system. The committee's findings, published in the 2012 *For the Public's Health: Investing in a Healthier Future*,⁷ recommended a "minimum package of public health programs and services" to complement and reinforce the minimum package of clinical health care services created by the Patient Protection and Affordable Care Act (ACA). A

key part of the public health minimum package was a set of foundational capabilities; these are the cross-cutting skills essential to the governmental public health infrastructure needed everywhere for the governmental public health system to work anywhere, such as disease surveillance, communications, policy development, and financial management. In short, a public health response is only as robust as the individual health departments engaged in addressing a threat; therefore, all must have the requisite capacity and capabilities for the larger public health system to function effectively. Efforts to develop and maintain these capabilities in public health departments are often unfunded despite many ongoing initiatives dedicated to supporting them.

Following the IOM report, national funders and public health organizations developed the concept of a minimum package of capabilities for public health agencies into the Foundational Public Health Services (FPHS) model (Figure 1). This model also incorporated the idea of "Foundational Areas," which are core public health programs and activities.⁸ The states of Washington and Ohio led groundbreaking work to define and to determine the cost of the specific skills and services that would comprise a "package" of the FPHS.^{9,10} Despite the development of the foundational capability concept and FPHS model, little concrete information is available about the degree to which health

departments are familiar with or are establishing or funding related services. In our study, we collected information about "how much" and "what" leaders of state and local health departments know about the concept of foundational capabilities in public health practice. These findings will be useful to policymakers and practitioners as they move from defining the concepts to securing sustainable funding for FPHS programs and services.

METHODS

We conducted interviews with leaders representing 50 state and local health departments between October and December 2013. We purposefully selected leaders of 30 local health departments, 19 state health agencies, and 1 Indian health board. We selected the health departments based on geography and jurisdictional characteristics, which included population size, centralization, and level of poverty. Fifty of the 98 people who were contacted accepted invitations for telephone interviews.

Interviews lasted an average of 60 minutes. We recorded the interviews, and researchers took extensive notes. Responses were thematically coded independently by 2 researchers who created an initial coding framework based on the interview. This framework was revised iteratively as interviews were coded. The researchers recoded interviews after each revised iteration of the coding framework. The interviews focused on



Note. HD = health department; HR = human resources; IT = information technology; QI = quality improvement.

FIGURE 1—Foundational Public Health Services model.

concepts related to foundational capabilities, including a draft list of foundational capabilities compiled from the IOM and from work in Washington and Ohio (Table 1). The team explored the consistency of leaders' views about foundational capabilities. We also sought to learn whether and how these capabilities were currently part of activities in the health departments, and whether and how they were funded.

RESULTS

During interviews, respondents shared their perspectives on what foundational capabilities are, which ones are presently supported in their health department, and how they are supported.

What Are “Foundational Capabilities?”

We asked participants what activities they viewed as meeting the definition of a foundational capability, which were described as “cross-cutting capacities that support all programs and activities a health department conducts and delivers” (Table 1 provides illustrative responses). Participants

noted that some foundational capabilities were mandated by state law and might not necessarily be considered “foundational” if not for the mandate. Slightly fewer than half the respondents reported familiarity with the term “foundational capabilities.” However, many participants, including those unfamiliar with the IOM report, described foundational capabilities using their own terms as a set of infrastructure requirements similar to those the IOM Committee had outlined. Respondents did not clearly designate 1 foundational capability as more important than others.

What Foundational Capabilities Are in Place Currently?

From our list of foundational capabilities, interviewees were asked if their health department possessed the capability; if it was housed or provided by 1 part of their health department or shared across many parts, how it was funded, and how it contributed to the community's health. Dedicated personnel or investment in provision of individual foundational

capabilities was not a point of inquiry. All but a few respondents—approximately 2 per capability—stated their health department provided each of the capabilities to some extent. However, the ability of departments to fully engage those capabilities varied widely within and across health departments. Several respondents identified specific staff or divisions responsible for a certain capability, whereas others said responsibility for a particular foundational capability was flexible and would be delegated to units or personnel with available resources at any given point in time. Similarly, some foundational capabilities were not necessarily “assigned,” but were taking place across the health department as part of routine work. Notably, the majority of respondents said that legal support and information technology (IT) were provided by other governmental agency partners (structurally or by agreement), with the health department having little decision-making authority in these areas. Human resource departments, as a subset of the foundational capability workforce were also likely to be under the auspices of others.

How Are Foundational Capabilities Funded Today?

Today, each jurisdiction derives financial support for foundational capabilities from a unique combination of sources (Table 1). Participants noted that, in general, foundational capabilities are not specifically funded through budgetary line items or categorical sources, and some have not been funded at all. Most health departments indicated ongoing challenges in cobbling together funding streams to support foundational capabilities, although many had not specifically thought about how such activities were funded until interviewed.

