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Public Health Finance

Characterizing the Impact of the 2012 Institute of Medicine Report on Public Health Finance: A Final Report

phnci

Contents

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Introduction

As part of an investment in public health systems and a prelude to the broader Culture of Health movement, the Robert Wood Johnson Foundation (RWJF) supported the Institute of Medicine (IOM) [now National Academies of Sciences, Engineering, and Medicine Health and Medicine Division (HMD)], in the creation of three foundational reports bearing on public and population health in the early 2010s. Focusing on measurement, law, and finance, these reports address some of the most pressing public health matters in the 21st century. The 2012 IOM report "For the Public's Health: Investing in a Healthier Future" (henceforth "Finance report")[1] considered the complex problem of adequate public health financing in an era of health care reform, economic austerity, questions about the proper role of government in the nation's health and public health system, and an evolving definition of what constitutes public health. The Finance report proposed 10 recommendations, encompassing the balance of clinical and population care provision, as well as how to organize and finance the public health system.

Almost a decade later, the current study reviews and characterizes the impact of the Finance report. Specifically, an investigation of how the 10 recommendations have impacted public health financing and service delivery across the nation was conducted. A team of public health system scholars conducted a mixed methods study in the summer of 2019 on behalf of the Public Health National Center for Innovations (PHNCI) with funding from RWJF. Qualitative interviews were conducted with 32 key informant thought leaders, researchers, and public health practitioners and a systematic literature review was completed.

The report that follows summarizes activities toward the 10 recommendations since the 2012 Finance report. Reflecting on the perspectives of thought leaders and findings from the systematic review, conclusions in this report provide insight on the future of public health financing.

2012 Finance Report Recommendations

Like previous landmark IOM reports, "For the Public's Health: Investing in a Healthier Future" reflects the historical context in which it was published. For example, the 1988 IOM report "The Future of Public Health" provided foundational recommendations about the future of governmental public health, establishing the Core Functions and what would become the 10 Essential Public Health Services. In the subsequent 2003 IOM reports about governmental public health in a broader context, considerations of and recommendations regarding the public health workforce were offered in reaction to an increasingly complex world, one necessitating a public health focus on preparedness and response. A series of three reports was funded to move public health forward. Specifically, the charge of the 2012 Finance report – the third in the series of three – was to characterize the current structure and approach to funding public health, to outline and propose remedies for inadequacies in the current approach, and to imagine the future of public health as an integral player in the national health system. The Finance report was published in 2012 in the midst of Affordable Care Act (ACA) implementation. Significant uncertainty abounded about the role of and need for public health in the world of health care reform. Moreover, major political and fiscal capital had been spent to increase access to care, leaving little for population-based prevention, cost containment, and other necessary reforms. By the time the Finance report was released, it had become clear to public health leaders that the newly created and much-maligned Prevention and Public Health Fund could not be counted on as a new major national source of future funding for public health.[2,3] Rather, it had already been tapped by a Democratic administration to pay for non-public health expenditures, and repeatedly threatened by a Republican minority, even being called a 'slush fund.'

IOM's charge to the committee leading the 2012 Finance report

The committee will develop recommendations for funding state and local health systems that support the needs of the public after health care reform. Recommendations should be evidence based and implementable.
In developing their recommendations, the committee will:

- Review current funding structures for public health
- Assess opportunities for use of funds to improve health outcomes
- Review the impact of fluctuations in funding for public health
- Assess innovative policies and mechanisms for funding public health services and community-based interventions and suggest possible options for sustainable funding.

In the context of reform offering nearly universal access to health care, the role of public health was unclear. Questions concerning the role of and financing for public health were especially timely given the lingering effects of the Great Recession, which had seen tens of thousands of public health jobs cut and a more modest recovery than the rest of the public sector experienced.[4] While the 1988 IOM report had recommended health departments largely divest themselves of the business of clinical care provision, many departments still provided substantial clinical care - vaccine administration, sexually transmitted infection (STI) clinics, maternal and child health (MCH) clinics, primary care clinics, and other clinical services. In many communities, despite the rise of

federally qualified health centers (FQHCs), health departments were still often the provider of last resort.[5] Beyond questions of whether and how governmental public health should disengage from the provision of clinical care, there remained perennial questions including - what is public health and what does it do? Does it have a critical impact? Given limited resources, how much should society spend on public health?

The Finance report reflects 3 years of Committee efforts and deliberations. It provided 10 recommendations, detailed in full below.

Recommendation 1: Life Expectancy Targets

The Secretary of the Department of Health and Human Services should adopt an interim explicit life expectancy target, establish data systems for a permanent health-adjusted life expectancy target, and establish a specific per capita health expenditure target to be achieved by 2030. Reaching these targets should engage all health system stakeholders in actions intended to achieve parity with averages among comparable nations on healthy life expectancy and per capita health expenditures.

2012 IOM Finance Report Recommendations

R01 – Life Expectancy Targets
R02 – Local Expenditure Flexibility
R03 – Minimum Package Endorsement
R04 – Clinical Care Shift
R05 – Universal Chart of Accounts
R06 – Research Infrastructure
R07 – Minimum Package Research (components, costing)
R08 – Federal Appropriation
R09 – State/Local Funding Reallocation
R10 – Sustainable Financing Structure

Recommendation 2: Local Expenditure Flexibility

To ensure better use of funds needed to support the functioning of public health departments, the committee recommends that (a) The Department of Health and Human Services (and other departments or agencies as appropriate) enable greater state and local flexibility in the use of grant funds to achieve state and local population health goals; (b) Congress adopt legislative changes, where necessary, to allow the Department of Health and Human Services and other agencies, such as the U.S. Department of Agriculture, the necessary funding authorities to provide that flexibility; and (c) Federal agencies design and implement funding opportunities in ways that incentivize coordination among public health system stakeholders.

Recommendation 3: Minimum Package Endorsement

The public health agencies at all levels of government, the national public health professional associations, policymakers, and other stakeholders should endorse the need for a minimum package of public health services.

Recommendation 4: Clinical Care Shift

The committee recommends that as clinical care provision in a community no longer requires financing by public health departments, public health departments should work with other public and private providers to develop adequate alternative capacity in a community's clinical care delivery system.

Recommendation 5: Uniform Chart of Accounts

The committee recommends that a technical expert panel should be established through collaboration among government agencies and organizations that have pertinent expertise to develop a model chart of accounts for use by public health agencies at all levels to enable better tracking of funding related to programmatic outputs and outcomes across agencies.

Recommendation 6: Research Infrastructure

The committee recommends that Congress direct the Department of Health and Human Services to develop a robust research infrastructure for establishing the effectiveness and value of public health and prevention strategies, mechanisms for effective implementation of these strategies, the health and economic outcomes derived from this investment, and the comparative effectiveness and impact of this investment. The infrastructure should include:

- *A dedicated stream of funding for research and evaluation.*
- *A national research agenda.*
- *Development of data systems and measures to capture research quality information on key elements of public health delivery, including program implementation costs.*
- *Development and validation of methods for comparing the benefits and costs of alternative strategies to improve population health.*

Recommendation 7: Minimum Package Components

Expert panels should be convened by the National Prevention, Health Promotion, and Public Health Council to determine

- *The components and cost of the minimum package of public health services at local and state and the cost of main federal functions.*
- *The proportions of federal health spending that need to be invested in the medical care and public health systems.*

The information developed by the panels should be included in the council's annual report to Congress.

Recommendation 8: Federal Appropriation

To enable the delivery of the minimum package of public health services in every community across the nation, the committee recommends that Congress double the current federal appropriation for public health, and make periodic adjustments to this appropriation based on the estimated cost of delivering the minimum package of public health services.

Recommendation 9: State-Local Funding Reallocation

The committee recommends that state and local public health funding currently used to pay for clinical care that becomes reimbursable by Medicaid or state health insurance exchanges under Affordable Care Act provisions be reallocated by state and local governments to population-based prevention and health promotion activities conducted by the public health department.

