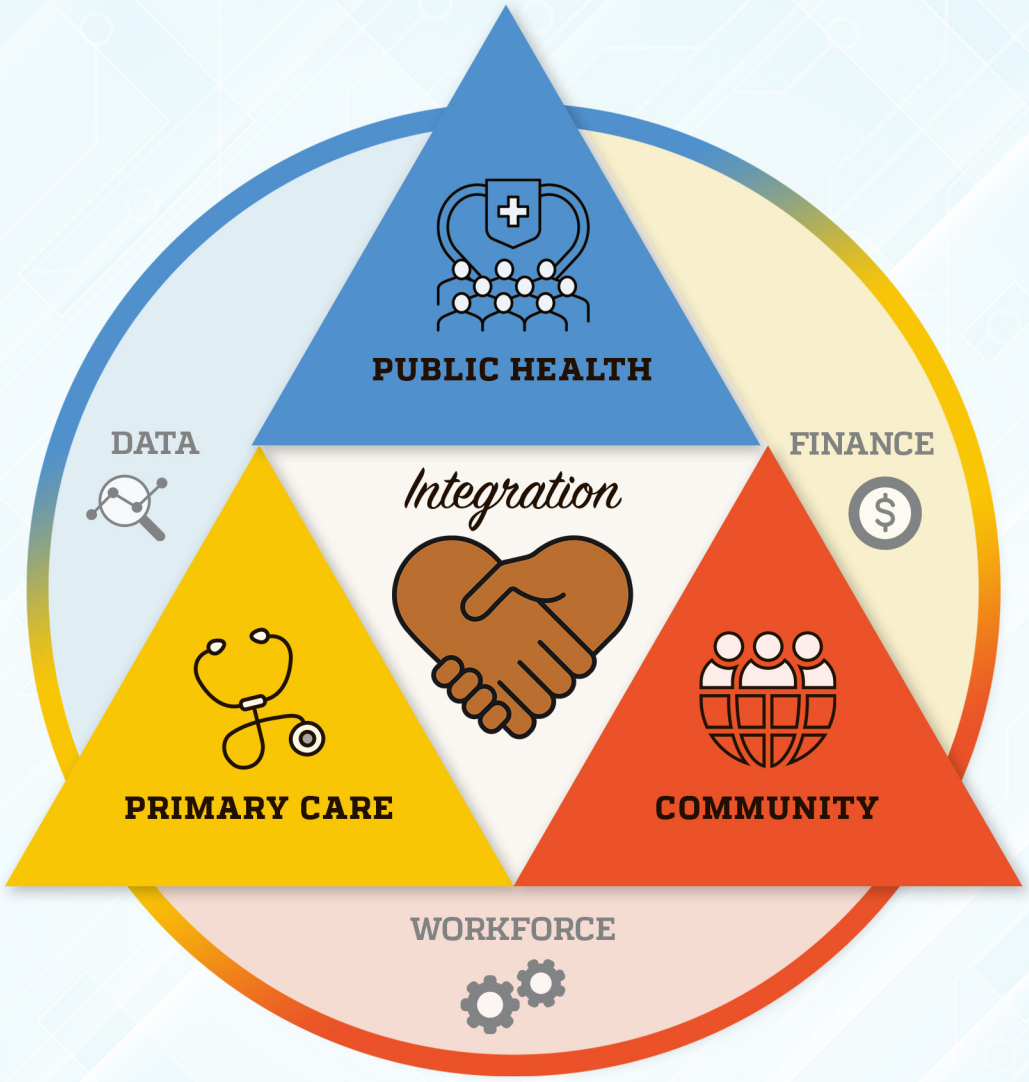

The Integration of Primary Care, Public Health, and Community-Based Organizations: A Federal Policy Analysis

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Contents

Executive Summary

This report calls out the urgent need to strengthen and build resilience in primary care (PC) whilst building cross-sector collaboration between public health (PH) and community-based organizations (CBOs). The purpose of this project is to identify and prioritize realistic and concrete changes to federal law, policy, or programs and to identify the key stakeholders responsible to foster coordination and integration of PC, PH, and CBOs in the US with the goal of improving healthcare services during everyday use and public health emergency responses. Facilitation of collaboration that leverages the strength of each partner and in which individuals know each other, interact, and share relevant information will be imperative to advancing individual and population health outcomes.

To achieve these goals, the project team employed a mixed-methods, rapid-cycle approach, including:

- a detailed review of the existing literature;
- an environmental policy scan of laws, legislative proposals, regulations, and policies;
- key informant interviews with primary care and public health leaders and practitioners;
- 3 meetings of an expert advisory working group; and
- 4 case studies of successful attempts at integration of PC, PH, and CBOs.

