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Practitioner Perspectives on Foundational Capabilities

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Context: National efforts are underway to classify a minimum set of public health services that all jurisdictions throughout the United States should provide regardless of location. Such a set of basic programs would be supported by crosscutting services, known as the "foundational capabilities" (FCs). These FCs are assessment services, preparedness and disaster response, policy development, communications, community partnership, and organizational support activities. **Objective:** To ascertain familiarity with the term and concept of FCs and gather related perspectives from state and local public health practitioners. **Design:** In fall 2013, we interviewed 50 leaders from state and local health departments. We asked about familiarity with the term "foundational capabilities," as well as the broader concept of FCs. We attempted to triangulate the utility of the FC concept by asking respondents about priority programs and services, about perceived unique contributions made by public health, and about prevalence and funding for the FCs. **Setting:** Telephone-based interviews. **Participants:** Fifty leaders of state and local health departments. **Main Outcome Measures:** Practitioner familiarity with and perspectives on the FCs, information about current funding streams for public health, and the likelihood of creating nationwide FCs that would be recognized and accepted by all jurisdictions. **Results:** Slightly more than half of the leaders interviewed said that they were familiar with the concept of FCs. In most cases, health departments had all of the capabilities to some degree, although operationalization varied. Few indicated that current funding levels were sufficient to support implementing a minimum level of FCs nationally. **Conclusions:** Respondents were not able to articulate the current or optimal levels of services for the various capabilities, nor the costs associated with them. Further research is needed to understand the role of FCs as part of the foundational public health services.

KEY WORDS: foundational areas, foundational capabilities, foundational public health services model, minimum package, minimum package of public health services

One of the greatest challenges facing governmental public health is variability in service provision and funding for such services—individuals in different jurisdictions likely have access to different sets of public health services and protections.[1,2] Put simply, governmental public health is organized incorrectly to deal with today's problems.[1,2] National leaders have called for a standardized, "minimum" set, or package, of public health services for all jurisdictions in the United States.[3] Without such a package, significant variations in the public health system will continue to intensify from community to community, city to city, and state to state.[2] The disparity in public health services that are available across the United States is exacerbated by reductions in public health staffing, funding, and

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political support. Since 2008, local and state health departments (HDs) nationally have lost more than 10% of their staff overall according to the National Association of County & City Health Officials and the Association of State and Territorial Health Officials.[4,5] These losses have not been distributed equally, contributing to a wide and increased variation in public health capacity across the country.[6] Moreover, long-standing programmatic silos have meant that services are often present to the extent they are funded by a grant or dedicated revenue stream; funding for public health infrastructure is notoriously sparse.[7-9] It is in this context of austerity and service variability that the Institute of Medicine (IOM) in its 2012 report, titled *For the Public's Health: Investing in a Healthier Future*, called for a minimum package of public health services—the idea that no matter where one lives, one could expect comparable public health protections relating to communicable and noncommunicable disease control, emergency preparedness and disaster response, and environmental health protections, among others.[3] Since the issuance of the IOM report, this minimum package has become known as the "foundational public health services" (FPHS) framework.[10] It is distinct from, but conceptually aligned with, the requirements of the Public Health Accreditation Board (PHAB). The FPHS framework is a specification of the Ten Essential Services and core functions into comparable sets of public health services and activities. That PHAB standards are also based on the Ten Essential Services and core functions of public health. But while accreditation seeks to recognize that a public HD has demonstrated conformity with evidence-based, nationally accepted organizational capacity standards and measures, the FPHS seeks to enumerate and measure expenditures on those crosscutting skills and programmatic activities so fundamental that they need to be present in local and state HDs everywhere for the health system to work anywhere.[10] Furthermore, the FPHS serves as a means of operationalizing public health activities to allow for the costing out of public health service provision and for creating apples-to-apples comparisons of spending on types of public health services. Finally, as the IOM noted, the FPHS allows for better articulation of the financial needs of the public health system in ways that other national efforts are not meant to address.[3]