Recommendation 10: Sustainable Financing Structure

The committee recommends that Congress authorize a dedicated, stable, and long-term financing structure to generate the enhanced federal revenue required to deliver the minimum package of public health services in every community (see Recommendation 8). Such a financing structure should be established by enacting a national tax on all medical care transactions to close the gap between currently available and needed federal funds. For optimal use of new funds, the Secretary of the Department of Health and Human Services should administer and be accountable for the federal share to increase the coherence of the public health system, support the establishment of accountabilities across the system, and ensure state and local co-financing.

The Purpose of This Report

In recognition of the breadth of work in the field since 2012, a group of scholars were commissioned to write this report as a summary of "the impact of the 10 recommendations contained in the report so that a full picture of public health financing in 2019 can be described."[6]

PHNCI issued a specific charge for this review, stating that it should:

(1) Advance our national understanding of which of the 10 recommendations from the 2012 Finance report have been further developed;

(2) Enable learning of what impact has been made from those developments; and

(3) Describe successes and challenges to the recommendations.

Additionally, PHNCI charged the commissioned report authors to (1) describe the current status of each of the IOM Finance report recommendations; (2) provide descriptions of leaders and their scopes of work in each of the recommendation areas; (3) identify gaps and challenges to recommendations; and (4) provide observations concerning the types of activities and initiatives that require further work.

In order to meet these charges, the project team conducted a parallel mixed methods study. On one track, qualitative interviews with leaders in public health practice and academia were conducted by telephone in summer of 2019. Interviews were coded thematically and are summarized herein. The second track involved a systematic literature review. This review facilitated the cataloging of how government entities were addressing the recommendations.

Overview of the Interview Process

To assess achievements and experiences toward the 10 recommendations in the Finance report, we conducted qualitative interviews with 32 experts working in or with public health. The study team generated the initial list of individuals to invite for interviews, based on our knowledge and experience in the field. We also used snowball sampling to invite additional individuals, as we learned of relevant people or experiences during the interviews.

An interview questionnaire was developed to guide the interviews and was shared with interviewees prior to the call. Questions were asked about individual backgrounds and awareness of and expectations for the report. The questionnaire also listed each of the 10 recommendations for reference during the interviews. Interviewees were prompted to discuss any personal experiences they had working toward each of the recommendations as well as any efforts they were aware of since the report.

Interviews were recorded with permission and one member of the study team took notes during each interview. At the end of each interview, two members of the study team summarized what was discussed across three categories: (1) successes or achievements; (2) barriers; and (3) recommendations for the future. Using the interview notes as a starting point, recordings were transcribed by a member of the interview team. All transcriptions and interview summaries were analyzed in NVivo 12. The constant comparison method was used to identify themes across interviewee perspectives and experiences.

Among the 32 public health experts interviewed, 20 currently or previously worked in local, state, or federal governmental public health agencies. In addition to practice experience, participants ranged from those who currently have a primary role in an academic or research institution to members of stakeholder groups including public health associations, non-governmental public health partners, or foundations. Five of the 18 IOM committee members participated in an interview. Some, but not all of the changes or achievements interviewees discussed were directly attributed to the Finance report.

Achievements Identified Through Interviews

Interviewees identified four types of achievements that have taken place since the Finance report. These included: (1) consensus building and advocacy; (2) programmatic and research developments; (3) reports or papers; and (4) policy changes (**Appendix A**: Achievements Identified in Qualitative Interviews by Recommendation).

Consensus Building and Advocacy

Numerous interviewees perceived the dialogue and consensus building in response to the Finance report as an achievement that increased attention to public health funding issues. This was noted as especially important among policymakers and others who have the ability to influence change within federal public health agencies such as the Centers for Disease Control and Prevention (CDC) and Health Resources and Services Administration (HRSA).

Interviewees highlighted formalized mechanisms for increased dialogue around the recommendations of the Finance report including the establishment of national leadership such as the Public Health Leadership Forum (PHLF) and the Roundtable on Population Health Improvement at the Health and Medicine Division of the National Academies. The PHLF was formed under the leadership of RESOLVE and in collaboration with the Robert Wood Johnson Foundation (RWJF). PHLF supported further work on developing the minimum package of public health services concept – now referred to as the Foundational Public Health Services (FPHS) framework. After its establishment, the Public Health National Center for Innovations (PHNCI) took over these efforts, including supporting the practice community in this work. Additionally, a 2019 announcement established a committee to revisit and potentially revise the 10 Essential Public Health Services.[7,8] Revising the 10 Essential Public Health Services, was identified by an interviewee as an effort to redefine public health's role. Interviewees credited these formalized discussion mechanisms with advancing consensus building and advocacy efforts in support of the Finance report recommendations.

Dialogue around the FPHS was also characterized as beneficial in advancing national and state policy. For example, the FPHS were foundational to establishing and meeting mandates (such as Ohio's accreditation mandate) and, in Oregon and Washington, funding was tied to the FPHS. The FPHS dialogue is creating political headway at the national level as well with the Public Health Leadership Forum's presentation of their Proposed Infrastructure Fund paper to the Bipartisan Policy Center in late 2018.[9] The Leadership Forum's proposal builds off of other efforts discussed here including support for the FPHS model and calls for $4.5 billion in federal funding for the foundational capabilities.

Dialogue around a target life expectancy (recommendation 1) has occurred within the main Healthy People 2030 committee and subcommittees, although it is not clear if any life expectancy targets will be included the draft of Healthy People 2030. Several key informants also suggested that because of research that has occurred since the original report, a single life expectancy target may no longer be the right goal. Participants noted that current discussions are focusing on lessening disparities in life expectancy by race, ethnicity, or zip code or using a measure that is adjusted for quality of life or health status may be more appropriate.[10] While this push for more nuanced goals around disparities is not new, there are several local and national efforts to better measure and track life expectancy and disparities.

Programmatic and Research Developments

Interviewees cited a number of programs that relate to the Finance report that have been implemented nationally or specifically in various states or localities. These include the Uniform Chart of Accounts (UCoA) efforts, which relates to recommendation 5 and was sponsored by RWJF. A UCoA feasibility study was conducted by the Public Health Informatics Institute (a program of The Taskforce for Global Health). Following that, the UCoA pilot program by the Public Health Activities & Services Tracking group at the University of Washington began in 20 health departments (4 state and 16 locals) and has been expanded to add an additional 100 local health departments within two years.

Additionally, interviewees reported on The Rhode Island Health Equity Zones, which relates to recommendation 2 (local expenditure flexibility) and provides an example of braiding of funds. Braiding funds refers to using two or more financial resources or categories of funding toward the cost of a particular service.[11] Braided allocations and expenditures are tracked by the category of funding. An interviewee suggested that RWJF and the Kellogg Foundation are funding ASTHO to spread this model more widely. In addition to Rhode Island, interviewees mentioned several attempts to support braiding of funds by the Obama administration, the CDC, and the U.S. Center for Medicare and Medicaid Innovations (CMMI).

Toward the development of a research infrastructure or knowledge building (recommendation 6), a total of six additional programs were noted by key informants. These included the 21st Century Learning Community, which supported three states (Ohio, Oregon, and Washington) in efforts to implement the FPHS and, through collaboration, learn from one another.[12] The Learning Community has since been expanded to include nine states in total. Other programs include the CDC's HI-5 and 6|18 initiatives, which employ evidence based research about non-clinical community-wide interventions for use in state policy making (HI-5) and evidence based clinical preventive practices for purchasers, payers, and providers of care (6|18).[13,14] CityHealth, a program by de Beaumont and Kaiser Permanente, identifies a set of 10 evidence-based health, economic, and social policies for use in city policymaking.[15] RWJF is now also funding medium and small cities in related work. Additional programs include Win-Win at UCLA, which provides economic evaluations toward policies that will affect health, and the New York City Macroscope project that utilizes electronic health record (EHR) data for real-time public health surveillance.[16,17] These six efforts were all noted as developments that encouraged and/or provided evidence to drive public health policy change, decision-making, and funding.