The findings of the research fell into 3 domains: funding and payment models, data interoperability, and workforce.

Based on this research, we propose the following recommendations for federal action. Some of these recommendations will require new legislation, additional appropriations, and heightened accountability linked to ongoing federal support if we are to achieve urgent and necessary reform to our systems. However, because significant new congressional legislation seems unlikely in the near term, we have focused primarily on actions that federal agencies can take without new legislation. Our recommendations are grouped into the 3 domains of our findings and briefly summarized below.

Domain I: Funding & Payment Model Reform

- Congress should appropriate new or increased sustainable core operational funding for primary care and public health in a coordinated format that is flexible and specific to serving local primary care, public health, and population health needs.

- The Centers for Medicare and Medicaid Services (CMS) should recommend states double or achieve a set percentage (12%)* of health spending budgets to be directed toward provision of primary healthcare or public health.
- CMS should require state applications for 1115 Medicaid waivers to include specific payment provisions for health-related social needs (eg, housing, food, community health workers [CHWs], workforce development, education) in order to drive integration of PC, PH, and CBOs.
- CMS should promote increased participation in the Medicare Shared Savings Program with modification or redesign of accountable care organization (ACO) requirements to reduce administrative burden, reduce costs, and encourage linkages with public health.
- CMS should expand funding to include building capacity for and implementation of closed loop referral systems that enable referrals from clinicians to CBOs for nonclinical services. The closed loop system also gives CBOs the ability to provide feedback to clinicians, driving integration through improved communication.
- The CMS Innovation Center should promote hybrid payment models, like its Making Care Primary (MCP) Model and Maryland's Total Cost of Care Model (MD TCOC) and Primary Care Program (MDPCP), with reconsideration of application and implementation requirements, which require a substantial portion of the funds and produce a significant administrative burden.
- CMS should clarify its MCP Model and States Advancing All-Payer Health Equity Approaches and Development (AHEAD) Model to explicitly include public health.
- CMS Innovation Center's future multi-payer total cost of care models should include public health, as they are designed to drive integration of PC and CBOs.
- CMS should add International Classification of Diseases (ICD)-10 Z codes (ICD-11 Q codes) that cover social determinants of health to their fee schedule.
- CMS should create relative value units (RVUs) for collaborative care, including for CHWs. This is needed to enable Medicare and Medicaid payment for such services.
- CMS should encourage state Medicaid programs to include payment for CHWs and collaborative care models.

Domain II: Data Interoperability

- Incentives, standards, and policies should be more effectively leveraged by the Office of the National Coordinator for Health Information Technology (ONC) to improve the quality, interconnectivity, and transfer of clinical information between electronic health records (EHRs) to facilitate data exchange for

* Leading research suggests the US double its current primary care spending to about 12% of total healthcare spending; other high-income countries devote about 14%. See https://doi.org/10.1377/hlthaff.2010.0020 and https://www.commonwealthfund.org/publications/issue-briefs/2022/mar/increasing-medicares-investment-primary-care.

collaboration among PC, PH, and CBOs, with pre-existing health information exchanges (HIEs) serving as the foundation for these systems to be built upon.

- Existing ONC and Gravity Project standards initiatives should emphasize the importance of collecting local data, and ONC should provide clear standards for data ownership of medical information, as well as data to gauge social needs, income, employment, and other public use metrics. Capacity-building and skills development resources should be paired with these standards to facilitate improvements.
- ONC should encourage that data consent forms contain language capturing consent from patients for transfer of some specific minimum necessary HIPAA data to non-HIPAA entities.
- ONC should remove financial and regulatory barriers that hinder data interoperability across EHR vendors and limit effective utilization of HIEs.
- ONC and collaborators like CMS and the Centers for Disease Control and Prevention (CDC) should develop strategies to strengthen standards for data interoperability, including mandatory reporting of demographic information, social determinants of health, and mental health indicators, and be empowered to rapidly enforce information sharing requirements.
- ONC and key stakeholders should encourage more rapid adoption of United States Core Data for Interoperability (USCDI) elements, establish traceability standards, and agree upon any supplementary data points that are relevant, timely, and actionable across PC, PH, and CBOs and use these data points as the starting point for information exchange.
- ONC, CMS, and CDC should invest resources to update health information technology (IT) infrastructure, including capacity-building grants to fund the skillsets necessary to utilize updated systems.
- End-users from PC, PH, and CBOs who will be leveraging data exchange programs to improve care should be actively included in discussions to improve data interoperability and increase its use.