The framework is being further explored and developed by a small working group of the Public Health Leadership Forum (PHLF), comprising representatives from public health membership organizations, federal partners, and local and state HDs across the country.[10] Another working group at the University of Kentucky College of Public Health is developing cost estimates associated with the FPHS.[11] The FPHS is an evolving framework of the necessary capacities and activities of public health, which have been historically rooted in the idea of the Ten Essential Public Health Services but have now been operationally specified.[2,12-21] These together have yielded a provisional list of basic *activities*—called "foundational areas (FAs)"—that all public HDs must conduct. These activities include:

- communicable disease control;
- chronic disease and injury prevention;
- maternal, child, and family health;
- environmental public health, and
- access to and linkage with clinical care.

To function effectively in these 5 (as well as other) areas, the IOM and others have suggested that all public HDs need to have a specific set of crosscutting services, known as "foundational capabilities (FCs)."[10] These *capabilities* include:

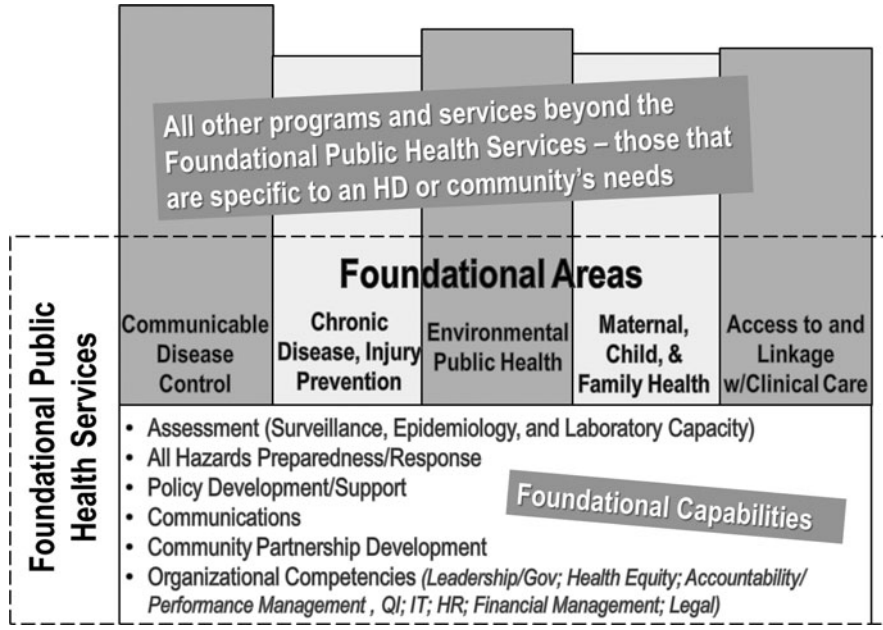
- assessment (surveillance, epidemiology, and laboratory capacity);
- all hazards preparedness and response;
- policy development and support;
- communications;
- community partnership development; and
- organizational competencies (eg, leadership/governance, information technology [IT], human resources [HR], legal, financial management, and others).

The recommendations from the IOM and subsequent conversations to continue to develop the FPHS concept have taken place among national leaders in the PHLF, which has recently created draft recommendations for the FPHS framework (Figure).[10] In addition, practice-based efforts to implement the FPHS have occurred in states such as Washington and Ohio. However, to date, there is limited information on the extent to which HDs nationally are already engaged in activities that support these capabilities, how they are funded, or even if the need or concept of FPHS resonates with practitioners. The National Association of County & City Health Officials and the Association of State and Territorial Health Officials do measure some aspects of the provision of some of the FCs in their national profiles, although measures vary and do not necessarily allow for comparable comparisons across the FCs.[4,5] The primary objective of this study was to gather perspectives from practitioners regarding their familiarity with and views on FCs.