Reports or Papers

Interviewees noted a number of important papers and reports that they perceived as related accomplishments since the Finance report. The most commonly referenced include: the methodology for measuring costs of public health programs by Mays and colleagues; the FPHS as a framework for estimating spending by Resnick and colleagues; the PHLF proposal for the infrastructure fund; the PHAB alignment analysis of the accreditation standards and measures and the Foundational Capabilities; the PHNCI document summarizing the FPHS; and Trust for America's Health guide for states to improve community health and well-being through policy change.[9,18-22] This list is not exhaustive of the reports and papers published that relate to the Finance report, which are discussed in more detail later in this report. Collectively the papers and reports focus on 4 of the 10 recommendations including: 1 (life expectancy targets), 2 (local expenditure flexibility), 3 (endorsement for a minimum package of public health services), and 6 (research infrastructure).

Policy Changes

Policy changes identified through interviews included both those that have been formalized (passed/implemented) as well as those that have been proposed. Additionally, related policies were identified at national, state and local levels.

Policies that occurred following the IOM Finance report and efforts related to the recommendations include a state policy change in Washington that secured vape tax dollars for use toward FPHS. These tax revenues are anticipated to grow for the foreseeable future and can be used for any of the FPHS. In both Washington and Oregon, costing estimates that have arisen from FPHS related work were used to motivate these policy changes.

With regards to local level policy changes, interviewees noted that some local health departments have secured increases in local property or real estate taxes to provide additional funding designated to support the FPHS as well as toward clinical services that are not being provided consistently by other organizations.

Concerning recommendation 3 (endorsement for a minimum package of public health services), interviewees cited the National Association of County and City Health Officials (NACCHO) release of a policy statement endorsing the FPHS and that the Public Health Accreditation Board (PHAB) is working toward clarifying FPHS in their upcoming Version 2.0 Standards and Measures.

At the national level, interviewees reported a number of policy changes that relate to greater state and local flexibility in the use of federal funds (recommendation 2). These include an increase in the amount of funding available to the 61 state, tribal, and territorial recipients of the CDC's Preventive Health and Health Services (PHHS) Block Grant. In fiscal year 2014, the PHHS Block Grant was increased from $80 million to $160 million and it has remained at that level to date.[23] Public Health Infrastructure has consistently remained the highest used area for PHHS Block Grant funds among recipients, with approximately 30% being allocated for infrastructure purposes, including accreditation efforts. Improvements in the program's reporting and measurement of the use of this flexible funding has also increased awareness of how it is leveraged for infrastructure.[24,25] Interviewees also noted that the Pandemic and All Hazards Preparedness Act (PAHPA) authorized up to 10% of other HHS funds to be use for public health response, thereby increasing the flexibility of other HHS funds. The PAHPA was reauthorized in June 2019. Work to advocate for the inclusion of local health departments in federal funding authorizations as part of the HHS/CDC budget process was also noted. Additionally, these advocacy efforts resulted in local government eligibility for CDC opioid funds in addition to state and territorial governments.

Interviewees also reported a number of proposed policy changes under consideration that relate to recommendations in the Finance report. These included the Labor, Health and Human Services (LHHS) Spending Bill 2020 that would increase funding for HHS and CDC over previous year funding amounts and the proposed Public Health Infrastructure Fund, developed by PHLF and presented to the Bipartisan Policy Center in late 2018.[9,26] Within the proposal, not only was public health accreditation tied to accountability, but for the first time it was tied to continued funding. Interviewees noted that

components of the Infrastructure Fund proposal have since been written into other proposed bills. Specifically, H.R. 2741 LIFT (Leading Infrastructure for Tomorrow's America) America Act: Modernizing Our Infrastructure for the Future (introduced to the 116th Congress in 2019) includes a placeholder for public health infrastructure support.[27] Additionally, interviewees noted that the proposal under consideration for the Health Education Labor and Pensions (HELP) Committee Lower Health Care Costs Act specifically includes public health data system modernization grants.[28]

Barriers Identified Through Interviews

To fully understand the achievements since the Finance report, it is important to understand the barriers that interviewees cited as impeding progress. Interviewee reports of barriers were generally grouped into three themes that are interrelated and complicate one another: 1) lack of additional funding; (2) accountability issues; and (3) communication and lack of cohesive voice and direction for public health.

Lack of Additional Funding

One of the most commonly cited barriers was a general lack of additional federal funding. This barrier is particularly related to recommendations 8 (federal appropriation) and 10 (substantial financing structure). A specific example provided was that the Prevention and Public Health Fund (PPHF) was initially considered to be a potential resource for recommendations in the report; however, respondents noted that funds from the PPHF have been shifted to categorical areas such as the national cancer strategy and were therefore not available as had been expected. Indeed, funds have also been spent outside public health entirely, e.g., on the Medicare 'doc fix' and health insurance exchanges. Further, interviewees suggested that while the Affordable Care Act had the potential to support public health efforts, the context (e.g., continued legal challenges, implementation complexities) undermined forward progress on some of the recommendations. In addition, there was substantial variation among interview participants as to perceptions about what had been achieved toward recommendations 4 (clinical care shift) and 9 (state-local funding reallocation). Per the interviewees, some LHDs have been able to reduce clinical service provision by ensuring access to services via partners in the community, while others have become more dependent on provision of services due to revenue from private insurance. One interviewee suggested that recommendations 4 and 9 were too broad and not reasonable for all LHDs, as LHDs exist in highly variable environments; some with no available substitutes to partner with to provide clinical services to the community. Additionally, interviewees noted for departments operating in a deficit, relinquishing clinical services would not result in any additional funds for other activities. Further, it was reported that typically LHD budgets are set each year, thus dollars saved from the clinical services budget line item may end-up being allocated for other non-public health uses.

Accountability Issues

Although the work toward the Uniform Chart of Accounts (UCoA) was highlighted by many as an important achievement, there remains concern that the lack of the ability to account for dollars and

measure specific achievements from public health investments is severely limiting when making the case for additional public health funds. Despite the forward momentum on the UCoA, a number of barriers have been noted among UCoA participants in regard to the UCoA recommendation (#5). Barriers include a general lack of financial expertise among local health department leaders (perceived as a primary deterrent keeping them from taking on the UCoA effort). Several key informants indicated that without changing state account systems, efforts to crosswalk accounts will continue to be resource intensive. Specifically, the compromise approach used in the UCoA projects to-date, (i.e., crosswalking an agency's financial system to a model UCoA rather than having health departments adopt the UCoA), does not provide long-term, sustainable estimates without continued and substantial efforts by agencies. Interviewees suggested that the recent UCoA program focus on LHDs has been challenging without the support and motivation that comes from involving the state health departments in these efforts. We provide recommendations to address this unresolved issue later in the report.

There also seems to be variation among stakeholders as to what accountability means. In some instances, individuals referred to financial accountability and in other instances health activities and outcomes were implied. It was suggested that it remains difficult to establish value for the dollars being requested for public health without financial accountability as well as more timely health and outcome data at an appropriate local level (e.g., zip codes).

Communication and Lack of Cohesive Voice and Direction for Public Health

An overarching theme from the qualitative interviews was that there is a lot of work going on among different public health entities and stakeholders and it is challenging for the larger public health field to keep up or to understand the different approaches and models as they are implemented. There seems to be some confusion about terminology, such as "above the line" and "below the line" from the FPHS model [relating to whether a service is locally specific (above the line) or should be in place everywhere (below the line)]. Other examples of confusing terminology cited included the meaning of "capabilities" versus "service areas" versus "essential services," and "costing" versus "charting" accounts.

An important and complex barrier that was identified was a lack of alignment among public health entities/stakeholders. This relates to differences in perspectives by stakeholders regarding the FPHS and concerns about the risks of focusing on just the capabilities and services depicted in the FPHS. There remain different opinions as well as interests among public health entities in terms of where dollars should be directed (national, state, local levels) and what they are directed toward (categorical items versus more flexible funding for things such as infrastructure). In the context of recommendation 2 (the request for greater flexibility), many interviewees suggested that they would appreciate or understand the need for greater flexibility, but there were mixed opinions on the implications of such. Depending on how the term "flexibility" was defined, different perspectives were voiced about the value versus the risk of flexibility. To some, flexibility meant that funds were at risk for being broadly cut through block grants. Others viewed flexibility as the ability of local health departments to directly receive federal dollars from CDC or HHS rather than through their state agencies.

