

# A Research Agenda for an Evolving Public Health System: Directions for the Field of Public Health Services and Systems Research

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AcademyHealth

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## About APHA

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## Introduction

Public health leaders, practitioners, and policymakers need current, relevant, and reliable research to inform public health practice strategies capable of achieving a public health system transformed for success in the 21st century. The COVID-19 pandemic brought heightened attention to the value of a public health system with the capacity, resources, and competencies needed to effectively address emergencies and persistent health inequities. However, the need for evidence to guide and evaluate post-pandemic system improvements remains absent in most discussions.

Funding and support to strengthen the evidence base for creating a stronger public health system, monitoring its progress to make real-time adjustments, and demonstrating its value are critical to creating a high-performing “reimagined” public health system and advocating for sufficient and stable federal and state funding.<sup>1</sup> The lack of sustained funding from federal sources has dramatically limited the current evidence base for public health practice.

With funding from Kaiser Permanente, AcademyHealth launched a responsive project on January 1, 2023, in collaboration with the American Public Health Association (APHA) and two academic Project Advisors, Betty Bekemeier, PhD, MPH, RN, FAAN, Professor, University of Washington, and Erika Martin, PhD, MPH, Professor, University at Albany, SUNY. This core project team also leveraged AcademyHealth’s Public Health Services and Systems Research (PHSSR) Interest Group in the effort to develop a renewed research agenda for the evidence needed to inform and improve public health programs, systems, and services in the next decade.

This report highlights current information gaps and research priorities needed to fill them. It is intended to catalyze and guide funding for PHSSR from public and private funders. The report also builds on recent complementary calls to action such as The Bipartisan Policy Center’s *Public Health Forward: Modernizing the U.S. Public Health System* (2021), the Robert Wood Johnson Foundation’s *Charting a Course for an Equity-Centered Data System* (2021) and The Commonwealth Foundation’s *Recommendations for Building a National Public Health System That Addresses Ongoing and Future Health Crises, Advances Equity, and Earns Trust* (2022).

## Background

In 2003, the Centers for Disease Control and Prevention (CDC) spearheaded the development of the *first research agenda for the emerging field of Public Health Systems Research (PHSR), a sister discipline to Health Services Research (HSR)*. Similar to our current effort, the first research agenda setting effort occurred in the wake of global crises (September 11, 2001, and the severe acute respiratory syndrome (SARS) pandemic) which brought increased attention to the over-stretched and under-funded public health system. The consensus-based, priority setting effort identified 14 research priorities which addressed the need to accurately describe the dimensions of public health systems (i.e., structure, characteristics, costs, funding mechanisms), and the relationship between system performance and social determinants of health (SDOH), public policy, preparedness, and governance structures. A decade later, the nascent field was *renamed*, Public Health Services and Systems Research (PHSSR), signifying the broad nature of the field of study. Led by the Robert Wood Johnson Foundation and the University of Kentucky, the 2012 research agenda setting initiative utilized an expert review process to develop a *research agenda for PHSSR*. Through that process, four domains were identified: public health workforce, public health system structure and performance, public health financing, and public health information and technology.

The 2023 initiative drew from these previous PHSSR research agendas and engaged leaders from public health and health care policy, research, and practice, including those from academia, government, and community-based organizations.

## Approach and Participants

The project approach involved three phases: 1) scoping and framing; 2) ideating and validating; and 3) activating and sustaining (**Exhibit A**). Engagement was structured as an iterative process which included broad audiences that increased in number over the course of the project (**Exhibit B**). During each phase, these audiences encompassed a diverse composition of public health practitioners and policymakers, PHSSR researchers, health care systems and community partners, and public and private funders to co-create this research agenda and then assist in dissemination efforts.

1. Martin EG, Bekemeier B. Investing in evidence to inform practice: reimagining the US public health system. *Health Affairs Forefront*. April 6, 2021. Available at: <https://www.healthaffairs.org/doi/10.1377/forefront.20210405.773991/full/>.

**Exhibit A. Project Approach**



**I. Scope and Frame**

The first phase focused on providing the scaffolding for the research agenda setting process, including the drafting of agenda domains. This entailed standing up a Guiding Council and conducting background research to appropriately contextualize the effort within previous work as well as to identify barriers and facilitators that shape the current funding landscape. Accordingly, leaders representing public health practice, research, and policy along with community leaders were invited to serve on the Guiding Council (see **Appendix C** for the full roster). The Guiding Council provided strategic oversight and methodologic guidance for the initiative, informing each step and meeting virtually as a group three times.

**Exhibit B. Iterative Engagement Process**



For background research, the core project team analyzed the reasons for the lack of sustained investments in PHSSR and identified the conditions needed to create the environment that will drive investment in, support for, and action on a refreshed research agenda. This was done by reviewing prior research agendas and related documents; performing a literature review of published peer-reviewed and grey literature; conducting key informant interviews (KIIs)

with producers, users, and funders of PHSSR; and engaging the project’s Guiding Council (see *Securing Support for Public Health Services and Systems Research: Results from an Environmental Scan* for the background report).

**II. Ideate and Validate**

The second phase of the project involved the refinement of seven research agenda domains and the development and prioritization of domain-specific research questions. To begin, the core project team conducted a virtual three-hour Deliberative Dialogue in June 2023. The dialogue was attended by 56 participants with the goals of 1) supporting the *development* of an action oriented PHSSR agenda by defining key areas of research (i.e., domains), and 2) supporting the *sustainability* of a refreshed PHSSR agenda by identifying enabling and restraining factors related to advancing the agenda. During the first part of the event, participants were placed in breakout groups facilitated by the core project team and Guiding Council members. The breakout groups allowed for the collaborative workshopping of domain definitions and the exploration of preliminary “seed” questions. When participants reconvened as a full group, they were presented with and invited to build upon enabling and restraining factors related to advancing the agenda that were uncovered during the literature review and KIIs. Following the event, the Guiding Council met again to finalize the research domains, threading themes from the Deliberative Dialogue into the domain descriptions to ensure consistency in the descriptions’ structure and level of detail.