Methods

Three researchers (C.J., S.K., and R.N.) conducted 50 interviews of senior leadership at local and state HDs during fall 2013 to gather practitioner perspectives on

FIGURE ● **The Foundational Public Health Services Model**[a]



Abbreviations: HD, health department; HR, human resources; IT, information technology; QI, quality improvement. [a]From Public Health Leadership Forum.[2]

the FCs. In total, 98 potential interviewees were contacted, 12 declined citing time constraints or otherwise unspecified reasons, and 36 (29 local, 7 state) did not respond to initial or follow-up requests. Purposive variation selection[22] was used to conduct interviews among a cross section of the governmental public health community. That is, these leaders were selected on the basis of geography and jurisdictional characteristics, including size of population served, revenue sources, rural/urban location, and poverty levels. Twenty-nine local health officials were interviewed, as were 2 deputy directors at the local level (including an Indian Health Board), and 19 deputy directors at the state level.

The project team developed an interview protocol consisting mainly of open-ended questions aimed at exploring practitioner perceptions about the FPHS. These interviews focused on the notion of FCs, which were adapted from various publicly available lists.[3,23,24] Participants were asked about knowledge of and familiarity with the various FCs and related concepts that we sought to explore. Therefore, interviewers did not provide information or interview questions to respondents in advance. The instrument was pretested with 8 current or former HD leaders at the state and local levels. Interviews were conducted via phone and lasted approximately 60 minutes. All interviews were recorded, and 2 researchers (the interviewer and a designated note taker) took verbatim notes.

A qualitative approach was selected to find out whether and how participants were familiar with the concept of FCs and how they related to those ideas. In addition, the project team sought to learn whether views about FCs were relatively consistent or divergent and whether and how FCs were part of HDs' current activities and, if so, how they were funded. This project used thematic analysis of the data, with major areas of analysis modeled after the interview protocol. Two researchers (C.J. and R.N.) independently categorized interview responses by theme. Codes were iteratively revised, differences in coding were resolved through discussion between the researchers, and interview data were recoded using consensus definitions. Data analysis occurred through the identification of major types of responses, as well as disconfirming cases and spontaneous mentions. Counts of response types are reported at certain points in the results to add depth to analyses relating to the pervasiveness of perceptions. However, as this is fundamentally a qualitative endeavor, the results should be interpreted as such.[25]

This project used a triangulation approach[25] to characterize respondent perspectives about which cross-cutting capabilities were considered truly foundational in their HDs. First, interviewers gathered respondent perspectives on what they saw as their HD's unique contribution(s) to the community, as well as their views on their community's unmet needs. Interviewers then asked whether participants had heard the term "Foundational Capabilities". Once an answer was provided, the interviewer provided a definition of the concept to allow for an examination of participants'

understanding of the concept. Interviewers then asked about respondents' familiarity with the concept.* Next, interviewers asked respondents to describe the priorities in their HD and their view on both "foundational" or crosscutting capabilities. In each interview, respondents were guided through a list of FCs that included:

- assessment;
- communications;
- policy development and support;
- community partnership development;
- budgeting and money management;
- quality assurance/improvement;
- workforce development;
- IT, management, analysis; and
- legal support.

For each, participants were asked whether their HD possessed the capability, whether it was "owned" by one part of the department or "shared" across many parts, how it was funded, and how it contributed to the community's health. Interviewers did not ask respondents to evaluate the degree of effort (ie, staff time, resources, or other metrics) applied to these capabilities.

Some project team members were also participants on the PHLF, the group involved in drafting the FPHS framework. Several steps were taken to address potential issues of reflexivity and ensure conclusions were drawn from respondent data and not from work on the FPHS or elsewhere. First, the project team also included individuals not involved in the FPHS; these individuals were involved at all stages of project development and analysis. Second, the interview instrument was finalized through iterative revision (and after a pilot phase) by the entire team, and project members were careful to direct interview questions to the study's research aims. Third, unlike certain types of qualitative approaches, the interview instrument was highly structured[25]; questions, probes, and definitions were specified in the instrument (see Supplemental Digital Content Appendix 1, available at: http://links.lww.com/JPHMP/A114), and all questions were asked of each respondent, except for a few cases where time ran short. Finally, potential for reflexivity was addressed through involvement by non-PHLF members in the development of the codebook and data analysis.