Domain III: Workforce

- CMS should require and the Accreditation Council for Graduate Medical Education (ACGME) should enforce that primary care residency programs collaborate with public health and community-based organizations as part of the Teaching Health Center Graduate Medical Education (THCGME) Program.
- Congress should appropriate funds such that CMS, CDC, the Health Resources and Services Administration (HRSA), and the Substance Abuse and Mental Health Services Administration (SAMHSA) align efforts to expand and provide sustainable funding for PC, PH, nursing, behavioral health, and dental education and training programs and identify areas for overlapping workforce support. Emphasis should be placed on recruiting individuals from marginalized communities, supporting rural communities, and retaining talent in the public vs private sector.

- HRSA should establish and sustain funding for a national Public Health Service Corps while expanding all their health workforce loan programs to include public health practitioners—specifically those employed at local, state, and federal public health organizations—as eligible.
- Congress should appropriate funds such that HRSA can substantially increase the current award limits for the National Health Service Corps (NHSC) Loan Repayment Program (ie, NHSC Students to Service Loan Repayment Program, NHSC Substance Use Disorder Workforce Loan Repayment Program, and NHSC Rural Community Loan Repayment Program), Nurse Corps Loan Repayment Program, and Public Health Workforce Loan Repayment Program and include specific incentives to engage in team-based practices.
- HRSA should increase the award limit and repayment period for its School-Administered Loan Program for the healthcare disciplines and create loan forgiveness incentives for longevity in health professional shortage areas (HPSAs) or medically underserved areas.
- HRSA should provide funding via Public Health Service Act Section 330 grants or other funding to enable Federally Qualified Health Centers (FQHCs) to engage in team-based care training that has a goal of improving health, including health equity outcomes in the local community, while filling workforce needs to provide wraparound services via case management, outreach, and community health education, which are historically non-billable services.
- HRSA should require medical and nursing postgraduate residency programs to engage in team-based care training involving multidisciplinary collaboration among primary care, public health, and community-based organizations as a core competency and requirement of the THCGME Program and grants funded by the Advanced Nursing Education Nurse Practitioner Residency Integration Program.

Introduction

As witnessed in stark relief during the COVID-19 pandemic, the uniquely fragmented healthcare system of the United States hobbled its response. *Lessons From the COVID War: An Investigative Report*,[1] along with *Integrating Primary Care and Public Health to Save Lives and Improve Practice During Public Health Crises: Lessons from COVID-19*, detailed the challenges encountered during the pandemic and presented potential pathways for effectively addressing them.[2] Experts and frontline workers interviewed for the latter report indicated that better integration of primary care (PC), public health (PH), and community-based organizations (CBOs) could have eased the burden on overstretched PH personnel and significantly leveraged PC's trusted position and reach to amplify PH messaging, improve care to ill individuals, and bolster testing and vaccination campaigns. If these activities had been coordinated effectively, they could have saved lives and reduced the pandemic's health, economic, and societal impacts in the US.

Other reports have called out the urgent need to strengthen and build resilience in PC whilst building cross-sector collaboration between PH and communities. In a position paper published in December 2020, the American Academy of Family Physicians (AAFP) urged its members to become more aware of the value, importance, and movement toward integrating PC with PH. Recognizing the role that family physicians play in this integration, AAFP urged all national, state, federal, and private sector institutions to partner with PC and PH entities to ensure a more integrated care delivery system that improves population health. AAFP stated that "bold initiatives throughout the health sector are necessary for successful integration."[3] In May 2021, the National Academy of Sciences, Engineering, and Medicine (NASEM) released a report, Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care, the findings of which described several key implementation objectives to strengthen and make high-quality PC available to all people living in the United States.[4] The report called upon the federal government to assume leadership of the effort. In response, multiple agencies within the Department of Health and Human Services (HHS) collaborated to form the HHS Initiative to Strengthen Primary Health Care and issued a brief in November 2023 that catalogues a comprehensive list of current HHS programs and future commitments to advance policies that address the precarious position that primary care is in.[5] While the report was generally well received, it did not specify the structure, process, funding sources, and accountability for these efforts. The October 2023 Primary Care Collaborative Evidence Report, *Health is Primary: Charting a Path to Equity and Sustainability*, further documents factors driving the downward trends in primary care: fewer clinicians practicing primary care, fewer available primary care appointments for patients, and lower spending on primary care as a share of total spending.[6]