The core project team then conducted a virtual process to solicit and prioritize research questions under each domain. This process was designed to engage an even broader audience to ensure that the most pressing gaps in evidence and recommended actions were clearly identified as well as to ensure a diversity of voices. Invited participants included the Guiding Council, Deliberative Dialogue participants, public health practitioners and policymakers (federal, state, Tribal, local, and territorial), PHSSR investigators, and current and potential funders. The project team intentionally sought to include new and emerging voices (including those who might challenge old ways of thinking about evidence for public health),

data experts (to creatively assess a range of new data sources for evidence) and representation from historically excluded and minoritized groups. Considerations were also made regarding diversity of known participant demographic characteristics including geography, racial identity, and ethnicity. The online tool, Codigital, was used to support asynchronous, real-time engagement and facilitate group decision-making across a large multisector audience.

The first round of this process was intended to crowdsource research questions. During a 14-day period, 29 participants generated a total of 58 ideas across the seven domains in the platform. Participant engagement involved suggesting edits to the prepopulated seed questions and adding new research questions under each domain. The resulting questions were shared during three closed-door listening sessions, including a briefing with staff from the Agency for Healthcare Research and Quality (AHRQ), another briefing with staff from the CDC, and a session with members of AcademyHealth's PHSSR Interest Group. Thirty-nine individuals participated in these listening sessions overall. Agency listening sessions were intended to ensure that Federal priorities were considered during the research agenda setting process, while the Interest Group listening session was intended to ensure that AcademyHealth member voices were heard and to allow for broad participation across diverse perspectives.

Following the first round, the core project team refined and curated the questions for each domain. This entailed reducing duplication by eliminating redundant questions, combining similar questions, and rewording questions for clarity and consistency in the language. Research questions originating from the three listening sessions were also added to the list and underwent revision by the core project team. In preparation for the second round, the core project team developed prioritization criteria based upon factors that will drive investments into PHSSR, including:

- **Relevance:** The evidence generated will be readily usable by practitioners, policymakers, and communities.
- **Responsiveness:** The evidence generated will be directly responsive to needs/gaps identified by PHSSR stakeholders.
- **Feasibility:** Valuable evidence will be generated given effort, infrastructure, time, and resource requirements.
- **Impact:** The evidence generated will lead to measurable improvements in public health services, systems, and outcomes.

The second round of the process was intended to prioritize the identified research questions. Codigital was again utilized to support asynchronous engagement across a 10-day period. All

first-round invitees were asked to participate in the second round as well as participants from the listening sessions. Fifty participants took part in the prioritization process by ranking research questions through a series of pairwise comparisons; no new ideas were allowed. For example, in the domain of Workforce, Codigital presented participants with the 13 research questions that had been suggested throughout phase one and via the listening sessions. Once a participant was ready to vote, the Codigital platform presented two research questions at random, and the participant selected one of the two as more important to address; that question then moved up in the rankings, while the other moved down. The platform then presented another pair of research questions. This process was cumulative across participants, resulting in a prioritized list that reflects the collective ranking of those who participated.

### III. Activate and Sustain

Once Codigital concluded, results were analyzed to determine research priorities for each of the seven domains. To verify the results, AcademyHealth conducted a cross-agency salon with Federal agencies who have funded PHSSR or who were identified by key informants and Guiding Council members as potential funders of the field. Participants included some individuals from the previous listening sessions with AHRQ and CDC as well as interested staff from the Office of the Assistant Secretary for Planning and Evaluation (ASPE), Centers for Medicare and Medicaid Services (CMS), and National Institutes of Health (NIH). The draft research agenda was also reviewed by the Guiding Council.

A multi-pronged dissemination strategy was deployed utilizing multiple communications vehicles and channels to reach a variety of audiences. In developing the strategy, the core project team considered the leading reason for the lack of sustained investment into PHSSR, according to the literature and KIIs: Federal support. The public-facing report is intended for policy audiences, including Federal agency partners. In addition to the core project team's organizational resources, the project funder and Guiding Council were leveraged to enhance the dissemination strategy.

## Results

### I. Scope and Frame

To inform the initial draft domains, the core project team reviewed prior research agendas and related frameworks. The literature review and key informant interviews further provided the groundwork for this research agenda by surfacing considerations around the agenda's broader environment (see *Securing Support for Public Health Services and Systems Research: Results from an Environmental Scan* for the background report). Through the literature review, key informants, Deliberate Dialogue, and Guiding Council engage-

ment, the core project team identified seven proposed domains for research topics: 1) Health Equity; 2) Cross-Sector Partnerships and Engagement; 3) Data and Information Technology; 4) Financing and Resources; 5) Workforce; 6) Law and Governance; and 7) Communication and Narrative (**Exhibit C**). The Guiding Council recommended positioning Health Equity as a cross-cutting domain in recognition that a state of health equity, where everyone has a fair and just opportunity to attain their highest level of health,<sup>2</sup> is the primary goal of the public health system moving forward and must be both a topical domain of PHSSR as well as interwoven throughout other research topics.

In addition to developing and refining the research domains, the core project team identified key considerations surrounding the agenda to maximize the likelihood that sustained investments result from this effort. Building on the initial background by engaging the Guiding Council and convening the Deliberative Dialogue, the project team identified enabling and restraining forces related to supporting the adoption and sustainment of the research agenda such as: 1) increasing attention to, awareness of, and funding for public health versus the lack of sustained investment and infrastructure, 2) engaging policymakers in implementation versus the politicization of public health, 3) the increased attention to and interest in addressing equity and justice versus public health practitioners' lack of confidence to address health and social determinants of health, and 4) increasing availability of partial but consistent real-time data and increasing incentives driving emerging social

data standards and adoptions (e.g., Gravity Project, ICD-10 codes) versus outdated data systems and inconsistent data gaps. For a full list of enabling and restraining forces, please refer to **Appendix D**.







## II. Ideate and Validate


Domain descriptions were iterated upon and finalized during the June Deliberative Dialogue and the July Guiding Council meeting. These descriptions, along with the top five research questions as prioritized by participants, are presented in this section. Prioritization allowed participants to identify the most pressing research questions that need to be answered in order to realize the vision of a high-performing, equitable public health system. The top five questions were in response to the criteria discussed previously: relevance, responsiveness, feasibility, and impact. The full set of questions is included in **Appendix A**.