*Respondents were asked: By FCs, we are referring to those crosscutting capacities that support all programs and activities an HD conducts and delivers. To start, are you familiar with this term/concept? *Note:* Interviews were conducted prior to the release of the FPHS draft model.

Results

Fifty public health leaders participated in interviews for this project. Thirty served as executive leadership at a local HD (LHD), 19 at state health agencies (SHAs), and 1 led an Intertribal Health Board. Demographics and characteristics of their HDs are shown in Table 1, including governance status (ie, clarifying the relationship between an LHD and an SHA in a given state).[26] Four respondents were from centralized LHDs, 22 from decentralized LHDs, and 2 each from shared and mixed LHDs. Nearly half had served in their current HD for 15 or more years and in their current leadership position for 2 to 5 years. On average, they had worked in governmental public health for more than 15 years. Half of all leaders brought up the issue of accreditation in the course of the interviews, mentioning that their HD was somewhere in the process; this was not asked directly.

Identifying important programs and unmet needs

We asked leaders what were the "3 most important programs or activities that only they, and no one else in their community, could do." Traditional public health activities were the most common responses: assessment/epidemiology, communicable disease, and environmental health, including regulations and inspections. Approximately half the participants named at least one of these 3 categories (Table 2). Less commonly, responses included community partnership development and chronic disease/health promotion (12 participants each), as well as maternal and child health (7 participants).

We also asked, "What are your community's 3 most significant unmet needs?" (Table 2). The most frequent responses were chronic disease prevention/health promotion (21 participants), addressing social determinants of health/disparities (14 participants), ensuring access to clinical care (13 participants), accessing behavioral health (12 participants), and securing sustainable funding for infrastructure (10 participants).

Health department priorities

We asked interview participants to place HD activities into 3 categories: those that are (1) "truly necessary"; (2) "nice to have, but largely optional"; or (3) those that one could "do away with" (Table 3). First, regardless of whether they felt that some particular activity was "truly necessary," some said mandated (legally required) activities such as environmental health (including inspections and regulation) and vital records had to be put into this category. One person said, "I have

TABLE 1 ● Respondent Demographics and Health Department Characteristics 50 Interviewees: 30 LHDs, 19 SHAs, and 1 IHB

Geographic Region (# States)	Governance Structure/ Classification	
• Midwest (8): 7 total, 4 local, 3 state	• Decentralized: 35	**Respondent Gender[a]**
• Northeast/Mid-Atlantic (12): 11 total, 5 local, 6 state	• Centralized: 5	• Women: 24
• Plains (5): 9 total, 5 local, 4 state	• Shared: 5	• Men: 21
• South (11): 9 total, 7 local, 2 state	• Mixed: 4	**Respondent Age[a]**
• Southwest (2): 2 total, 1 local, 1 state	• N/A: 1 (IHB)	• 35-44 y: 11
• West (9): 12 total, 7 local, 4 state		• 45-54 y: 14
• Other (4): 1 IHB		• 55 y or older: 20
		Median age: 55 y or older
Respondent Tenure in Position[a]	**Respondent Tenure at Current HD[a]**	**Respondent Tenure in Governmental PH[a]**
• 0-2 y: 8	• 0-2 y: 3	• 0-2 y: 1
• 2-5 y: 16	• 2-4 y: 5	• 2-5 y: 1
• 5-10 y: 13	• 5-10 y: 12	• 5-10 y: 4
• 10-15 y: 5	• 10-15 y: 8	• 10-15 y: 9
• >15 y: 3	• >15 y: 17	• >15 y: 30
Median tenure: 2-5 y	Median tenure: 15 y+	Median tenure: 15 y+

Abbreviations: HD, health department; IHB, Intertribal Health Board; LHD, local health department; PH, public health; SHA, state health department.
[a]Five respondents declined to provide demographic information.