These unique interests of stakeholders (e.g. specific programmatic areas, federal/state/local, etc.) and overall differences in perspectives are further complicated by varying opinions on public health's path forward. This is particularly relevant as it relates to the Public Health 3.0 recommendations and moving upstream toward a greater focus on social determinants of health and health officers serving as chief health strategists. In sum, it was stated that public health has been unable to leverage a unified voice when asking for additional support and funds, communicate the value of public health, or to consistently and cohesively speak in ways that motivate support from policy makers and the public.

Qualitative Interview Summary

Interviewees collectively identified numerous achievements across the four main areas of consensus building and advocacy, programmatic and research developments, reports or papers, and policy changes. While there have been challenges along the way, specifically for recommendations 8 and 10 that focused on increased federal appropriations, interviewees noted what they considered a substantial amount of work toward many of the recommendations in the Finance report. Three main barriers impeding these efforts were summarized to include a lack of additional funding, accountability issues, and communication and lack of cohesive voice and direction for public health achievements. These collective achievements and lessons can be used to direct the continued momentum toward outstanding needs in public health finance.

Literature Review

The study team crafted and executed a systematic search strategy according to the PRISMA statement utilizing a rapid review methodology.[29,30] The focus of the search strategy aimed to characterize how the 10 Finance Report recommendations impacted public health financing and service delivery across the nation.

Review Protocol

Searches were performed within Google Scholar using "Publish or Perish" (PoP) Windows software via two methods: 1) citation mapping of the Finance report and 2) keyword search to obtain results for each of the 10 recommendations. Both search methods returned citations for peer-reviewed research and commentaries as well as grey literature. Two reviewers performed relevance screening and eligibility activities, while a third reviewer resolved any conflicts between the primary reviewers for screening or eligibility.

First, citation mapping was conducted on the Finance report using PoP software. Citations for the report were returned for multiple levels of works cited to-date. For instance, the Finance report was found to be cited by 47 articles. The next layer of citations found articles which cite at least one of those 47 articles, and so on. Four layers of citations were mapped in this way. Second, eleven separate search strategies were used for keyword searches: one for works citing the Finance report and one for each of the 10 Finance report recommendations. The rationale behind the latter is that the recommendations may have been discussed or explored without reference to the Finance report, especially where the report did not originate the topic (e.g., Recommendation 1 Life Expectancy Targets). Each of the search strategies utilized original and similar language specific to the recommendations to obtain a total of 100-200 results for each strategy using one or more keyword searches.

Returned citation titles and abstracts were first screened for relevance. Irrelevant and duplicate citations were removed. Next, the full text of retained articles was reviewed against two eligibility criteria: (1) document addresses topic of at least one recommendation and (2) document contains information of either an official action taken or evidence of impact to practice community. Relevant articles were retained and information extracted while irrelevant articles were removed.

Overview of Review Findings

A total of 2,395 unique citations (336 duplicates excluded) were returned in total from the eleven search strategies as well as the citation mapping. Next, citations and abstracts were reviewed to screen for relevance. Of these citations, only 192 were identified as potentially relevant (2,203 excluded as irrelevant). Then, the full-text articles were reviewed using eligibility criteria related to (1) relevance to one or more IOM recommendations and (2) article describes official actions taken or impacts to practice community. A final set of 57 articles were deemed eligible. **Table 1**, below, denotes the number of articles which address aspects of a Finance report recommendation (articles can address more than 1

recommendation).

***Table 1**. Number of Articles Addressing Finance Report Recommendations*

IOM Recommendation	1	2	3	4	5	6	7	8	9	10
Number of Articles	12	22	34	16	16	10	23	21	2	20

Federal Uptake

The recommendations of the Finance report were often explicitly directed toward the US DHHS and US Congress as primary entities from which official federal actions may influence national paradigm shifts. According to literature reviewed, very few of the Finance report recommendations were found to be officially acted upon by federal authorities. The CDC was found to have played a role in the development of the FPHS model with further activities supported by recommendations of the CDC Advisory Committee to the Director to advance practice around the minimum package concept.[31] The literature review did not show meaningful discussion of actions from the US DHHS nor the US Congress that had met or exceeded the recommendations set forth within the Finance report. Though the recommendations ranged from those to be accomplished bureaucratically (e.g., development of a research infrastructure) versus legislatively (e.g., doubling the federal public health appropriation), none of the recommendations were found to have been substantially acted upon by the US DHHS or Congress.

Though limited federal activity was found in the literature, other national partners have acted toward the recommendations. For instance, the RWJF assumed leadership of activities related to the minimum package of public health services and studying potential funding mechanisms. This included RWJF funding the development of an expert consensus on minimum package components (discussed below) as well as substantial support to public health systems and services research across many programs. These RWJF efforts, in turn, have allowed additional research and applications within practice for the betterment of communities. As another example, PHNCI continued the work related to the FPHS model from the PHLF and currently serves as a national coordinator for this body of work, to include research and endorsement of the model.[21] Though RWJF and other non-governmental actors have no federal authority, they have the ability to influence the practice and outcomes of governmental public health through dissemination of resource materials, best practices, thought leadership and other similar activities.

Discourse within the Literature

The majority of research and impacts to practice within the literature centered around the definition, costing and adoption of minimum package components (recommendations 3 and 7); activities in these areas were also critical for understanding the UCoA (recommendation 5). As discussed at length in the Interview section earlier in this report, following the publication of the Finance report, RWJF tasked RESOLVE, an independent nongovernmental organization, in 2013 with creating a national expert

consensus on essential skills and programs reflective of the minimum package concept. This has resulted in several publications examining the minimum package / FPHS and its components.[18,31-35] RESOLVE established the Public Health Leadership Forum (PHLF) in 2013 as a means to complete this work, from which stakeholders were convened to explore key questions of that concept.[36] In 2014, the PHLF produced the FPHS minimum package model as the "suite of skills, programs, and activities that must be available in state and local health departments system-wide."[36] Following this milestone and state-based work being done (including in Oklahoma, Washington, and Ohio initially), a number of research projects and policy changes were made possible, including the following:

- *Chart of Accounts Crosswalk Tool* - The Public Health Informatics Institute (PHII) created a draft crosswalk tool, based in part on the FPHS model, to index an agency's accounting structure to a UCoA which has been further refined by the University of Washington and further investigated in pilots with local and state health departments;[33,37,38]
- *Minimum Package Frameworks* - Many states have created minimum package frameworks specific to their state, which has been captured within initiatives such as the PHNCI 21st Century Learning Community (see table within **Appendix B**);[31,35,39,40]
- *Forecasting of Public Health Scenarios* - The Institute for Alternative Futures (IAF), in partnership with the RWJF and Kresge Foundation, developed a report envisioning four future scenarios for public health projected to the year 2030 – the report built upon expert commentary (including by RESOLVE) in which foundational capabilities were both noted as necessary for cost estimation and critical capacities to be funded;[32,41] and
- *Foundational Public Health Services Cost Estimation* - The FPHS framework and cost estimation tool were used to estimate costs for Foundational Capabilities (16 LHDs across 4 states, 2015-16) and the suite of FPHS (19 LHDs across 3 states, 2014-15) and one 2017 study utilized the FPHS framework to code US Census health expenditure records (1.9 million records across 49 states, 2000-13).[18,19,33,42]