In 2022, the Commonwealth Fund Commission on a National Public Health System, in a perspective published in *The New England Journal of Medicine*, called for healthcare organizations to jointly conduct community needs assessments with PH agencies and implement follow-on activities, share data with PH agencies in support of community improvement, and develop opportunities for cross-sector training and exchanges with

PH. Successful integration of PC, PH, and CBOs would result in better clinical care of patients and improvements in population health outcomes.[7] Integration is a close collaboration that leverages the strength of each party and in which relevant individuals know each other, interact, and share information to advance a common goal—in this instance, to improve population health. Linking the public health system to primary care practices, paired with strategic financial and resource investments in primary care, has been found to enhance the delivery of high-value care and reduce acute hospital utilization.[8] Importantly, better integration would also facilitate more timely, effective responses to infectious disease outbreaks and strengthen preparedness and mitigation efforts for national public health emergencies.

Transformational change is needed to methodically break down the persistent barriers to collaboration that exist among PC, PH, and CBOs to correct misalignment across systems and establish a cohesive, more unified approach during normal times and future epidemics and pandemics. Entrenched barriers include perverse financial incentives and lack of interoperable data systems. As this report will show, numerous stakeholders, regulations, market dynamics, and governance silos also contribute to the current fragmented systems. The purpose of this project is to identify and prioritize realistic and concrete changes to federal law, policy, or programs and to identify the key stakeholders responsible to improve coordination and integration of PC, PH, and CBOs in the US with the goal of improving healthcare services during everyday use and public health emergency responses. Actions that state governments can take were addressed in *Strengthening Public Health Through Integration with Primary Care: State and Local Efforts*.[9]

Methodology

The project team employed a mixed-methods, rapid-cycle approach, including:

- a detailed review of the existing literature;
- an environmental policy scan of laws, legislative proposals, regulations, and policies;
- key informant interviews with primary care and public health leaders and practitioners;
- 3 meetings of an expert advisory working group; and
- 4 case studies of successful attempts at integration of PC, PH, and CBOs.

Details of the methods can be found in Appendix A, and a full readout of the literature review, landmark reports, environmental policy scan, and case studies can be found in our May 2023 interim report.[10]

Johns Hopkins Bloomberg School of Public Health Institutional Review Board determined that this study did not constitute human subjects research (IRB00022819).

Findings

Environmental Policy Scan

Few laws exist that specifically aid in the integration of PC, PH, and CBOs. There are a some cornerstone pieces of enabling legislation in this area, however, including the Affordable Care Act (ACA), the Pandemic and All-Hazards Preparedness Act (PAHPA), which was due for reauthorization in 2023, and the recent CARES Act. PAHPA seeks to improve the nation's public health and medical preparedness and response capabilities for emergencies, whether deliberate, accidental, or natural, and the CARES Act provided financial relief to individuals, families, and businesses during the COVID-19 pandemic.[11,12] Mental and behavioral health is an area of focus for recent legislation, and it appears that the concept of whole-person and whole-community health is permeating into wider circles. The value of integrating mental health into established healthcare services and funding streams is becoming increasingly apparent to policymakers and should be reinforced by practitioners and researchers whenever possible. Prioritizing integration of behavioral health services establishes a solid framework for PC-PH-CBO integration whilst addressing the unprecedented post-pandemic national mental health and substance use crisis. A table of policies that were found to be potential touchpoints for this research can be found in Appendix C.

Review of Existing Literature

In complement to our key informant interviews and advisory working group, a review of the existing literature supported our development of 3 domains in which policymakers and federal agencies could enact meaningful change to support integration of PC-PH-CBO.

Domain I: Funding & Payment Model Reform

Funding and payment reform is a recurring theme in the literature addressing PC, PH, and CBO integration. Financial constrictions often are a barrier to collaboration between PH and PC and restrict the ability to work with CBOs.[13] At the level of PH and CBOs, financial support often comes in the form of term-based grants. These funds, while important, are not sustainable and limit the scope of work undertaken due to time constraints. The fee-for-service (FFS) payment model continues to be a barrier to successful PC-PH integration due to its promotion of volume-based care. FFS reimbursement disincentivizes innovative practice models which, while they may benefit the community, will not achieve the level of reimbursement necessary to keep a practice in operation.[14] Aside from FFS payments, additional funding streams are available, such as global payment models, capitation, patient-centered medical homes, and Medicaid reimbursement for Federally Qualified Health Centers (FQHCs). The Maryland Total Cost of Care Model (MD TCOC) serves as an example of a policy-driven innovative payment model that provides additional financial resources beyond FFS payments to promote improvement of community health outcomes and to support cross-sectoral collaboration.[15,16] Under a traditional FFS model, PC practices

would receive no financial resources to support community-based activities, such as partnering with food banks, despite their positive impact on health outcomes.