TABLE 2 ● Leadership Perspectives on Health Departments' Unique Contributions and Unmet Needs[a]

Unique Programs/Activities[b]	No. of Participants	Unmet Needs[c]	No. of Participants
Assessment	26	Chronic disease prevention/health promotion	21
Environmental health, inspections, and regulations	21	Social determinants or health disparities	14
Communicable disease		Access to clinical care	13
Control	20	Behavioral health	12
Community partnership		Sustainable funding/infrastructure	10
Development	12	Assessment	8
Chronic disease prevention/health promotion	12	Environmental health	8
Maternal, child, and family health	7	Policy development and support	5
Access to clinical care	7	Workforce development	5
Emergency preparedness and response	7	Maternal, child, and family health	5
Policy development and support	5	Communicable disease	4
Communications	2	Built environment	4
Vital records	2	Community engagement	2
Health equity	1	*Other*	*5*
Other	*8*		

[a]Based on responses from 50 interviewees.
[b]Thinking about your health department as a whole, what are the 3 most important activities, programs, or services that your health department uniquely does or provides that no one else in your community does or could do?
[c]What are the 3 most important unmet needs that you'd like your health department to address to improve your community's health?

to tend to the mandated services whether I want to or not—[eg,] vital records, communicable disease, and environmental health." These mandated activities appeared to also affect how people categorized activities they might eliminate: West Nile Virus testing and monitoring the use of medical marijuana were examples of mandated activities, yet respondents did not consider them as having significant impact and therefore would not otherwise place them in the "truly necessary" category.

While respondents might not have listed a particular activity as "truly necessary," many noted that if no

TABLE 3 ● Priority Programs or Services[a]

Truly Necessary[b]	No. of Participants	Nice, But Optional[b]	No. of Participants	Could Do Away With[b]	No. of Participants
Environmental health	26	Health promotion	15	Family planning	3
Communicable disease	26	Maternal, child, and family health	15	STD services	2
Assessment	21	Clinical services	12	Clinical services	2
Emergency preparedness	13	Screenings	7	Immunizations	2
Chronic disease	12	Home visitation	5	Emergency response	2
Access to clinical care	10	Immunizations	5	Teen pregnancy prevention	2
Policy development and support	4	Behavioral health	4	*Other*	*20*[c]
Behavioral health	4	Environmental health	3	*None*	*12*
Health equity	2	Emergency preparedness	3		
Communications	2	Dental health	3		
Other	*6*	School health	2		
Everything truly necessary	*3*	Quality improvement	2		
		Other	*7*		
		None	*4*		

Abbreviation: STD, sexually transmitted disease.
[a]Based on responses from 46 respondents.
[b]Thinking about the programs/services of your health department, could you generally put them into 3 categories? Those that you'd say are "truly necessary," those that are "nice to have, but largely optional," and those that you think "you could do away with"?
[c]The category of "Other" represents programs or services where only one respondent identified said program or service.

one else in the community was currently doing it, or was suited to doing it, then such activities needed to be included in this category under the public health assurance function. These activities included testing for and treatment of STDs (sexually transmitted diseases), treating active tuberculosis, and conducting inspections related to environmental health. One leader said that this tradeoff was straightforward, "If local health departments weren't doing *STD* testing, the private sector wouldn't really work there. Even if they have insurance, people come to the health department."

Many activities were considered critical to the health of the community but were then identified as something that could be carried out by someone other than the HD. For example, one participant said, "We do a lot of children's health programs. . . . not sure they have to be housed here [in the HD]. They could easily be housed in other places."

Respondents placed 4 types of activities into the "nice to have, but largely optional" category: health promotion, maternal/child health, family planning, and other individual clinical activities/access to care. In a similar vein, nearly one-third said that they could not do away with anything because their departments had already eliminated anything they could. These activities included efforts they would still like to provide but could not afford, as well as activities that had been eliminated because of previous priority-setting exercises or services that were officially transitioned to other partners.

Familiarity with the notion of FCs

A primary research question in this study was the degree to which these public health practitioners had heard of and/or were familiar with the term "foundational capabilities." About half (21/50) said that they had not heard of the specific term, although, they were familiar with the concepts associated with FCs. Their understanding of the terms was confirmed by the examples they provided in their own words (Table 4). Slightly more than one-third of all respondents, including almost all local health officials (17/19), said that at least the term "foundational capability" was familiar to them.