Following the meetings, two rounds of Codigital occurred in tandem with the agency and Interest Group listening sessions. Through the project's iterative process, refined sets of priorities within each of the seven domains for PHSSR emerged. Codigital prioritization occurred *within* each domain rather than across domains. Consensus (i.e., the percentage of vote agreement on the proposed edits) was high across all domains, from 74% for Health Equity to 65% for Cross-Sector Partnerships and Engagement. Although many questions are cross-cutting, and therefore could have fit into other domains, questions are presented below in the domain in which they were ranked among others within that respective domain.

### Exhibit C. Research Aim and Domains

**Aim:** Provide the evidence base that lays the foundation for and demonstrates the value of a high-performing public health system leading to improved health outcomes for all.

 <p><b>Cross-Sector Partnerships &amp; Engagement</b></p>	 <p><b>Data &amp; Information Technology</b></p>	 <p><b>Financing &amp; Resources</b></p>	 <p><b>Workforce</b></p>	 <p><b>Law &amp; Governance</b></p>	 <p><b>Communication &amp; Narrative</b></p>
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**Health Equity**

2. Office of Health Equity. Health Equity. Accessed November 1, 2023. <https://www.cdc.gov/healthequity/index.html>.

## Health Equity

This domain consistently garnered much interest and discussion across convenings. Similarly, it ranked second during the ideation round of Codigital in terms of most questions added, following Data and Information Technology (n=11) and equal with the Communication and Narrative domain (n=10 each). During the prioritization round, Health Equity had the most participation (42 unique contributors, 481 votes). Research questions encompassed components from all the other domains, reinforcing Health Equity’s designation as a cross-cutting domain. For example, questions addressed workforce (how to ensure inclusive, equitable, and anti-racist principles), communications (building political will; working around and within political climates), and resources (compensating persons with lived experience).

Questions that rose to the top addressed measuring and evaluating to drive actionable solutions and addressing political will. Questions that were ranked with lower priority involved those that addressed reparations and “communities of opportunity,” although the focus on “opportunity” was noted by one Deliberative Dialogue participant as core to the domain. Overall, participants were more likely to prioritize research questions that fit clearly within the scope of the public health system. Participants who workshopped the domain description emphasized that the domain necessitates clarity on the intentionality of *health equity* in order to address root causes such as systematic racism and white supremacy. Despite these mentions of addressing root causes of inequities in conversation during the Deliberative Dialogue, research questions related to broader, systemic, societal barriers were ranked with lower priority during the Codigital process.

Domain Description	Top 5 Research Questions
 <p><b>Health Equity</b></p> <p>An integrated public health system that intervenes to disrupt systemic inequities to achieve the optimal health of all, especially among those communities made vulnerable by historical and contemporary injustices.</p>	<p>What are the most effective public health system-level strategies for mitigating structural inequities and improving equitable health outcomes?</p>
	<p>How can the equitable application of evidence-based public health be measured and evaluated (i.e., ensuring that what we know about “what works for whom and why” is applied to the equitable delivery of services)?</p>
	<p>What are optimal strategies for building political will within and beyond public health systems to address social inequities in health, and what is the role of governmental public health departments in this?</p>
	<p>What are strategies that public health systems can use to work around and within political climates where they experience limited support to address disparities, including, but not limited to, health disparities across racial groups, ethnic groups, migrant and refugee populations, sexual orientation, gender identity, housing status, class structure, ability, and intersections of those categories?</p>
	<p>How can positive progress be measured in communities made most vulnerable in a way that captures demonstrable action rather than solely documentation?</p>

### Cross-Sector Partnerships and Engagement

During the prioritization round of Codigital, the Cross-Sector Partnerships and Engagement domain had the second highest number of contributors (n=33). This domain addressed cross-sectoral, public/private, community, hospital and health system, and power building partnerships. Questions covered measuring, sustaining, incentivizing, and leading partnerships. During refinement of the description, the Guiding Council highlighted the need to involve communities with lived experience. They additionally stressed that these communities should have adequate representation, with leadership opportunities, decision-sharing power, and true engagement for an authentic partnership. Considerations around accountability, issues of trust, fiscal outcomes, and return on investments (ROIs) were also discussed and incorporated into the questions.

Research questions related to equity and to learning from successful partnership models were voted on with more priority. Questions involving leadership strategies and distribution of responsibility were less highly prioritized. A Guiding Council member suggested leaving space for questions regarding whether people are conducting meaningful community engagement, as topics may emerge more organically from communities directly experiencing the disparities resulting from historical and contemporary inequities.


### Data and Information Technology

During round one of Codigital, the most questions were added to the Data and Information Technology domain (n=11). Research questions covered the collection, sharing, use, and dissemination of data. They addressed data modernization, the informatics and data workforce, and health literacy. Types of data addressed include surveillance data, health care system data, social services data, and data regarding SDOH. Questions also covered opportunities to improve the collection of race, ethnicity, and language (REL) and sexual orientation and gender identity (SOGI) data. Privacy was brought up in conversation, and features in one of the prioritized questions, as an area rich for further discussion.

Participants prioritized research questions related to collecting, sharing, and disseminating data. Those related to workforce needs were less highly prioritized. The prioritized questions illustrate and build upon considerations with how to move toward contextualizing data and making a value proposition within the historical context of data being misused to oppress different communities. Obtaining data should be done in a manner where the community understands how and why the data will be useful to them. Relatedly, in revising the domain description, participants proposed that data should be accessible, person-centered, community-valued, and integrated and the data systems should be evolving and interoperable.

Domain Description	Top 5 Research Questions
 <p><b>Cross-Sector Partnerships and Engagement</b></p> <p>Public, private, and community partnerships—including governmental entities, non-profits, and communities with lived experience—working in sustainable, long-term collaboration to advance health and promote health equity.</p>	<p>What are the measures/indicators of successful and sustainable cross-sector public health partnerships and engagement that emphasize equity in power and authority while promoting health equity?</p>
	<p>What are promising approaches to build and sustain multi-sectoral public health partnerships that leverage lessons learned from multiple disciplines and knowledge paradigms (ways of knowing)?</p>
	<p>What are successful models of partnership with hospitals and health departments around the Community Health Needs Assessment and Improvement Planning processes?</p>
	<p>How can public-private public health partnerships be incentivized to emphasize equity in their development and maintenance?</p>
	<p>How should public health organizations partner with community organizations and other power-building organizations to build conditions for healthier communities?</p>