Section 1115 Medicaid demonstration waivers are cited as opportunities to promote better integration among PC, PH, and CBOs. These waivers can provide funding for services not normally reimbursed by Medicaid, such as referrals for housing services.[17,18] As of December 1, 2023, the Kaiser Family Foundation reports 65 approved waivers across 47 states with an additional 35 pending across 31 states.[19] Utilization of the waiver overcomes the challenges of fragmentation of care and unsustainable streams of funding to enable interdisciplinary partnership.[20] California's Whole Person Care Section 1115 demonstration project focused on patients with the greatest medical and social complexity. The program utilized funding to provide care coordination services and develop infrastructure to promote cross-sector care for individuals experiencing homelessness, substance use, and/or incarceration, resulting in improved health outcomes for enrolled beneficiaries.[17]

Domain II: Data Interoperability

Central to the discussion of PC-PH integration activities is the use of data systems, which serve as both a facilitator of and barrier to successful collaboration. When properly designed and implemented, timely and reliable data systems can enhance situational awareness to improve decision making.[21] The exchange of information can be bidirectional as well; for example, Lurio et al discuss the incorporation of an electronic health record (EHR)-based notification tool implemented by the New York City Department of Health and Mental Hygiene (NYC DOHMH).[21] The program provided notifications to clinicians if their patient met certain clinical criteria. The notifications included dedicated order sets, infection control guidance, and contact information for appropriate parties at NYC DOHMH.[22]

However, data systems can also serve as barriers to successful integration of PH and PC activities.[23] Limitations that impede optimal exchange of data among PC providers, PH departments, and CBOs include lack of data standardization and interoperability and questions about privacy and the protection of health information.[24] Another limitation is the cost of implementing high-quality EHR systems. Systems that offer data systems integration and advanced analysis features come with a greater price tag.[25] In addition, implementation of advanced data systems requires technical expertise that may not be available.[25] Integrated data systems could positively affect social determinants of health (SDOHs). The ability to integrate clinical data with neighborhood-level data on housing, food insecurity, etc., can provide an enhanced understanding of how community-level factors might be influencing patient outcomes and guide the provision of better care for patients.

Health information exchanges (HIEs) are repeatedly cited as a solution to data fragmentation across healthcare and PH organizations.[26–28] Barriers to effective HIE utilization include the lack of availability of complete data, arduous workflows, and

misalignment between the data available and needs of the end-user.[26] Completeness of information available within HIEs is often driven by the voluntary nature of patient and provider participation in the exchange.[26] Interoperability of EHR systems continues to be a major challenge to coordination not only across different areas of the healthcare system but also within PH departments. One possible explanation is the misalignment of incentives, with emphasis placed on mandating adoption of an EHR without requiring participation in an HIE.[29] Adding requirements for comprehensive standards of interoperability provides an opportunity to enhance activities vital to PC and PH, such as disease prevention and surveillance, while overcoming challenges, such as missing data or loss of productivity due to the inability to efficiently access data.[30]

Innovative work is being undertaken to address how data systems can serve as a facilitator rather than a hindrance to the delivery of community-centered healthcare.[31] The Office of the National Coordinator for Health Information Technology (ONC) led a multidisciplinary initiative to identify opportunities to improve alignment between the needs of the users of EHR systems and the capabilities of the systems.[32,33] One identified priority is the automation of systems to facilitate timely PH reporting through extraction of data and, with approval, submission of relevant forms on behalf of the clinician to appropriate PH stakeholders.[33]

Domain III: Workforce

The COVID-19 pandemic had a significant impact on the PC and PH workforce. Recruitment and retention of staff continues to be a challenge and prevents robust recovery from the COVID-19 response.[34] Studies of barriers to collaboration between community health and healthcare organizations frequently cite staffing limitations as a significant obstacle.[13,35,36]

Data from the 2021 Public Health Workforce Interests and Needs Survey (PH WINS) show that approximately half of respondents' representative state and local PH organizations noted staff capacity as a significant limitation to response activities. Similar sentiments are described at the PC and CBO levels, suggesting lack of workforce as a central barrier to effective integration.[37] In order to actualize improved collaboration, investment in workforce development across and between PC, PH, and CBOs will be required.