Familiarity with the underlying concepts of FCs was further confirmed when respondents indicated that they may be calling these crosscutting FCs something else or may not be labeling them as a separate or distinct set of activities but rather including them as a part of their HD's services. Most said that they understood that these crosscutting capabilities are different from other related concepts such as the Ten Essential Public Health Services, although 8 were unable to articulate a distinction between an FC and an "essential service" when asked to do so. The following phrases were suggested to describe the FC concept:

- Transferable skills
- Crosscutting capacities
- Core competencies
- Basic support services

TABLE 4 ● Foundational Capabilities

Capability	Illustrative Quote About Importance to the Health Department
Assessment	This is huge—the one thing that nobody else in the community can do.
Communications	Definitely contributes to the community's health, not as much as it could. Too reactionary, not proactive. Need to be proactive in messaging.
Policy development and support	Contributes to health more so than anything else we could do. We know if we can shape the environments in which people live, you'll have a greater impact than not doing anything.
Community partnership development	You can get more mileage out of people working together rather than people working in a siloed environment. Whether it's at the state, local, or national level, we have to work with our partners to get things done.
Budgeting and money management	This contributes less directly to health, but managing money keeps us running. Also, the process of granting and contracting is key to improving the health of community.
Quality assurance/improvement	By improving our quality . . . . We can take an honest look at ourselves and see what are we doing well and where can we improve. We'll be able to target resources to areas of the most need.
Workforce development	Having a more effective, educated, and capable workforce enables us to perform at a high level and be more effective in the community.
Information technology, management, and analysis	We're making decisions based on 2-year-old data. I want to be able to make real-time data decisions
Legal support	Better able to implement policies and legislation, ordinances that protects the public's health due to the relationship with the law department.

Enumerating the FCs

All respondents said that they had each of the FCs to some degree, with the exception of assessment (2 LHDs), policy development (1 LHD), quality improvement (1 LHD), and legal (2 LHDs). Implementation of the FCs varied across departments. Several identified specific staff or divisions whose job was to carry out a certain capability, whereas others said that whoever had the time or attention to focus on the FC did so. Similarly, many of the FCs were not necessarily "assigned" but took place across the HD as part of "routine" work. Several respondents said that FCs such as legal, IT, and HR were provided by other governmental agencies with which the HD partnered (by choice or not). When asked what was missing from the list of FCs, a small number of respondents suggested governance, health equity or minority health, emergency preparedness, and administrative management including procurement and business competencies. These categories were the FPHS when the PHLF released a draft framework (after completion of this project) in spring 2014, as similar feedback had been gathered in other venues as well.[10]

Capabilities in practice

The majority of public health officials interviewed saw *assessment* as integral to everything they do, and most said that their HD has this capability. Two local officials said they had the capability "to some extent" but did not employ an epidemiologist in their HD. Similarly, 2 others said that they did not possess the capability since a hospital network or a regional/state epidemiologist provided the assessment function in their community. Furthermore, some had formal partnerships with health systems or a local school of public health and several LHD respondents said they relied on their SHA to conduct assessment-related services. In most cases, HDs had a division of epidemiology but its work was also commonly shared across various divisions.

Communication was identified as highly important; one participant said, "If you're not an effective communicator, you're not a health department." While almost all said that their departments possessed this capability, a few qualified "to some extent" and said that their communication services were limited. Two shared frustration about centralized communications,

for example, having a chief information officer within a super agency, whereas 3 said that this kind of organizational arrangement sometimes led to higher-quality communications.

Policy development was a capability possessed by a majority of HDs, with a variety of caveats. In a handful of the departments, someone other than—or in addition to—the health officer was responsible for policy development; most identified it as a job responsibility of the chief executive of the HD. Tobacco control work—for example, smoke-free laws, outreach, taxation—and "Complete Streets" stood out as models for how to do policy work, particularly by working with and through community partners.