Domain Description	Top 5 Research Questions
 <p><b>Data and Information Technology</b></p> <p>Evolving, interoperable data systems that include community-valued, multi-sector data together with the expertise to collect and use data and technology to advance the delivery of public health services and achieve health equity.</p>	<p>What are the core data elements necessary for reporting, monitoring, and evaluating public health outcomes and progress toward health equity?</p>
	<p>How can public health systems contribute to better data collection across population groups in a way that accurately measures progress toward health equity and without masking within group differences?</p>
	<p>What are the most promising practices to support the sharing and use of data to promote equity (e.g., shared data governance, ensuring asset-based interpretation, standardization)?</p>
	<p>What are promising strategies to effectively disseminate public health data to communities to enable their use of data for community planning, advocacy, and other local needs?</p>
	<p>What are the most critical legal, regulatory, data security, privacy, technological, or other barriers to data modernization among state, local, territorial, and tribal health agencies? What are the promising practices to overcome them?</p>

### Financing and Resources

This domain covers a broad range of topics mostly related to financing and funding. Questions addressed disease-siloed funding allocation models versus innovative funding strategies, the role of public health in health care’s approach to value-based payment, and local public health reliance on private funding. Questions also addressed advocating for resources, linking funding to health equity, and resources needed to provide every community with a sufficient workforce. During round two of Codigital, the Financing and Resources domain had the second highest number of votes (n=429).

Themes were not as clear under this domain based on the Codigital results. Participants prioritized flexible funding to support collaboration across different types of organizations, strategies for sustaining public health funding in current political environment, and whether changes in public health infrastructure and creativity in funding affect health outcomes and equity. Questions considered of lesser priority also touched on collaboration and flexible funding. While the themes arising from the research questions were less apparent, the Guiding Council did push for an actionable domain description to reflect the need to relate funding and capacities with performance, quality, and outcomes as to center equity in each.


Domain Description	Top 5 Research Questions
 <p><b>Financing and Resources</b></p> <p>Aligned relationships among public health system funding, capacities, performance, agenda-setting, quality, and health outcomes, all which center health equity.</p>	<p>How can funding streams be structured so non-governmental, community-based organizations (CBOs) and governmental public health agencies can work most effectively together?</p>
	<p>What are the most effective strategies to advocate for continued and sustained public health funding, particularly in the current political environment?</p>
	<p>Which changes in state, territorial, local, and tribal public health infrastructure (structure and organization) result in improved population health and health equity?</p>
	<p>How are the policy choices made in innovative funding strategies (blended/braided funding, shared resources, wellness funds, working with community coalitions) associated with impact in terms of improved public health services effectiveness and health outcomes?</p>
	<p>How do current disease-siloed funding models adversely impact public health agencies’ abilities to take a “syndemic,” “integrated,” or “whole-person” approach to improving health outcomes and achieving health equity? What are effective strategies to break down funding silos?</p>

## Workforce

The Workforce domain was fairly narrow. Questions addressed administrative aspects of recruiting, hiring, training, paying, and retaining a diverse workforce including providing mental health support and boosting communications competencies. These questions aligned with earlier comments raising the need for a continually responsive and learning workforce, as noted in the domain description. Questions also addressed enumeration to support the longstanding PHSSR challenge of understanding and categorizing the current workforce, a topic that also emerged in the Deliberative Dialogue and Guiding Council discussions.

The Workforce domain had the second-most amount of questions generated (equal with Financing and Resources) during the

ideation round and was fifth out of the seven domains in terms of contributors during the prioritization stage. Participants prioritized research regarding workforce diversification, recruitment, and retention strategies. Of lesser priority were questions specific to governmental public health hiring processes. In conversation, Deliberative Dialogue participants encouraged better understanding the extent to which the workforce possessed the skills and capacities required to partner effectively with communities and community-based organizations to ultimately promote health equity. Representing the workforce as flexible and inclusive of the community was also raised during meetings, recognizing the importance of leveraging the community and noting that important public health work is often being done by those not formally trained in public health.

Domain Description	Top 5 Research Questions
<div style="text-align: center;">  <p><b>Workforce</b></p> <p>A resilient, responsive, thriving, and continually learning workforce to deliver essential public health services to improve health outcomes for all.</p> </div>	<p>What new pipeline and pathway programs, internships, or other programs are needed to increase and diversify the public health workforce and encourage students to pursue careers in governmental public health?</p> <p>What policy levers can be used to reduce salary disparities between workers in governmental public health departments and workers in the same occupations within the private sector?</p> <p>What retention strategies are more effective to recruit and retain a skilled governmental public health workforce? Does the effectiveness vary by community context and/or type of public health professional?</p> <p>What solutions are available for reducing turnover within the public health workforce? What are the contexts in which these solutions have been tried and shown to be successful?</p> <p>How can federal workforce research standards used by the US Department of Labor/Bureau of Labor Statistics, such as Standard Occupational Classification codes, be improved to enumerate and categorize the government public health workforce?</p>

## Law and Governance

The Law and Governance domain covered topics related to politicization and polarization; the equitable application of law as well as the contribution of laws to health inequities; and the examination of legal authority. This domain had the third highest number of contributors during the prioritization stage, alongside Financing and Resources, but the second lowest number of total votes. Guiding Council members highlighted local boards of health given the paucity of research (e.g., COVID-19 illuminated how under-resourced local boards were in terms of evidence on how local boards should be configured, what authority they should have, etc.). Recognizing a potential gap, one listening session participant later suggested adding questions around taking next steps to see what laws present barriers and hinder the development of systems, laws and powers, and civil liberties. Another listening session participant noted the focus

on systems of behaviors in the domain description and suggested using language such as “infrastructural laws” and “interventional laws” for greater resonance with audiences.

Research related to the workforce capacity needed to engage and use law and polarization/politicization were prioritized, and similarly brought up in discussion, while questions related to special interest groups and public health boards were less highly prioritized. Deliberative Dialogue participants also spoke to authority and the profound impact legal aspects have on access to data for public health research. For instance, COVID-19 showcased the lack of operational interface between Tribal governments and state/county public health departments as well as the lack of understanding and, moreover, recognition of Tribal sovereignty and the public health authority derived from Tribal sovereignty.