A considerable amount of research and discussion was found in the literature in regard to total revenues and expenditures for public health across the nation (recommendations 2, 8 and 9). Research into the relationship between investment in public health and health outcomes have indicated strong positive relationships between funding and health outcomes, showing the value of sustained and increased investment in public health.[43-45] This positive association between funding and health outcomes indicates the current trend of decreasing federal and state public health appropriations is problematic and likely damaging to the health of the public.[46-48] The Finance report recommendations to double federal appropriations for governmental public health (recommendation 8) were based upon estimated national public health spending found within the Public Health Activity Estimate (PHAE); the accuracy of the PHAE estimates have been found by researchers to be likely overestimates.[49,50] Findings of broad definitions of health and health care and PHAE calculation methods, as well as lack of consistency in financial data collection and categorization across states and localities have found that public health expenditures are likely only 1-2% of total US health expenditures rather than reported by the current PHAE which indicates 3% of total US health expenditures is for public health.[51-54] A 1 or 1.5% overestimation may seem trivial, but with total U.S. health expenditures estimated at more than $3 trillion, such an overestimation constitutes a major misrepresentation of what our nation is currently spending on public health.[55]

There were other research and practice efforts uncovered in the literature that showed evidence of discussions, changes to practice, and implications related to the Finance report recommendations:

- *Life Expectancy Valuation* - Reflection upon the value of examining life expectancy from birth with special focus on the value of payment parity and investments in early childhood (recommendation 1);[56,57]
- *Fiscal Allocation of Investment* - Initiatives to understand the fiscal allocations by different sources with a focus on federal, state, and local shares (recommendation 2) as well as those supportive of reallocating public health funding currently directed toward clinical services (recommendation 9);[46,48,58-60]
- *Shift from Direct Services* - Shifts by providers from clinical care and other direct service provision (DSP) toward a focus on population health activities (recommendation 4);[61,62] and
- *National Research Infrastructure* - Efforts toward establishing a coordinated national research infrastructure that included topics of financing, service delivery, successful policies and impacts have been coordinated by research institutes, think tanks and foundations (recommendation 6).[32]

Implications for State and Local Practice

The implications of the Finance report are wide-reaching and well-documented. Literature has shown that maintaining a sustained investment in public health supports strong delivery of services and effectiveness in outcomes.[63] Spending on public health activities has the potential to improve population health which may, in turn, decrease spending needs for treatment. For example, studies have shown that higher per capita local public health spending reduces mortality from preventable causes of death.[54,64,65] Further, research suggests that Medicare could recover $1.10 per $1.00 invested in local public health.[66]

Research suggests that, in the face of budget deficits, state and local governments respond by spending "rainy-day funds", cutting spending, and increasing taxes.[43,46,48,51] As rainy-day funds are depleted and raising taxes is politically challenging, the more common governmental response has been massive and repeated budget cuts – most pronounced with the Great Recession between 2007-09. Additionally, within the current healthcare reform landscape, LHDs may feel increasingly "crowded out" in their ability or need to provide services. Key factors such as duplication of direct services with other providers within communities and reduced service-generated revenues have resulted in a shifting of the public health safety net role towards population health and discontinuing provision of direct services.[61,67,68] Though, research also shows that investments shifted to social services such as transportation, fire protection and education may increase the likelihood of community health improvement.[43,64,65]

Many states have taken steps toward aligning finance and service delivery definitions (**Appendix B**) to advance efforts to accurately capture costs of and savings from public health investment. One subset of efforts has focused on both costing public health services and standardizing financial reporting at state and local levels. Several national initiatives have investigated the costs of minimum package components, most centered around the FPHS framework. Following a large collaboration of subject matter experts, a 2014 report was produced which outlines a recommended methodology to estimate

the costs of FPHS, which has been used and adapted in further research.[42] Multiple studies on the costs of minimum package components have been performed in the years following the Finance report, utilizing communities of LHDs across states and within states. Some studies of interest include:

- 2016 and 2017 studies which investigated costs of specific components within environmental public health (15 LHDs in NC) and communicable disease control (43 LHDs in CO) and found evidence of economies of scale with higher volumes of services associated with lower costs;[69,70]
- two 2018 studies which investigated current FPHS costs as well as estimated costs perceived needed to fully implement FPHS which found estimated resource gaps of approximately 65% (10 LHDs in WA with secondary data for all 35 LHDs) and 70% (9 LHDs in KY & OH in addition to the 10 LHDs in WA);[18,39] and
- 2019 study which investigated per capita Foundational Capabilities spending through use of the UCoA and found variations in spending both within and between states and benefits of utilizing a UCoA (16 LHDs across MN, MO, NY, and WV).[33]

This equates to more than sixty examples of detailed FPHS component estimates, nineteen examples of full FPHS estimates and sixteen examples of Foundational Capability estimates, all across nine states. One additional study published in 2017 used the FPHS framework as a means to code non-hospital health expenditure data from the US Census Bureau across 48 states and imputed data for the remaining two states.[19] To study financial reporting, a community of twenty state and local health departments collaborated to work toward aligning financial reporting to the UCoA by providing detailed financial information into a standard tool which includes both the FPHS framework and other non-FPHS cost accounting such as those for clinical services.[37,38] These are important first steps in capturing detailed public health revenues and expenditures and have the potential to advance local, state, and federal practices to close financial gaps and more accurately measure costs and benefits of public health investment.

A second subset of efforts has followed the local and state definition and implementation of minimum packages. As no federal directives have cultivated or incentivized the growth of minimum packages, a small number of states have voluntarily taken on the task of defining a minimum package customized for their state with each minimum package framework, differing by state.[71] Twelve states were identified to have sustained activity to modernize their state's definition of public health services, with some activity commencing prior to the 2012 Finance report (**Appendix B**): Colorado, Iowa, Kansas, Kentucky, Massachusetts, North Carolina, North Dakota, Ohio, Oregon, Texas, Washington and Wisconsin.* PHNCI, in serving as a national hub for minimum package activity, facilitated the 21st Century Learning Community program from 2016-18 as a means to further research into the package components, costs, and implementation of minimum package projects across Ohio, Oregon and Washington. Lessons learned emphasized that for governmental public health to create equitable health for their communities, they must:[12]

* As of the writing of this report, early activity has been identified in California, Minnesota, Missouri and Nebraska.

- *maintain sufficient funding and capacity to respond to community priorities and needs;*
- *demonstrate value by leveraging data, expertise and outcomes; and*
- *communicate the case for public health to policymakers and partners.*

The Learning Community expanded to include states undertaking minimum package efforts. The first addition was Kansas, a grantee of the concurrent PHNCI Innovations Program, through which the state's project related to the definition, costing, and adoption of an FPHS framework for Kansas. Additional states have joined the Learning Community as of January 2019: California, Colorado, Kentucky, Minnesota, and Missouri. PHNCI will continue to convene the Learning Community through June 2022 as a forum for national discussion and sharing best practices and lessons learned surrounding the adoption of minimum package frameworks.[72] As presented in **Appendix B**, many of the member states have authorized their frameworks through law or promulgated administrative rules. Research has shown that the inclusion of minimum package components within enabling authorities provides governmental public health with the tools to act.[31]

Recommendations Following Investigation

The Finance report represented the culmination of a decade of serious work on public health finance as both a concept and field. Previously, recommendations about additional funding appeared anecdotally in peer-reviewed literature and from the advocacy work that had been performed by Trust for America's Health for use in their public health funding reports. The 2012 publication of the Finance report provided a formal and organized national agenda for public health funding for the first time in decades. Its recommendations engaged with the uncertain reality of governmental public health in the era of health care reform. Like many national reports of its kind, we found that certain recommendations have had significantly more uptake than others and, indeed, some recommendations have had essentially no action taken. Perhaps the most significant challenge we observed is the relative stagnation of population-based funding for governmental public health, and the reliance of federal public health agencies on the prevention fund in place of previous funding streams.

Author's Recommendations

1) The field should strive to adopt a standardized Foundational Public Health Services framework.
2) The field should promote uptake of the Uniform Chart of Accounts crosswalk to facilitate financial comparisons and benchmarking.
3) Greater federal and private investment should support analysis of the cost-benefit of public health spending, involving the development of new data sets and methods to derive causal impact of public health spending.
4) Federal and private funders, practitioners, and academics should come together to create, disseminate, and implement a public health finance research agenda.
5) Federal and private investment should fund public health as part of a multi-sector pursuit of health equity and improvement of the social determinants of health.