DISCUSSION

Interviews with leaders of 50 local and state health departments from across the country validated that the concept of foundational capabilities resonated with public health practitioners and had direct relevance for the services and programs delivered at the state and community level. However, despite this agreement, our findings highlighted the dramatic disparity in the capacity and sophistication in public health departments throughout the United States. The variability in the composition and use of foundational capabilities across the respondents, coupled with the lack of dedicated funding, is a significant threat to the public's health.

The ACA mandates a minimum package of health care services be available to all insured. This is not the case in public health; there are significant variations in the public health system from state to state and community to community. This patchwork of capabilities in public health agencies across the country represents an infrastructure that is not adequate to assure that all Americans have the same level of public health protections. The health of an individual community is intrinsically tied to stability and strength of public health services in surrounding communities. To improve the health of all Americans, we must move from a patchwork public health system to a system where all jurisdictions have similar levels of fundamental skills and services. Funding from various sources is available to eliminate some disparities among public health departments, but additional funding is needed to build a public health system that is consistent and comparable across the United States.

TABLE 1—Participant Responses to Survey Regarding Foundational Characteristics and Importance and Foundational Funding: 50 US States and Local Health Departments, 2013

Category	Illustrative Quote
Foundational aspects	
Cross-cutting	What is cross-cutting, in my mind, is that, these things are moving us toward a population health focus—trying to move us into policy work because history is showing that's where you get the biggest bang for your buck.
As mandated	Foundation is our state laws and regulations—this is something that our state is good with. One of the things that is good about our state is that we're centralized and practice public health across all departments.
Comments on specific FCs	
Assessment	[Assessment] is huge—the one thing that nobody else in the community can do.
Policy development	Policy development significantly contributes to the city's health. Smoke free laws, healthy vending laws/ordinances, lead prevention—one of the most impactful things we can do.
Partnering/convening/engaging with the community	The most important role that we do is present information to the community. We have an active role in convening and helping any way we know how or can for the community to excel. We see our role as conveners and catalysts.
Information technology (IT)	With IT, the hope will be that it will allow us to be quicker, more mobile, and more effective.
Budgeting/money management	Budgeting gives us the ability to maximize the investment in community health.
Quality improvement	If we're doing it correctly, quality improvement helps us to monitor the impact of our activities and make course corrections if we're not having the impact we're attempting to have.
Workforce	There have been some scattered efforts. . . . We have some older workers that are a bit burnt out. The more we can invigorate them, the more effective they'll be. Our number of state employees has dropped over the years, but workload has stayed the same. The more we can keep our workforce at a lower stress level, the better.
Legal	[Legal support] allows us to fully exercise the powers of the health commissioner to address immediate needs as well as long term planning.
Other	I can't say there's one foundational capability that is most important. Have a hard time distinguishing between most important and least important. HR, auditing, legal are not specific to PH. Surveillance and epidemiology, communications, are special to public health. You need them all to be effective. No way to dice these things. I have 40 different programs. What we do in general is quite essential. I'm hard pressed to put things in these categories.
How FCs are funded	
Mixed funding streams	Funded in many different ways. 60% federal, some state, county health departments can put a millage on themselves and get money from local/county millage.
Program specific funds	
Grant	Only funding for this is if it's planned with a grant.
Unfunded/underfunded	There is an expectation of [doing] this [FC, but] no specific funding stream.
Other	Funded by cost allocation—all departments and divisions contribute to it. Not a separate funding stream, more of an expectation of the program. Funded by indirect costs across the department. Generally supported by tax levies. Funded by county overhead. Funded by charge back in programmatic direct costs.

Note. FC = foundational capabilities; HR = human resources; PH = public health.

The foundational capabilities require further development before we can consider national implementation and the promise of a fully achieved higher performing public health system. We need to articulate what should be included in the actual package of the ideal FPHS model, and those elements must be vetted within and across the public health community nationwide. Public health professionals must

also determine the necessary amount of each component and identify sustainable mechanisms for funding all related activities. The challenge of sustainability for foundational capabilities will be significant in the context of our current cobbled and braided financing infrastructure. Sustainability also implies and requires ongoing activities to measure our improved capacity, capability, and performance.

Overall, participants seemed to agree that moving to the FPHS model was an essential step toward building a system that could provide a minimum standard of public health protections across the country. Shifting to this new way of working will not be simple. We face declining political support for paying the costs of building the public health infrastructure. We will need to bolster our efforts to demonstrate the added value of creating

a minimum package of public health services. Practitioners must be able to articulate the need for and importance of FPHS to policymakers and funding agencies. ■

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Contributors

L.M. Beitsch conceived the policy brief and wrote the initial draft. B.C. Castrucci and J.P. Leider edited and contributed to subsequent drafts. Research underlying the study was completed by A. Dilley, C. Juliano, R. Nelson, and S. Kaiman, all of whom reviewed the drafts of the article. Input to the study and its interpretation was also provided by all of the

authors. J.B. Sprague contributed to the final draft of the article.