Domain Description	Top 5 Research Questions
<div style="text-align: center;">  <p><b>Law and Governance</b></p> <p>The statutory, legal, regulatory, and policy capacities and practices/processes—and the navigation among them—that advance and/or hinder the delivery of essential public health services and achievement of health equity.</p> </div>	<p>What do health departments need to increase their capacity to engage in the equitable implementation, enforcement, and development of public health laws?</p>
	<p>How do laws contribute to health inequities or advance health equity?</p>
	<p>How has public health authority been impacted by politicization of public health? What is the potential impact of such politization to the health of populations within jurisdictions that have seen health department authority undermined?</p>
	<p>What are the infrastructural and interventional public health laws that should most be examined to guide public health agency planning and advocacy?</p>
	<p>What are strategies that health departments have employed to use existing legal authorities to engage with non-traditional public health work in the areas of health equity and social determinants of health (SDOH)?</p>

### Communication and Narrative

In their initial meeting, the Guiding Council emphasized the value and need for improved public health communication, raising issues of information quality, health and digital literacy, and source credibility. These sentiments were later reflected during the Codigital process in which the domain touched on specific communication topics, such as demonstrating the value of public health and importance of health equity, as well as communications strategies, including those that may correct misinformation and promote trust. The framing of “narratives” was encouraged by the Guiding Council early on in order to provide more opportunity to think about misinformation. Furthermore, the prioritized questions reflect the emphasis placed by participants on the timeliness of the domain given the COVID-19 pandemic, particularly in regard to the politicization of language around public health.

This domain received the least amount of engagement in terms of unique contributors and votes, though consensus among participants was fairly high at 71%. This could be because the domain is new, the topic may be considered niche, and/or because it was the last domain and reflects respondent fatigue. Communication strategies for demonstrating the value of public health interventions to public officials was the most prioritized topic. Other priority questions addressed polarization, trust, and equity—echoing conversations around the need for trust, trusted messengers, and building trust (rather than undermining) as well as the importance of know-

ing the audience given how terms (i.e., “evidence-based” and “science”) resonate differently across geographies. Broader questions related to intersectionality and racism were less highly prioritized in Codigital whereas they were a point of emphasis in the Interest Group discussion, namely, the Health Equity breakout group.

### Discussion and Implications

This research agenda produced seven domains, each with a set of prioritized questions. The structured project approach allowed for contributions to the domains and questions as well as a larger conversation around PHSSR. Through the engagement of more than 200 participants, the project surfaced several key themes and considerations around advancing the field of PHSSR.

With regard to the production of research, Deliberative Dialogue participants expressed support for a broad conception of research (i.e., practice-based, qualitative, and “other ways of knowing”) and urged the use of quality improvement (QI) and evaluation, and dissemination and implementation (D&I) science. Further considerations arose around the potentially competing culture of learning versus culture of accountability and the need for cross-disciplinary and integrated approaches. To strengthen the application of the evidence, participants discussed the need to be practice-focused, to produce action-oriented research, and to translate evidence that links public health actions with improved population health outcomes.

Domain Description	Top 5 Research Questions
 <p><b>Communication and Narrative</b></p> <p>Effective, timely, context-tailored and evidence-based communication that promotes trust in the public health system and advances understanding of the value of public health and the equitable application of public health systems and services research.</p>	<p>What communication strategies are needed to demonstrate the value (return on investment) for public health interventions to elected officials to ensure sustainable funding?</p>
	<p>What strategies best create, drive, and change the narrative to communicate the importance of health equity and equity-focused policy strategies without contributing to resistance and polarization?</p>
	<p>How can or should public health agencies respond to and/or correct public health misinformation?</p>
	<p>What are effective communication strategies that embody equity and promote trust among the populations served by public health professionals? What is needed in the field to increase the capacity and capability of public health professionals to implement and use effective communication strategies?</p>
	<p>What are effective communication approaches to reducing polarization between the public at large and public health systems and/or increasing uptake of specific public health recommendations?</p>

## Evolution of PHSSR

The themes and priorities raised during this initiative build upon those from previous efforts such as the 2003 research agenda, which still resonates decades later in the aftermath of COVID-19. The need to link inputs (i.e., structures, workforce, data, financing, partnerships) to outputs (i.e., performance, learning, impact, health equity) is as crucial as before in securing investments into public health and in guiding practice. The reoccurring domains of Workforce, Financing and Resources, Data and Information Technology, and Law and Governance, from the 2013 agenda, reflect the ongoing need for evidence in these areas.

In the meantime, new threats, such as polarization and misinformation, and long-standing barriers, such as racism, have become increasingly recognized as barriers to public health improvement. The concepts of trust, relationships, and leadership coalesced around a domain not seen in previous agendas: Communication and Narrative. Another addition, Cross-Sector Partnerships & Engagement, was addressed under other domains in previous agendas, particularly the concept of public health and health care collaboration. The newly defined domain is indicative of the growing recognition that achieving public health—that is, healthy, equitable communities—will require partnerships and engagement with all sectors. Calls from participants to push systemic change beyond traditional system levers also demonstrate interest in advancing conversations and leveraging lessons learned from COVID-19.

Integrating equity throughout all domains emerged as a key priority, affirming the importance of positioning Health Equity as cross-cutting. The Guiding Council raised the “both/and” component of needing equity as the *process* to achieve equity as an *outcome* in their initial meeting. Deliberative Dialogue participants urged the framing of health as a social construct—that a population’s social experience, as a reflection of social identity, is connected to their health status—and pushed for this refreshed research agenda to move the field forward in ways such as addressing the misclassification of race as a biological (rather than social) construct. Deliberative Dialogue participants also recommended the agenda could be a tool to address power building, such as helping to co-design a public health system that is more flexible and accessible.

## Opportunities for Alignment

Beyond the domains, synergies were identified between the renewed agenda and several initiatives and resources. At the federal level, the [public health infrastructure](#) objectives for [Healthy People 2030](#) address “high-performing health departments, workforce development and training, data and information systems, planning, and partnerships,” aligning nicely with components from multiple

domains. The Data and Infrastructure domain, as well as the Workforce and Financing and Resources domains, reflects many goals of the [CDC’s Data Modernization Initiative](#)—the unprecedented investment into modernizing the federal and state core data infrastructure.

While the research agenda aligns with the [10 Essential Public Health Services](#), one Guiding Council member further suggested alignment of the domains with the Public Health Accreditation Board (PHAB) [Foundational Capabilities](#), which are increasingly being used by public health departments as a framework to define the unique responsibilities of governmental public health and the minimum set of foundational capabilities and foundational areas that must be available in every community.