Authors' recommendations

Based on information gathered through key informant interviews and the literature review, we offer a set of recommendations relating to public health finance. These have impact and import for both governmental and non-governmental actors.

The first recommendation relates to the Foundational Public Health Services model. In our view, the FPHS has been extremely successful in moving forward the conversation the Finance report called for in 2012. There is now explicit discussion not only on appropriate public health roles and activities, but on what infrastructure, skills and activities are necessary to support the public health enterprise. However, the implementation of the FPHS remains widely varied across the US – namely around the definitional categories; the table from **Appendix B** also shows how the adoption process for states has varied considerably.[71] While we believe any implementation of the FPHS is a positive step as called for by the IOM, the authors recommend:

Retrospective Recommendation 1: The field should strive to adopt the standardized Foundational Public Health Services framework.

Adoption of the standard framework would necessitate less varied implementation across the county and more consistency on the specific activities included and allow for attention to additional supports needed for small and more rural local health departments. This will be important if FPHS Capabilities are tied into accreditation requirements or part of any future infrastructure fund accountability requirements (e.g., via the LIFT act). Additional sharing of services and revisions to state/local structures may be difficult changes but will likely be essential if consensus can be found for the FPHS model. Additionally, the field would do well to reconcile differences between the 10 Essential Public Health Services (currently the model used by the federal government and many states) and the FPHS model.

The second recommendation that emerged from this project relates to financial standards. As has been noted, the field of public health is decades (or perhaps even a century) behind other fields in this area.[1,73] The ability to track dollars in and out of public health is needed both for accountability of current funds and to be able to advocate for the appropriate amount of funds needed. While the initial Finance report recommended development of a model Chart of Accounts and its adoption at agencies across the US, it soon became clear that such an approach would not be possible – most health departments are beholden to their state or local government systems for financial system definitions. Instead, a Uniform Chart of Account crosswalk was conceived that would work with health departments on their own terms, in a way that would rigorously allow comparisons across spending and revenue categories. However, the crosswalk has not been widely adopted.

Retrospective Recommendation 2: The field should promote uptake of the Uniform Chart of Accounts crosswalk to facilitate financial comparisons and benchmarking.

Accreditation may be a way to do this, but there may also need to be national leadership requiring more systematic accounting procedures to find a feasible and sustainable way forward. Mandatory reporting from federal funders may be such a way to increase uptake of such a tool, as for example, HRSA does with federally qualified health centers or the National Center for Education Statistics does with colleges and universities.

A third recommendation pertains to the value proposition of public health. There remains a need to better articulate and communicate the role and value of public health to those outside of public health and in particular to policymakers at the local, state, and federal levels. What's more, the impact of communicating available evidence should be assessed. Are policymakers swayed by strong evidence of public health's potential returns or, if not, what alternative types of information would help promote

evidence-based policymaking? Whether greater ability in communicating the value of public health would have advanced implementation of recommendations 8-10 (funding) remains an open question. However, an essential component of justifying value is ensuring timely access to health outcomes data and financial data, especially at a hyperlocal level, including not only states, but also counties, cities, and all relevant local health jurisdictions. This is largely within the purview of CDC and should be a priority.

Retrospective Recommendation 3: Greater federal and private investment should support analysis of the cost-benefit of public health spending, involving the development of new data sets and methods to derive causal impact of public health spending.

The improvement of financial conditional and situational awareness will be critical if greater federal investment occurs, e.g., through passage of the LIFT infrastructure bill or something similar.[†] It may be possible to secure funding for public health, but to maintain it, more timely, local, and precise data will be needed to feed complex cost-benefit analysis that policymakers will desire to keep investing in core public health. To ensure that an increase in funding is not coupled with an increase in policymakers' uncertainty about compliance or accountability, greater reporting is necessary, and more research should be conducted to allow development of methods to improve causal detection of the impact of public health spending on health outcomes at local levels. Moreover, while national research agendas have been developed for public health systems and the public health workforce, there is not a comparable agenda for public health finance research nationally.

Retrospective Recommendation 4: Federal and private funders, practitioners, and academics should come together to create, disseminate, and implement a public health finance research agenda.

A final recommendation pertains to the intersection of public health and other fields. It is worth noting that since the 2012 publication of the Finance report, the broader field of public health has been increasingly engaged in broad conversations regarding social determinants of health and health equity. This is exemplified by the Public Health 3.0 paradigm and often involves upstream, collaborative, multi-sector work with public health departments serving as chief health strategists in their communities. This shift may prompt additional consideration of the ways in which the 10 Finance report recommendations do and do not account for public health's contributions to multi-sector pursuit of health equity and

[†] It is important to note that, at the time this commissioned paper is being drafted, a bicameral initiative – the *Public Health Funding Restoration Act* (S. 1944, H.R. 3447) – is under way to rejuvenate the Prevention and Public Health Fund (PPHF) to restore billions in funding toward vaccination programs, chronic disease prevention programs and health education programs.

improved social determinants of health. It is not entirely clear that the recommendations make explicit how public health officials and budgets should be targeted to these activities.

Retrospective Recommendation 5: Federal and private investment should fund public health as part of a multi-sector pursuit of health equity and improvement of the social determinants of health.

Only recently have policymakers discussed this work explicitly (e.g., the Social Determinants Accelerator Act).[74] What is clear, however, is the wealth of evidence illustrating how the adequate funding of basic services leads to improved health outcomes for both individuals and their communities.[33,43,55,64,65,75-78]

Conclusions from Investigation

PHNCI commissioned this study to determine the broad impact of the 2012 IOM Finance report, progress along the 10 recommendations within it, and barriers to implementation of the recommendations. As discussed at length in this review, we find several Finance report recommendations have had significant uptake. Perhaps most impactful are recommendations relating to what has become the Foundational Public Health Services (FPHS) model. The FPHS model has been refined and developed in the intervening years since publication of the Finance report, including at the state and local level. Additionally, the FPHS framework has become the foundation for several costing methodologies, which are necessary to understand the true future cost of fully meeting the Foundational Public Health Services. Similarly, the Finance report's Chart of Accounts recommendation has had slow and steady development since 2012 but needs further investment and a means of increasing uptake nationally to be successful in the long run. The overarching question about how to properly fund public health remains. There are questions of flexibility of funds with the increasingly high reliance on 'siloed' or 'categorical' funds. Some efforts have been made federally to increase flexibility of these funds, but more must be done to allow health departments to meet the needs within their community as described by the FPHS model.

As the United States proceeds in an uncertain future with respect to health care reform, public health continues to protect and improve population health. From re-emerging and vaccine preventable disease outbreaks, to disparities in maternal morbidity and mortality, to the safety of our drinking water, the public health enterprise faces challenges well into the 21st century. Its leaders and practitioners face uncertainty as well. Uncertainty relating to the role of public health in the world of health care reform, uncertainty related to continued federal, state and local investment, and uncertainty in terms of the future of the field. These uncertainties are likely to persist in the coming years federally. Thus, it is at the state and local levels where many of the recommendations can be refined and implemented. Even with greater state and local investment, though, substantial and sustained federal investment will be necessary to make this happen.