A growing area of investment is the utilization of community health workers (CHWs) to support integration of individual and community health services. Several models propose shifting toward a community-centered rather than individually focused healthcare system, and CHWs can improve care coordination and connection of patients to CBOs.[38–40] During the COVID-19 pandemic response, CHWs played various roles in Washington state, working in contact tracing, community-based testing, and case management for behavioral health and substance use. Unfortunately, at present, there is limited upward career mobility and limited reimbursement for CHW services resulting in high turnover in the field due to low compensation.[41]

Key Informant Interviews

Continuing with the theme of 3 domains for enhancing integration among PH, PC, and CBO, key informants spoke of the many nuanced barriers and opportunities in each category. Other subthemes emerged during our discussions, such as communication, key players, and examples of successes, and these can be found in our interim report.[10] For a full list of key informants, see Appendix C.

Domain I: Funding & Payment Model Reform

There was consensus among key informants that the FFS model does not allow for integration or innovation and that hybrid models (models that combine FFS and prospective payments) appear to be more cost-effective and better at improving overall population health. Policymakers are taking steps to improve integrated care within the FFS model. Congress has been exploring ways to increase the value of collaborative care Current Procedural Terminology (CPT®) codes that would incentivize providers to engage in integrated behavioral healthcare. Clinical social workers (CSWs), for example, represent the largest group of mental health providers who provide psychotherapy services for Medicare Part B beneficiaries. Currently, Medicare reimburses CSWs at only 75% of the physician fee schedule,[42] a rate even lower than the 85% rate at which other nonphysician practitioners (ie, nurse practitioners, physician assistants, clinical nurse specialists, occupational therapists, physical therapists, speech language pathologists, registered dieticians) are reimbursed. The Improving Access to Mental Health Act of 2023 (S.838/H.R.1638) attempts to mitigate this reimbursement inequity by increasing CSW rates to 85% of the physician fee schedule to increase recruitment and retention of CSWs in the Medicare workforce, thereby expanding provider options for beneficiaries.[43] Such efforts to increase billing opportunities for nontraditional providers increase opportunities for integrated care.

There are many forms that hybrid models could take and still resemble FFS in order to support non-billing providers, such as CHWs or PH practitioners. Several informants highlighted the Maryland Primary Care Program (MDPCP) as a value-based hybrid model with strong success in its served communities.[44] With built-in risk adjustments based on the community served by the recipient practice, MDPCP is a combination of FFS and prospective payment models. Informants suggested other possibilities for hybrid models, including the concept of a capitated monthly payment to support population health work within PC offices. Such an approach might be less burdensome than developing and deploying new collaborative care codes to fit within current FFS systems.

Informants from professional organizations that had tried to advance better payment models through policy initiatives lamented that it was difficult to do so without external pressure on Congress or working directly with agencies; Congress seems to have limited appetite for appropriating or authorizing funding for integrated programs. Tension between federal and state governments' authorities also hinders action, as the federal

government is limited in its ability to compel state governments to make changes to their Medicaid programs.

Informants highlighted the Centers for Medicare and Medicaid Services (CMS) as the most influential steady-stream funder of healthcare practices. Grants play an important role in piloting programs, but Medicare and Medicaid funds make up the next largest portion of revenue for PC behind private insurance. As such, for large-scale changes in payment structures to occur, Medicare and Medicaid will need to align with new models. CMS has shown interest and energy in adjusting payment models, but the amount of flexibility the agency allows for recipient providers varies from administration to administration. The new CMS Making Care Primary (MCP) Model, announced in June 2023 is an example.[45] Currently, Medicare and Medicaid have less flexibility to offer hybrid payment models because of budget neutrality policy. However, Section 1115 waivers are being utilized by state Medicaid programs to increase their flexibility in providing integrated care in addressing social needs. Key informants described the successful utilization of 1115 waivers in California, Massachusetts, Oregon, North Carolina, and Arizona, among others, but noted that they were sometimes limited because they were politicized. Private healthcare systems are also beginning to adopt changes to their payment systems and increase the amount of integrated care in their practices. In one example, Duke Health has funded CBOs for around 20 years because they found the initial CBO investment resulted in overall reductions in cost and emergency department admissions.

Another area of federal payment model innovation is in CMS's Accountable Care Organizations (ACOs) and Medicare Shared Savings Program.[46,47] The Medicare Shared Savings Program, rolling out major reforms in 2024, provides newly established ACOs with access to a hybrid funding model to receive Medicare dollars. Within the program, ACOs serving areas with a higher area deprivation index would be eligible to receive more funding, thus incorporating a risk-adjusted model as well. Some informants suggested flexing Medicare to allow some services to be performed by licensed counselors, freeing up physician time and workforce requirements while integrating a higher level of whole-person care. While it will be difficult to move away from the deeply entrenched FFS model, it will be easier to create and maintain payment schemes that both support PC practices and incorporate CBOs and PH into integrated care as more case studies emerge of successful hybrid models. On a systemic level, policymakers could also consider making PH a discipline of healthcare, which would enable PH services to be reimbursed and financed differently.