Several recent efforts and calls to action suggest opportunities to move from describing health disparities to moving the needle on health equity through culturally responsive, equitable, and anti-racist community engaged research. For example, a [report from Human Impact Partners](#) urges the inclusion of voices of the people experiencing health inequities in all stages of program and policy development and create meaningful opportunities for community engagement and evaluation. Similarly, The [National Commission to Transform Public Health Data Systems report](#) calls for training the next generation of public health practitioners and researchers to meaningfully partner with local stakeholders, and to value lived experience and community expertise as much as formal training. A [pandemic-related commentary](#) further called for community knowledge in addition to community engagement: “Disease investigation efforts are likely to be more effective if they are built on substantial local knowledge of a community and acceptance by community members.” A collaborative, national movement led by the American Public Health Association, the [Alliance for Disease Prevention and Response](#), is using trusted messengers, including business and community leaders, to empower the public with guidance, promote prevention-supporting norms and help recruit contact tracers.

## Limitations

While this initiative builds on previous work and aims to further enrich and renew the research agenda for PHSSR, it still presents limitations and opportunities for future work. These questions are not meant to be comprehensive; rather, they aim to address the most pressing evidence gaps and lay the foundation for—and demonstrate the value of—a high-performing public health system leading to improved health outcomes for all. As such, there are opportunities for further discussion and added nuance not currently captured in the full set of questions.

Due to resource constraints, this project did not entail a thorough review of the evidence base. A subsequent project verifying that these research questions point to evidence gaps would strengthen the findings. A review and comparison of gaps remaining today from the previous agendas would also strengthen the findings and support the need for more investment in the field.

While COVID-19 brought attention to gaps in the public health system, the response effort has largely focused on data modernization and workforce needs. More resources are desperately needed to support public health research and the systems-level questions prioritized here. In addition to research funding, a culture that thirsts for evidence is needed within public health practice while researchers themselves must produce and thoughtfully translate and disseminate research that is actionable. Thus, considerations around how to bridge the gap, in as timely and responsive a manner as possible, between these research questions and reaching the envisioned public health system are needed.

## Conclusion

The first research agenda sought to illustrate differences across governmental public health agencies—how their organization, structure, and financing influenced and was influenced by the services it provides and the systems in which it resides. Two decades later, PHSSR has moved beyond descriptive analyses to include more sophisticated methods, borrowing from Health Services Research and other disciplines. It also covers a broader lens, beyond governmental public health agencies to the communities they serve and to other public and private sector entities with missions that affect public health. This is reflective of a cultural shift which recognizes the broader system that defines, promotes, and sustains health as well as a national movement toward health equity, which also recognizes the breadth of actors involved.

Sadly, it is not new for this PHSSR research agenda to be catalyzed by a global pandemic. Previous agendas, also catalyzed by pandemics and disasters, called for “actionable research,” in hopes that the disconnect between research findings and their audience be improved. As the public health system remains largely underfunded and understaffed, delivering applicable, timely, and relevant PHSSR remains a key priority.

As resources remain scarce, partnerships remain crucial. Previous agendas pointed to the need to strengthen relationships between public health and health care. At the [kick-off event](#) launching Kaiser Permanente’s program which funded this initiative, key health care leaders called for “building durability between public health and

health care” while public health leaders pleaded that the health system “cultivate sustained and mutually beneficial relationships with state health departments.” These leaders talked about the critical role of trust, connection, and public/private partnerships. It was therefore no surprise that these themes also arose at key milestones in this agenda setting process—from the initial Guiding Council meeting to the final agency briefing. Specifically, both calls to align with health care, where resources are abundant and policies are increasingly supportive of paying for prevention, equity, and social supports, and with community-based organizations, to empower communities to reach a shared vision for health and equity.

Just as public health has become polarized and politicized, so have the terms “equity” and “science.” Federal agency staff suggested leaning into the [Foundations for Evidence-Based Policymaking Act of 2018](#) and promoting the new PHSSR agenda as a tool to support agency learning agendas which are required as part of the Act. Communication was a major issue for the Guiding Council, who named it as a new research domain, along with Narrative, reflecting the importance of storytelling and empowering communities to shape the stories that are told. Strategic and targeted messaging will be required in seeking buy-in for this agenda.

While this new agenda will face barriers that previous agendas also faced in seeking buy-in from potential funders, opportunities such as the Public Health Infrastructure Saves Lives Act and the public health workforce loan repayment program could provide the mechanism needed to adopt this agenda. Advocates for a strengthened and sustainable public health infrastructure, including funding to support this research agenda, must remain vocal in order to keep public health on the public’s radar as we move away from the COVID-19 pandemic.

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## Appendix A

### Full List of Prioritized Questions in Each Domain

#### Health Equity

1. What are the most effective public health system-level strategies for mitigating structural inequities and improving equitable health outcomes?
2. How can the equitable application of evidence-based public health be measured and evaluated (i.e., ensuring that what we know about “what works for whom and why” is applied to the equitable delivery of services)?
3. What are optimal strategies for building political will within and beyond public health systems to address social inequities in health, and what is the role of governmental public health departments in this?
4. What are strategies that public health systems can use to work around and within political climates where they experience limited support to address disparities, including, but not limited to, health disparities across racial groups, ethnic groups, migrant and refugee populations, sexual orientation, gender identity, housing status, class structure, ability, and intersections of those categories?
5. How can positive progress be measured in communities made most vulnerable in a way that captures demonstrable action rather than solely documentation?
6. What are promising or evidence-based practices that governmental public health departments can enact to ensure their workplaces (i.e., workforce, organizational policies, other administrative practices) embody inclusive, equitable, and anti-racist principles?
7. What methods can be used to quantify health disparities in a way that communicates the degree of disparity and suitable intervention?
8. How can public health systems foster “communities of opportunity”—ensuring local communities provide opportunities for well-being?
9. Communities of color, including Indigenous populations, experience some of the greatest inequities and have their own understanding of wellbeing and evaluation practices that influences processes to create community-led interventions. With that in mind, what are the most effective ways for public health professionals to learn about conceptualizations of health or evaluation practices among the communities they serve to better address health inequities?
10. What are effective methods to include and compensate persons with lived experience in the design, planning, and evaluation of public programming?
11. What cultural competencies and public health competencies foster “communities of opportunity”?
12. What is the role of public health systems in reparations to advance health equity for Black, Indigenous, and other historically disadvantaged communities?