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Human Participant Protection

Institutional review board approval was not necessary because the interviews did not involve sensitive personal information, but rather addressed specific organizational issues unrelated to the purpose of human subjects protection.

References

1. Willard R, Shah G, Leep C, Ku L. Impact of the 2008–2010 economic recession on local health departments. *J Public Health Manag Pract*. 2012;18(2):106–114.
2. National Association of County and City Health Officials. *Local Health Department Job Losses and Program Cuts: Findings From January 2012 Survey*. Washington, DC: National Association of County and City Health Officials; 2012.
3. Association of State and Territorial Health Officials. *Budget Cuts Continue to Affect the Health of Americans*. Arlington, VA: Association of State and Territorial Health Officials; 2013.
4. National Association of County and City Health Officials. 2013 National Profile of Local Health Departments. 2014. Available at: <http://www.naccho.org/topics/infrastructure/profile/upload/2013-National-Profile-of-Local-Health-Departments-report.pdf>. Accessed May 8, 2014.
5. Bunker JP, Frazier HS, Mosteller F. Improving health: measuring effects of medical care. *Milbank Q*. 1994;72(2):225–258.

6. Beitsch LM, Brooks RG, Menachemi N, Libbey PM. Public health at center stage: new roles, old props. *Health Aff (Millwood)*. 2006; 25(4):911–922.
7. Institute of Medicine. *For the Public's Health. Investing in a Healthier Future*. Washington, DC: National Academies Press; 2012.
8. RESOLVE. Defining and Constituting Foundational Capabilities and Areas. Version 1. 2014.
9. Public Health Cost Estimation Workgroup. Estimating the costs of foundational public health capabilities: a recommended methodology. 2014.
10. Foundational Public Health Services Subgroup. Foundational public health services preliminary cost estimation model final report. 2013.

Second-Generation Antipsychotics and Tardive Syndromes in Affective Illness: A Public Health Problem With Neuropsychiatric Consequences

Food and Drug Administration–approved information and public advertisements belie neurodegenerative risks for second-generation antipsychotics in affective illness. Package inserts label tardive syndromes “potentially reversible” while uniformly omitting patient counseling for long-term neurodegenerative side effects. I found that only 2 of 78 outpatients exposed to second-generation antipsychotics reported awareness of tardive syndromes. Updated literature challenges safety advantages of atypical versus typical antipsychotics. Physician and patient information regarding tardive syndromes from second-generation antipsychotics approved for affective illness is inadequate. (*Am J Public Health*. 2015; 105:e10–e16. doi:10.2105/AJPH.2014.302439)

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IN LESS THAN 2 DECADES following my research documenting adjunctive risperidone’s short-term benefits in affective illness,¹ second-generation antipsychotics (SGAs) have been increasingly prescribed for both short- and long-term use in the United States and elsewhere. SGAs were characterized as atypical because of a selective blockade of dopamine receptors (compared with older antipsychotics, e.g., chlorpromazine, haloperidol) and for a selective blockade of serotonin receptors. SGAs’ serotonergic activity and dopaminergic selectivity was purported to simultaneously decrease neurotoxicity and enhance utility compared with older “schizophrenia drugs.”

Before risperidone, the specter of irreversible brain damage owing to a chronic blockade of dopamine

tended to limit long-term prescription of antipsychotic dopamine blockers to individuals suffering from schizophrenia spectrum illnesses. Chronic exposure to dopamine blockers frequently causes the gradual development of an irreversible hypersensitivity in brain dopamine receptors, which in areas coordinating motor movement results in abnormal involuntary movements—sometimes with significant cognitive dysfunction. These long-term side effects of a chronic dopamine blockade are called tardive (late developing) syndromes. The most commonly diagnosed tardive syndrome is tardive dyskinesia—a cosmetically disfiguring movement disorder often manifested by repetitive involuntary mouth “chewing” movements that sometimes afflicts other body parts (neck, arms, legs, etc.).

In its first affective illness trials, risperidone was found to have utility both as an antimanic agent reducing hypomanic and manic overactivation and as a mood stabilizer. Some patients reported antidepressant and antiobessional benefits following the addition of risperidone to their treatment regimens, and several were unexpectedly boosted from depression to a hypomanic or mixed state.¹ Subsequently, risperidone was also reported to be beneficial for patients suffering from treatment-resistant depression.²

SGAs have since garnered Food and Drug Administration (FDA) approvals for an ever-expanding variety of mood-related indications, not only as add-ons to other drugs but recently as first-line monotherapies as well. The widespread FDA-approved prescription