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Appendix A: Achievements Identified in Qualitative Interviews by Recommendation

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
R1: The Secretary of the Department of Health and Human Services should adopt an interim explicit life expectancy target, establish data systems for a permanent health-adjusted life expectancy target, and establish a specific per capita health expenditure target to be achieved by 2030. Reaching these targets should engage all health system stakeholders in actions intended to achieve parity with averages among comparable nations on healthy life expectancy and per capita health expenditures.	Roundtable on Population Health Improvement at the Health and Medicine Division of the National Academies is potentially going to be talking about this recommendation.		Mays and colleagues develop a methodology for measuring costs of public health programs and is being used to establish state/local/national per capita expenditures.[18] *References identified in the literature review include:* [56,57,76,79,80].	Proposed to include this target in Healthy People 2030 at the subcommittee level; unclear if will gain momentum.
R2: To ensure better use of funds needed to support the functioning of public health departments, the committee recommends that (a) The Department of Health and Human Services (and other departments or agencies as appropriate) enable greater state and local flexibility in the use of grant funds to achieve state and local population health goals; (b) Congress adopt legislative changes, where necessary, to allow the Department of Health and Human Services and other agencies, such as the U.S. Department of Agriculture, the necessary funding authorities to provide that flexibility; and (c) Federal agencies design and implement funding opportunities in ways that incentivize coordination among		Rhode Island Health Equity Zones: includes blending and braiding of funds, RWJF now funding ASTHO to spread that model.	PHLF report "Developing a Financing System to Support Public Health Infrastructure" released at the Bipartisan Policy Center; received bipartisan interest then passed onto Trust for America's Health as an advocacy home for the effort.[9] *References identified in the literature review include:* [44-46,50,51,58,59,81].	The Preventive Health and Health Services Block Grant increased from $80 to $160 million in 2014. Infrastructure is consistently the highest used areas for these funds with approximately 30% allocated for infrastructure, including accreditation efforts. Washington state secured vape tax dollars for FPHS which includes some flexibility and stable funding. Pandemic All-Hazards Preparedness Act (PAHPA) authorized up to 10% of other HHS funds to be used for public health response (increased flexibility). A new authorization, Senate Bill: S. 1379: Pandemic and All-

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
public health system stakeholders.				Hazards Preparedness and Advancing Innovation Act of 2019, passed in Congress in June 2019. LIFT America Act: Leading Infrastructure for Tomorrow's America Act (H.R. 2741) was introduced in May, 2019 which proposed funding public health infrastructure including data systems. Additionally, John Auerbach, CEO of Trust for America's Health provided testimony for the act in May, 2019.
R3: Public health agencies at all levels of government, national public health professional associations, policymakers, and other stakeholders should endorse the need for a minimum package of public health services.	PHLF, a committee of experts, was formed at RESOLVE with the intention of defining a minimum package of services (FPHS) PHAB conducted a cross-walk of the Accreditation Standards and Measures and the Capabilities as noted in the Foundational Public Health Services. PHAB is working on Version 2.0 of the Standards and Measures. Revisions will give consideration to changes necessary for FPHS Capabilities Assessment.		Two related reports- one on the PHAB crosswalk of the Accreditation Standards and Measures and the Foundational Capabilities and one that assessed the frequency of meeting capabilities among currently accredited health departments.[20,33] *References identified in the literature review include:* [18,19,31-34,38-40,50,51,53,54,59,63,68,76,81-85].	PHAB has already identified the FPHS Foundational Capabilities as they overlap with the existing Version 1.5 Standards and Measures. They are currently considering how the FPHS Foundational Areas will be incorporated in the upcoming Version 2.0 Standards and Measures. NACCHO developed a policy statement supporting the FPHS.
R4: Clinical care provision in a community should no longer require financing by public health departments. Public health departments should work with other public and private providers to develop		Clinical services have been transitioned to other public and private providers in many large metro areas and states. However, this change is not happening consistently across	*References identified in the literature review that relate to this recommendation include:* [40,59,61,62,67,68,81,86,87].	

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
adequate alternative capacity in a community's clinical care delivery system.		smaller, rural local health departments.		
R5: A technical expert panel should be established through collaboration among government agencies and organizations that have pertinent expertise to develop a model chart of accounts for use by public health agencies at all levels, to enable better tracking of funding related to programmatic outputs and outcomes across agencies.	The Prevention, Health Promotion, and Public Health Advisory Group to the National Convention Council on The National Prevention Strategy.	RWJF funded programmatic efforts to explore the establishment of charts of accounts. Established the two UCoA pilot projects, with one recently expanding to include implementation among another 100 local health departments.	*References identified in the literature review include:* [33,37,38,45,75,76,85,88].	The proposed Public Health Infrastructure Fund includes public health accreditation as an accountability mechanism for FPHS Foundational Capabilities.
R6: Congress should direct the Department of Health and Human Services to develop a robust research infrastructure for establishing the effectiveness and value of public health and prevention strategies, mechanisms for effective implementation of these strategies, the health and economic outcomes derived from this investment, and the comparative effectiveness and impact of this investment. The infrastructure should include: a. A dedicated stream of funding for research and evaluation. b. A national research agenda. c. Development of data systems and measures to capture research quality information on key elements of public health delivery, including program implementation costs.		HI-5 Initiative (Health Impact in 5 years) reported evidence-based, cost-effective or cost-saving, non-clinical, community-level interventions for use by the practice community or for policy initiatives. 6|18 Initiative identified interventions with solid evidence on cost and health savings that should be covered by insurers. CityHealth was established in 2017 and is supported by the deBeaumont Foundation and Kaiser Permanente to evaluate and promote evidence-based policy solutions at the city level related to health and social determinants of health. RWJF and the de Beaumont Foundation have funded research and evaluation in this area. Win-Win at UCLA a long-term initiative of	Trust for America's Health developed a report called 'PHACCS' (Promoting Health and Cost Control in States) – a guide for states to improve community health and well-being through policy change.[22] 6d. Mays and colleagues developed a methodology for measuring costs of public health programs and applied it across a number of states.[18] 6d. Resnick et. Al AJPM 2017 paper "Framework for Estimating Spending"[19] *References identified in the literature review include:* [51,85].	

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
d. Development and validation of methods for comparing the benefits and costs of alternative strategies to improve population health."		the Center for Health Advancement at the Fielding School of Public Health, UCLA; provides science that drives real-world policy change by showing the education, crime and health impact to populations and value to governments of policies, systems, and programmatic innovations. Provides economic analysis of interventions to help public-health officials make informed policy and program decisions and engage in cross-sectoral collaboration. 6c. New York City Macroscope Project using EHR data for population health surveillance. Foundation funding contributes to research and evidence building.		
R7: Expert panels should be convened by the National Prevention, Health Promotion, and Public Health Council to determine: a. The components and cost of the minimum package of public health services at local and state and the cost of main federal functions. b. The proportions of federal health spending that need to be invested in the medical care and public health systems. The information developed by the panels should be included in the	PHNCI and de Beaumont are partnering on the Futures Initiative to review and update the 10 Essential Public Health Services. The Roundtable on Population Health Roundtable (HMD) was established to facilitate and sustain collaborative action by a community of science-informed leaders within and outside of public health.	21st Century Learning Community supported three states (Ohio, Oregon, and Washington) in efforts to implement the FPHS and, through collaboration, learn from one another.	*References identified in the literature review include:* [18,19,32-35,39,47-49,52-54,82,89]	

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
council's annual report to Congress.				
R8: To enable the delivery of the minimum package of public health services in every community across the nation, Congress should double the current federal appropriation for public health, and make periodic adjustments to this appropriation based on the estimated cost of delivering the minimum package of public health services.		Pew Charitable Trust Health Impact Project: includes several efforts such as Health Notes to help states and localities consider health in policymaking.	Trust for America's Health released a Report "The Impact of Chronic Underfunding of America's Public Health System" (April 2019)- established a list of top FY2020 funding priorities.[90] *References identified in the literature review include:* [46,47,52,53,76].	
R9: State and local public health funding currently used to pay for clinical care that becomes reimbursable by Medicaid or state health insurance exchanges under Affordable Care Act provisions should be reallocated by state and local governments to population-based prevention and health promotion activities conducted by the public health department.		Local examples exist where public health departments have had success in getting private insurers to reimburse for services and generate revenue for clinical services essential to the community.	*References identified in the literature review include:* [76,86].	
R10: Congress should authorize a dedicated, stable, and long-term financing structure to generate the enhanced federal revenue required to deliver the minimum package of public health services in every community. Such a financing structure should be established by enacting a national tax on all medical care transactions to close the gap between currently available and needed federal funds. For optimal use of new funds, the Secretary of the Department of Health and Human Services should administer and be accountable for the federal share to increase	The Roundtable on Population Health Improvement (HMD) convened a workshop in Dec 2017 to explore tax policy focusing on redirecting resources to support population health interventions. Public Health Roundtable in Olympia: WSPHA and its partners in the Public Health Roundtable lend a unified voice to key budget and policy discussions in Olympia. This coalition is the primary advocate for stable, long-term, flexible		A publication "Exploring Tax Policy to Advance Population Health, Health Equity and Economic Prosperity – Proceedings of a Workshop" was published by the National Academies of Science, Engineering, and Medicine following a workshop of the Roundtable on Population Health Improvement and the Board on Population Health and Public Health Practice: Health and Medicine Division.[91] *References identified in the literature review*	LHHS Spending Bill 2020 put forward by the House Appropriations Committee (Labor, Health and Human Services, Education and Related Agencies) – would increase funding for HHS and CDC over previous years Washington state secured vape tax dollars for FPHS which includes some flexibility and stable funding. Local example of getting an increase in