#### Cross-Sector Partnerships and Engagement

1. What are the measures/indicators of successful and sustainable cross-sector public health partnerships and engagement that emphasize equity in power and authority while promoting health equity?
2. What are promising approaches to build and sustain multi-sectoral public health partnerships that leverage lessons learned from multiple disciplines and knowledge paradigms (ways of knowing)?
3. What are successful models of partnership with hospitals and health departments around the Community Health Needs Assessment and Improvement Planning processes?
4. How can public-private public health partnerships be incentivized to emphasize equity in their development and maintenance?
5. How should public health organizations partner with community organizations and other power-building organizations to build conditions for healthier communities?
6. How do public health services partnership needs vary across settings (e.g., urban, rural, tribal), and over time, particularly as they pertain to sharing power, responsibility, accountability, and value?
7. How do public health systems build and foster authentic community partnerships, including at the micro-community level and with those populations that have fewer connections to established community-based organizations (CBOs) or organized public or private institutions?

8. What is an appropriate time interval to expect measurable change? How long does it take for community engagement to impact health outcomes or community trust?
9. How should multisectoral partnerships distribute responsibility between sectors and organizations to maximize public health improvement efforts?
10. What are effective leadership strategies for multi-sector collaborations to achieve better health?

### Data and Information Technology

1. What are the core data elements necessary for reporting, monitoring, and evaluating public health outcomes and progress toward health equity?
2. How can public health systems contribute to better data collection across population groups in a way that accurately measures progress toward health equity and without masking within group differences?
3. What are the most promising practices to support the sharing and use of data to promote equity (e.g., shared data governance, ensuring asset-based interpretation, standardization)?
4. What are promising strategies to effectively disseminate public health data to communities to enable their use of data for community planning, advocacy, and other local needs?
5. What are the most critical legal, regulatory, data security, privacy, technological, or other barriers to data modernization among state, local, territorial, and tribal health agencies? What are the promising practices to overcome them?
6. What supports are needed to effectively collect and utilize data on social determinants of health (SDOH) in order to gauge progress toward addressing social barriers particularly in interventions targeting low-resource, high-burden communities?
7. Where are the opportunities for data collection from non-traditional public health partners to better understand health in a wider array of non-clinical settings?
8. What kinds of investments of resources (time, money, workforce, training) are needed to realistically implement sustainable changes to data and IT systems and associated workflows?
9. What factors are impeding the successful collection of race, ethnicity, and language (REL) and sexual orientation and gender identity (SOGI) data within local surveillance systems? To what

extent is this still a technology operability issue versus impediment of policy and procedures on data collection?

10. How can we strengthen relationships between healthcare (e.g., providers, health insurance) and governmental public health agencies to enhance surveillance systems?
11. How can integrated public health, healthcare, and social services data systems improve health outcomes and system efficiency?
12. How can we promote strong data literacy in the existing public health workforce given diversity in formal training, high turnover, variation in community priorities, and limited resources?
13. How can we create public-private partnerships to improve the quality, timeliness, and comprehensiveness of surveillance data in light of resource constraints and technological evolution?
14. What does the public health informatics and data workforce look like (e.g., size, training) and what skills are needed to meet the information needs of governmental public agencies?

### Financing and Resources

1. How can funding streams be structured so non-governmental, community-based organizations (CBOs) and governmental public health agencies can work most effectively together?
2. What are the most effective strategies to advocate for continued and sustained public health funding, particularly in the current political environment?
3. Which changes in state, territorial, local, and tribal public health infrastructure (structure and organization) result in improved population health and health equity?
4. How are the policy choices made in innovative funding strategies (blended/braided funding, shared resources, wellness funds, working with community coalitions) associated with impact in terms of improved public health services effectiveness and health outcomes?
5. How do current disease-siloed funding models adversely impact public health agencies' abilities to take a "syndemic," "integrated," or "whole-person" approach to improving health outcomes and achieving health equity? What are effective strategies to break down funding silos?
6. What payment models would allow health departments to assure sustainable support for their contributions to preventing disease?



7. How do funding allocation structures impact health equity? For example, in what ways do competitive grant applications unintentionally disadvantage under-resourced public health systems?
8. How can funding streams be structured to facilitate cross-jurisdictional sharing among health departments?
9. How much funding is required to hire the public health workers needed from a range of occupations and at sustainable, competitive, and equitable wages to provide the Essential Public Health Services for all communities?
10. What are the tradeoffs of local public health systems relying on local and/or private grantmaking organizations in terms of sustainability, support of long-term versus short-term objectives, program fragmentation, mission, and other outcomes?
11. How can funders encourage a learning public health system approach?
12. What is the appropriate role of public health in value-based payment approaches to health care delivery? What funding models support public health's involvement in this work?
13. Are health care systems investments into equity resulting in better collaboration with public health systems and better outcomes? Is this resulting in more partnerships or more competition?
5. How can federal workforce research standards used by the US Department of Labor/Bureau of Labor Statistics, such as Standard Occupational Classification codes, be improved to enumerate and categorize the government public health workforce?
6. What social and mental health supports and interventions are needed to address burnout and trauma in the public health workforce?
7. What public health workforce surge strategies best support response, resilience, and agility? Does this vary across urban and rural settings?
8. What training (including formal education, lived experience, certifications) is most effective for a public health system workforce to promote health equity (i.e., identify and address power issues; set funding allocation priorities)?
9. What skills and capacities are needed to partner effectively with communities and community-based organizations (CBOs) to improve health outcomes and advance health equity?
10. How can the job application experience for governmental health departments be improved to ensure equity and inclusion in the hiring process?
11. What communication competencies are needed among the public health workforce?

## Workforce

1. What new pipeline and pathway programs, internships, or other programs are needed to increase and diversify the public health workforce and encourage students to pursue careers in governmental public health?
2. What policy levers can be used to reduce salary disparities between workers in governmental public health departments and workers in the same occupations within the private sector?
3. What retention strategies are more effective to recruit and retain a skilled governmental public health workforce? Does the effectiveness vary by community context and/or type of public health professional?
4. What solutions are available for reducing turnover within the public health workforce? What are the contexts in which these solutions have been tried and shown to be successful?