The discussion on *IT* and *public health informatics* reflected a consensus that HDs usually have limited and frequently inadequate IT capacity. Most indicated that their HDs do not have strong IT support. However, several HDs seem to be making progress using new technologies to change work flow. For instance, one official talked about using tablets to do routine inspections. Another official described a project to link internal and external databases to create a state health information exchange that receives patient discharge data in real-time. Participants generally noted that with IT, as with the other FCs, partnering with other organizations both locally and regionally was an important approach to addressing shortfalls in capacity. Most said that their IT was housed in, or managed by, another government agency, with their own department having little control or ownership over it.

Workforce was a broad category that covered related topics such as HR services, training, and professional development. In terms of the broad context, most said they had this capability to some extent, although few noted that they had formal workforce development programs. Some noted that HDs generally pieced together HR training and related resources from specific grants or other programs.

Financing the capabilities

Most governmental HDs fund FCs by piecing together support from state, local, and/or federal funds, including using indirect allocations or overhead.[3,8] They also use a variety of grants, including categorical programs and several specific to accreditation. For the most part, respondents noted that they did not actively focus on how they funded a particular capability, as the related activities were largely "unfunded" and considered part of daily routine work.

Asked how they might fund FCs as distinct activities, participants suggested that they might draw from targeted infrastructure funds that are supported by federal grants and state or local taxes. Most noted that costs for FC activities should be shared across all levels of government and suggested that this could be done using per capita or other distribution formulas. Along with cost sharing, many thought that funds also could be compiled by earmarking percentages of dollars for infrastructure and partnering/collaborating or by having a flexible spending account to meet identified departmental FCs needs. One official suggested prioritizing the most needed FCs and then creating a public-private partnership to get funding.

Respondents were asked about the state of their funding over the last year. Half had their funding reduced, including 8 that had cuts of 10% or more. Four had increases to their budgets, and 17 had budgets that remained unchanged.

Leaders were asked whether "current funding structures lead to effective and efficient delivery of activities/services to the public." More than two-thirds ($n = 34$) said that current structures do not achieve these goals. About a quarter said that they were uncertain and their explanations were ambivalent. They identified several challenges to securing funding for FCs in their jurisdiction, including not having access to noncategorical dollars and not knowing whether stable funding streams will exist in the future.

Discussion

Interviews with leaders of 50 local and state HDs from across the country validate that the concept of FCs resonates with public health practitioners and has direct relevance to the services and programs delivered at the state and community levels. Respondents indicated that FCs are the most basic infrastructure within the HD and are critically necessary to accomplish their work. Foundational capabilities are understood to be cross-cutting services that must be in place and functional before other public health activities can occur successfully. This means FCs and the programmatic focus of the FAs both complement and promote the delivery of the Ten Essential Public Health Services, the core functions, and public health programs. Both FCs and FAs, which make up the FPHS framework, are not meant conceptually to replace the Ten Essential Services but to offer a more detailed explanation of daily activities and the ability to estimate costs. The FPHS model is most distinct from the Ten Essential Services model and PHAB's standards in terms of its focus on the operationalization and measurement of groups of public health activities and services. This is especially the case with respect to the financial spending on these activities and services and the ability of the FPHS to allow for comparable spending against a set of public health activities and services.

This project is the first to examine the attitudes, perceptions, and practices of public health practitioners with respect to the concept of FCs. Participants in this project generally did not use the term "foundational capabilities" to describe the work they do. However, they did recognize and understand the idea of crosscutting skills, capacities, and programs as part of core activities in public health. Half of the respondents spontaneously mentioned accreditation during the interviews, an important acknowledgement since the PHAB uses a framework based on the Ten Essential Public Health Services rather than specific programs or FCs. It is possible that those who were familiar with the accreditation process were able to articulate their thoughts about a new prospective set of national infrastructure standards (like the FCs) more concretely than leaders who were not engaging in those types of quality improvement or strategic planning activities.