Recommendations	Advocacy / Discussions / Consensus Building	Programmatic Changes	Reports / Papers	Policy Changes
the coherence of the public health system, support the establishment of accountabilities across the system, and ensure state and local co-financing.	funding for Washington's public health system and comprehensive policy solutions to issues influencing the public's health.		*include:* [50,51,53,60,76,88].	the local property and real estate tax to provide sustainable, long term funding to the local public health department. Health, Education, Labor, and Pensions Committee "Lower Health Care Costs Act" draft and committee hearing in summer, 2019. The draft includes funding for data systems. Massachusetts Prevention and Wellness Trust Fund was created to support evidence-based community prevention efforts from 2014-2018.

FPHS: Foundational Public Health Services. UCoA: Uniform Chart of Accounts.

Numbers within Reports / Papers cells correspond with evidence obtained via literature review.

Appendix B: Summary of State Minimum Package Initiation, Development, and Documentation (*as of June 20, 2019*)

Source / State	Initiation	Coordinating Body	History of Major Actions	Framework Documentation
Institute of Medicine	*2012**	*Committee on Public Health Strategies to Improve Health*	*RWJF-funded initiative which outlines minimum package concept.*	*For the Public's Health: Investing in a Healthier Future* (March 2012)
Public Health Leadership Forum (PHLF)	*2013*	*RESOLVE*	*RWJF-funded initiative which produced definitions for Foundational Public Health Services (FPHS).*	*Defining and Constituting the Foundational Capabilities and Areas V1* (March 2014)
Public Health National Center for Innovations (PHNCI)	*2018**	*PHNCI (with support of FPHS Learning Community)*	*PHNCI has inherited the body of work toward the FPHS minimum package from the PHLF and is coordinating efforts to review and refine the framework.*	*Foundational Public Health Services Fact Sheet* (November 2018)
Iowa	2003	Iowa Public Health Modernization (IDPH)	*Public Health Modernization Act* authorized (§135A, 2009; SF 2159, 2016) *Standards* defined (2007, 2011, 2013)	*Iowa Public Health Standards (2013 version)* (January 2013)
Washington	2007	**Initial**: Foundational Public Health Services Technical Workgroup **Current**: Public Health Modernization Steering Committee	*Blue Ribbon Commission on Health Care Costs and Access* prioritization of activities, services, and performance authorized (E2SSB 5930, 2007; *multiple RCW*, 2007) *Foundational Public Health Services* act authorized (1497-S2.SL, 2019; *multiple RCW*, 2019)	*Washington Foundational Public Health Services Functional Definitions Manual, Version 1.3* (November 2017)
Colorado	2008	Colorado Department of Public Health and Environment (CDPHE)	*Colorado Public Health Reauthorization Act* authorized (SB 08-194, 2008; CRS 25-1-508, 2008) *Core Public Health Services* promulgated (6 CCR 1014-7, 2011) *Minimum Quality Standards for Public Health Services* promulgated (6 CCR 1014-9, 2013)	6 CCR 1014-7 – *Core Public Health Services* (November 2011) 6 CCR 1014-9 – *Minimum Quality Standards for Public Health Services* (March 2013)
North Carolina	2011	Public Health Task Force	*Organization and Governance of Local Public Health & Other Human Services Agencies* authorized (H. 438, 2012)	House Bill 438 / S.L. 2012-126 – *Organization and Governance of Local Public Health & Other Human Services Agencies* (June 2012)
Texas	2011	Public Health Funding and	*Public Health Funding and Policy Committee* established (S.B. 969, 2011)	*Public Health Funding and Policy Committee: Annual Report* (April 2014)

		Policy Committee	Various core public health services activities (2012-present)	*Defining Core Public Health Services* (June 2017)
Ohio	2012	**Initial**: Association of Ohio Health Commissioners (AOHC) **Current**: Ohio Public Health Partnership (OPHP)	*Public Health Futures* report produced by AOHC (2012) *Legislative Committee on Public Health Futures* established (Am. Sub. H.B. 487, 2012) *Legislative Committee on Public Health Futures 2012* report produced (2012) *Legislative Committee on Public Health Futures* re-established (Am. Sub. H.B. 54, 2017) *Legislative Committee on Public Health Futures 2017* report produced (2017)	*Public Health Futures, Considerations for a New Framework for Local Public Health in Ohio: Final Report* (June 2012) *Final Report: Legislative Committee on Public Health Futures* (October 2012)
Oregon	2013	**Initial**: Task Force on Future of Public Health Services **Current**: Oregon Health Authority (OHA)	*Task Force on Future of Public Health Services* established (H.B. 2348, 2013) *Modernizing Oregon's Public Health System* report produced by Task Force (2014) *Changes to governmental public health framework and implementation* authorized (H.B. 3100, 2015) *Public Health Modernization* report produced by OHA (2015) *Creation of new provisions for public health services* authorized (H.B. 2310, 2017) *Public Health Modernization* report produced by OHA (ORS 431.139 & 431.380, 2018)	*H.B. 2348 Task Force Report: Future of Public Health Services – Modernizing Oregon's Public Health System* (September 2014) H.B. 3100 – *Changes to governmental public health framework and implementation* (January 2016) *Statewide Public Health Modernization Plan: A modern public health system for every person in Oregon* (December 2016) *Public Health Modernization Manual: Foundational capabilities and programs for public health in Oregon* (September 2017)
Kentucky	2014	**Initial**: Foundational Capabilities and Funding Methodology Workgroup **Current**: Kentucky Department for Public Health (KDPH)	*Resolution & Position Statement: Supporting Foundational Package of Public Health Services approved by Kentucky Public Health Association* (KPHA 2014-01) Administrative References produced annually (2016-present)	*Kentucky's Public Health Statutory Requirements* (October 2018) *KDPH Administrative Reference for Local Health Departments* (Fiscal Year 2020)
Wisconsin	2015	Wisconsin Department of Health Services (WDHS)	*Required Service of Local Health Departments* administrative rules adopted (CR 18-014, 2019)	*Required Service of Local Health Departments* administrative rules adopted (July 2019)
North Dakota	2015	State Health Council	*Public Health Units* proposed administrative rules change (NDCC 33-03-28, 2018)	[Proposed administrative rules change] *Chapter 33-03-28 –*

				Public Health Units (August 2018)
Kansas	2016	**Initial**: Kansas Association of Local Health Departments (KALHD) **Current**: Kansas Public Health Systems Group (PHSG)	*KALHD Vision Statement* adopted (2015) *FPHS for Kansas* approved and adopted by KALHD and PHSG (2016) Completion of multiple research projects to define and cost FPHS in Kansas (2016-present)	[Proposed framework for Kansas] *FPHS for Kansas* (October 2016)
Massachusetts	2016	Special Commission on Local and Regional Public Health (SCLRPH)	*Special Commission on Local and Regional Public Health* established (Chapter 3 of Resolves of 2016) Completion of multiple research projects and task forces to investigate systems change (2016-present)	[Draft report from Special Commission] *Recommendations for Improved Effectiveness and Efficiency of Local Public Health Protections in the Commonwealth* (May 2019)