## Law and Governance

1. What do health departments need to increase their capacity to engage in the equitable implementation, enforcement, and development of public health laws?
2. How do laws contribute to health inequities or advance health equity?
3. How has public health authority been impacted by politicization of public health? What is the potential impact of such politicization to the health of populations within jurisdictions that have seen health department authority undermined?

4. What are the infrastructural and interventional public health laws that should most be examined to guide public health agency planning and advocacy?
5. What are strategies that health departments have employed to use existing legal authorities to engage with non-traditional public health work in the areas of health equity and social determinants of health (SDOH)?
6. What models exist for a robust public health system with sufficient authority in a politically conservative jurisdiction? What factors facilitate sustaining sufficient authority in politically conservative environments?
7. What trends exist in the availability of relevant legal authority? What factors influence public health system enactment of legal initiatives to advance equity?
8. What are the most effective hierarchical or heterarchical models of shared governance for public health agencies?
9. What is the impact of diverse representation on public health boards on community trust?
10. What role might special interest groups have on public health-related legislation at the state and local levels that undermines or could advance public health authority?
3. How can or should public health agencies respond to and/or correct public health misinformation?
4. What are effective communication strategies that embody equity and promote trust among the populations served by public health professionals? What is needed in the field to increase the capacity and capability of public health professionals to implement and use effective communication strategies?
5. What are effective communication approaches to reducing polarization between the public at large and public health systems and/or increasing uptake of specific public health recommendations?
6. What communication strategies are needed to demonstrate the value of public health departments in community health improvement efforts?
7. What have been the effects of local communications about systemic racism as a public health crisis? What heterogeneity might exist in response to such declarations across diverse audiences?
8. Which communication strategies were and were not successful during the COVID-19 pandemic, in terms of reaching public health officials to the general public?
9. What challenges do public health agencies face when uplifting and centering Indigenous narratives and traditional knowledge?

### Communication and Narrative

1. What communication strategies are needed to demonstrate the value (return on investment) for public health interventions to elected officials to ensure sustainable funding?
2. What strategies best create, drive, and change the narrative to communicate the importance of health equity and equity-focused policy strategies without contributing to resistance and polarization?
10. How can public health entities communicate about the intersectionality of identities in the context of larger narrative strategies surrounding health equity?

## Appendix B

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## Appendix C

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## Appendix D

### Enabling and Restraining Forces

Table D1. Restraining Forces related to Supporting Adoption and Sustainment of the Agenda

Topic Area	Restraining Factors
Funding	<ul style="list-style-type: none"> <li>• Lack of a consistent supporter / funder of PHSSR.</li> <li>• Lack of diversified funding.</li> <li>• Need coordinated effort to support sustainability and impact.</li> <li>• Need broader authorizations related to use of funding.</li> </ul>
Research, Translation, Dissemination & Impact	<ul style="list-style-type: none"> <li>• Difficulty defining and prioritizing research questions.</li> <li>• Need policymakers to prioritize evidence.</li> <li>• Need to enhance application and actionability of evidence.</li> <li>• Use evaluation to understand impact and unintended consequences on systems and delivery of services.</li> <li>• Focus on health outcomes in the research environment.</li> <li>• Paucity of best practices research.</li> </ul>
Lack of Standardized Data	<ul style="list-style-type: none"> <li>• Lack of nationally funded workforce surveys and surveillance.</li> <li>• Need more consistent, better quality, and real-time data.</li> </ul>
Misunderstanding & Mistrust	<ul style="list-style-type: none"> <li>• Challenges contending with misinformation as well as individualism.</li> <li>• Challenges with timely dissemination back to communities.</li> <li>• Need to make results understandable to community members.</li> </ul>
Training & Capacity	<ul style="list-style-type: none"> <li>• Increased demand among practitioners; difficulty managing time constraints.</li> <li>• Limited capacity, e.g., at small and/or under-resourced health departments.</li> <li>• Need for increased collaboration capacity / allyship.</li> </ul>
Narrow Conception of Research	<ul style="list-style-type: none"> <li>• Bias of quantitative over qualitative research.</li> <li>• Perception that research is only randomized controlled trials (RCTs).</li> <li>• Need for acceptance of knowledge pluralism and legitimize other ways of knowing, e.g., including, inviting, and allowing:</li> <li>• Quality improvement (QI), evaluation, implementation research, embedded research, community engaged science, etc.</li> </ul>

Table D2. Enabling Forces related to Supporting Adoption and Sustainment of the Agenda

Topic Area	Enabling Factors
Funding	<ul style="list-style-type: none"> <li>• Dedicate and sustain federal funding (NIH, PCORI, CDC, etc.).</li> <li>• Build PHSSR into the operational budget (built in capacity for programs).</li> <li>• Capitalize on less reactionary funding mechanisms to align with research.</li> <li>• Leverage availability of post-pandemic funding.</li> </ul>
Relationships	<ul style="list-style-type: none"> <li>• Support public / private partnerships and meaningful community engagement (particularly engaging underserved communities).</li> <li>• Perform community engaged and translational research.</li> <li>• Require more responsibility and accountability.</li> </ul>
Advocacy	<ul style="list-style-type: none"> <li>• Engage state and local policymakers in dissemination.</li> <li>• Leverage federal policy.</li> <li>• Build capacity of public health leaders to champion evaluations and research findings to drive action.</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• Create, support, and leverage practice-based research networks (PBRNs). <ul style="list-style-type: none"> <li>• Use increasing amount of people who work across research and practice to: <ul style="list-style-type: none"> <li>• define research questions at the right time, and</li> <li>• ensure translation of research into practice.</li> </ul> </li> </ul> </li> </ul>
Understanding	<ul style="list-style-type: none"> <li>• Embrace shared language; make results understandable to all.</li> <li>• Utilize levers such as narrative and urgency.</li> <li>• Promote consistent and timely communication.</li> <li>• Articulate how a more coordinated public health system can help address specific disease states that are often the focus of funding.</li> </ul>
Enthusiasm	<ul style="list-style-type: none"> <li>• Leverage: <ul style="list-style-type: none"> <li>• interest from organizations that can provide new data,</li> <li>• private philanthropy's growing interest in health and climate, and</li> <li>• increasing demand for PHSSR from state and local public health.</li> </ul> </li> </ul>