Financing was perhaps the most significant challenge highlighted by leaders participating in this project. For most, there was not enough money to address currently identified unmet needs, whether "foundational" or not. Moreover, the funding streams supporting FCs tended to be cobbled together and were generally not funding the FCs effectively or efficiently. To enable all HDs to provide a complete set of the FPHS (ie, both FAs and FCs), additional staff and funding will be needed. Although a number of departments have weathered the economic downturn reasonably well, the majority of leaders in this project have seen repeated budget and staff cuts since the onset of the 2008 recession, despite an increased need for public health services during that time, according to the IOM.[6,27,28] Fundamental restructuring of public health's financing system is required at the federal level and concomitant increases will be needed at the state and/or local levels, despite an often-difficult political environment, according to the IOM.[3] This is likely only possible through greater demonstration of the value of public health spending in the improvement and protection of population health, which the FPHS framework is meant to support. We concur, and would note another barrier to developing FCs and the FPHS framework more broadly: many public health professionals in this study were not aware of the concepts and terms related to FCs, although their HD has those services. Few practitioners were initially actively engaged to help develop the requirements of the FPHS framework. Federal, state, and local organizations, along with other institutions that support public health, need to create more opportunities for practitioners to engage around issues so critical to their practice and their mission. Beyound engaging practitioners around these issues, there are also signficant policy implications for and barriers to the implementation of the FPHS framework. These issues are discussed at length elsewhere.[29]

This project defines new paths for future research in public health practice. Our study showed that although practitioners said that their jurisdictions engaged in almost all of the FC services investigated, most were unclear about the exact amount or quality of that engagement. As an enterprise, public health needs to determine what jurisdictions are able to do with their current levels of support for crosscutting programs and what the optimal levels, or "doses," of the various capabilities are. We also need to understand the current operational structures supporting FCs in jurisdictions across the country. In many of the participating jurisdictions, business support or IT systems especially were frequently located outside of the HDs. While this may be compatible with the FPHS framework, it does pose certain operational challenges to national implementation.

Limitations

This project has several limitations. First, our study is a cross-sectional snapshot of practitioner attitudes related to the notion of FCs and our respondents were self-selected. Therefore, the perspectives and experiences we documented may not be transferable to a national context. We achieved a balance of respondents from local and state HDs, as well as large/urban and smaller/more rural departments per our initial design. In addition, to ensure each respondent drew only on existing knowledge of FCs, we offered limited details about the subject of the interview in our initial contact with participants. This purposefully vague approach may have discouraged some potential respondents from participating. Similarly, because respondents were not briefed on FCs in advance, some respondents had difficulty grasping the concept and/or answering the questions. However, we feel that this approach allowed us to better triangulate and define the FCs among practitioners using different language to define similar concepts.

Finally, several of the authors' (A.D., C.J., S.K., and R.N.) involvement in the development of the FPHS framework through the PHLF is acknowledged as both a strength and a potential limitation. To mitigate this potential limitation and address issues of reflexivity, the project team included others who were not part of the PHLF, pretested the interview instrument with public health practitioners, and used publicly available lists of capabilities in the instrument. We analyzed the data with 2 researchers; reviewing notes and recordings to repeatedly make sure our conclusions were supported by *this* research rather than inferred from other work.

Conclusion

The patchwork public health system currently in place throughout the United States fails to provide adequate infrastructure across all HDs to ensure that all Americans have the same levels of public health protection. Disease and disaster do not respect jurisdictional boundaries, and successful public health responses will require multijurisdictional collaboration. Therefore, a community's health is not solely defined by its own investments in public health but also defined by the investments of the communities around them. Our inability to isolate ourselves from our adjoining communities places a greater priority on the need for a basic, minimum level of protection and service that can be expected regardless of jurisdiction.

This project found that practitioners largely relate to the idea of FCs and, indeed, claim to have most of those capabilities currently supporting their respective HDs. These capabilities may support the public's health more efficiently and consistently if they can be standardized, agreed to, and sustainably funded. However, if local and state public health practitioners are not actively engaged in this process, implementation may be delayed or derailed because of lack of buy-in.

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