Domain II: Data Interoperability

Many informants shared that the lack of interconnectivity and current setup of EHRs impeded integration among PH, PC, and CBOs. They discussed how difficult it is for EHR systems to communicate with each other and for health data to be extracted from EHRs and used for PH purposes. Enabling EHR interconnectivity would allow PC practices to better visualize and obtain broader assessments of their patients' health,

such as with admission-discharge-transfer (ADT) systems, and it would allow PH entities to have access to deidentified, real-time, population-level health data. Further connecting EHRs with social services and health equity measures through a dashboard could provide a more detailed picture of how outcomes vary by race, ethnicity, payer type, geography, etc. Informants recommended connecting social service data feeds to EHRs, perhaps through 2-way communication platforms like Unite Us, to ensure closed-loop referrals at the community level. The lack of a national dashboard posed challenges during the COVID-19 pandemic, when the absence of adequate linkages among EHRs provided an incomplete picture of the problem. Several informants noted that the US has the technological capability to connect EHRs, but regulations do not push large health systems, which often have their own disparate and disconnected data systems, and entities that profit from creating competitive, best-of-breed health exchanges to make investments in connectivity and adopt standards for information sharing.

Informants also mentioned barriers related to information technology (IT) and data systems. Health data is even more difficult for CBOs to access, and relatedly, important social service data collected by CBOs is not easily linked to the health data of their target populations, further limiting integration. The Medicaid Promoting Interoperability Program ended in 2022, which paved the way for higher-level strategic thinking on federal programming to address improvements in health IT.[†] Restrictive policies, voluntary data-sharing standards, cumbersome logistics, differences in reporting guidelines, and infrastructural barriers limit data sharing between PC clinics and PH services, especially between state and local health departments, which depend on PC data for health surveillance and tracking of key pandemic measures. Informants also stressed that PH data systems are difficult to maintain, fix, and build due to a dwindling PH workforce. Informants discussed how policy-related barriers prevented data exchanges for PH purposes, imposed heavy financial barriers for obtaining deidentified EHR data for PH purposes, prevented funds from directly reaching PC, posed burdensome reporting requirements on PC, disqualified nonprofit organizations who were unable to conduct rigorous evaluations from accessing federal grants, and made it difficult to address health-related social needs driven by racial inequities without subjecting these policies to legal challenges.

Furthermore, best-of-breed, disparate, company-based platforms were seen as reflective of a profit-focused mindset toward healthcare. One informant noted that EHR vendors' user fees are cost prohibitive for smaller PC institutions and FQHCs, but ONC permits them to charge a "reasonable fee," which is vaguely defined. However, a few EHR vendors, such as Epic, Cerner, and eClinicalWorks, have established collaborations through national networks outside of state-level HIEs to bolster data-sharing efforts.

[†] The program for eligible hospitals and critical access hospitals is currently known as the Medicare Promoting Interoperability Program. See https://www.cms.gov/medicare/regulations-guidance/promoting-interoperability-programs.

Some informants saw promise in cloud-based interoperability solutions and channeling data sharing through nonprofit neutral data trusts or organizations. Though third-party aggregation of EHR data is sometimes recommended, one informant was skeptical of the effectiveness of doing so. Another informant recommended shifting the data systems conversation away from a focus on EHR integration to collecting live data from laboratories for PH purposes, as they could better monitor changes in various health outcomes.

Informants recommended learning from creative data systems innovations, such as:

- CRISP, a regional HIE serving Maryland and 5 other states through shared services partnerships that facilitates the electronic transfer of clinical information between disparate health information systems and widely regarded by informants as one of the most sophisticated regional information exchanges in the country.[48]
- North Carolina Care 360, a network of health and social service providers who are connected through Unite Us's shared technology platform to send and receive electronic referrals and address people's social needs.[49]
- Surescripts, a national prescription hub that conducts widespread tracking of prescriptions; informants recommended a similar hub for imaging and EHRs.[50]
- The UK's National Health Service, which has a system to provide individuals' medical records to providers throughout the island country and could be adapted to US settings.
- Past policies such as the Health Information Technology for Economic and Clinical Health (HITECH) Act and the Medicaid Promoting Interoperability Program, which paved the way for improvements in EHRs across the US.[51]
- The ONC-published Trusted Exchange Framework Common Agreement (TEFCA) that establishes a universal floor for interoperability across the US and governance for users to securely share clinical information with each other per commonly agreed-to expectations and rules.[52]
- The Patient Unified Lookup System for Emergencies (PULSE), a state/local approach to accessing health information during disasters.[53]
- CHWs in Costa Rica who collect detailed geotagged community-level health and social determinants data, even in the most rural areas, and connect it with health system data.
- The Centers for Disease Control and Prevention's (CDC) Data Modernization Initiative, an effort to modernize core data and surveillance infrastructure across the federal and state PH landscape.[54]
- Fast Healthcare Interoperability Resources, which provide standards for using secure application programming interfaces for exchanging EHRs, could be further leveraged for integration. They are a feature of the 21st Century Cures Act.[55]
- The Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE), which helps healthcare workers and community partners better understand social drivers of health and empowers users to leverage data to improve health equity at the individual, community, and systems levels.[56]

- PH departments that have triangulated Medicaid claims data with social service departments' beneficiaries to identify the PH needs of vulnerable communities.
- The adaptation of agreements and structures activated when COVID-19 was declared a national emergency in order to enable data sharing.

One informant noted that several competing initiatives are underway in the US to enable data exchanges; however, the increasing popularity of market-oriented initiatives among providers may need to be accompanied with a parallel push for greater PH functionality of HIEs.

Several informants were eager to learn from the challenges and successes of the COVID-19 pandemic. Health data were largely unreliable because measures were unreliable; for example, it was possible to measure how much Paxlovid was dispensed through the federal reporting system but there was no way to know to whom it was prescribed and their health outcomes. However, informants lauded how point-of-care and grassroots testing, vaccinations, and treatments drove PC, PH, and community-based entities to exchange data, create collaborative databases, and integrate actions in a multidirectional manner, thereby increasing linkages and interoperability among data systems. Pairing health data (including data from laboratories) with social determinants data allowed PC, PH, and community-based entities to observe patterns in disparities and outcomes and respond to them accordingly. This was even more effective at FQHCs, where PH, PC, and CBO objectives were heavily intertwined. Establishing minimum reportable data for SDOH could amplify these efforts. Informants noted that real-time data sharing related to vaccination status, health outcomes, social determinants, and other measures could provide Medicaid managed care organizations and providers—or Medicaid enrollees at large—with valuable information to guide how they could amend their patient support processes on a state level.

Some informants suggested that providing Medicaid and Medicare incentives for IT expansion could help PC practices screen people for SDOH needs and create referrals to CBOs, thereby promoting a more integrated health system. Additionally, they suggested identifying shared health IT priorities among health departments, community groups, and PC practices as a starting point. One informant noted that the burden of engaging with cumbersome data systems disproportionately impacts PC providers, who "repeatedly express that they feel overwhelmed and burnt out by the number of administrative tasks they have to perform in patient care, and I think providers want to engage with PH; they want to engage with the IT systems in ways that are beneficial for everybody but there's just so much on their plate already."

Informants also recommended accounting for numerous logistical barriers that prevent data systems from supporting integration of PC, PH, and CBOs. For instance, every state's HIE was created with its own legal agreements, which prevents effective data exchange across states. While PH and PC entities might be able to exchange data under the right conditions, it is more difficult for them to easily transfer this information to

CBOs that could connect patients and populations in need to social services. Moreover, even when regional HIEs are implemented, their uptake is not consistent across healthcare entities. The PH workforce, which is already overburdened and constrained, may not be able to dedicate its limited time and resources to quality control, maintenance, and operation of PH IT systems and linked data sets. Additional funding and human resources need to be devoted to developing more integrated data systems. As one informant said, "We still need that major capacity-building effort on the PH side for PH to be a true data partner with the healthcare system."

Domain III: Workforce

Key informants reinforced the clear reality that PH and PC workforces are significantly depleted coming out of the COVID-19 pandemic due to myriad factors including burnout, lack of support, and lack of funding. PH officers reported experiencing personal threats to their safety due to mis- and disinformation, which further confounded efforts at sowing trust in communities. For PC providers, many have reported experiencing symptoms of post-traumatic stress following the height of COVID-19, when large numbers of their patients were falling seriously ill or succumbing to the disease. As the peak of the crisis has passed, we are left in an environment with an overworked and burned-out workforce, worsened by cuts made to funding that could have been used to supplement their numbers. In particularly dire shape is the PH nursing workforce, many of whom have quit the profession altogether. Informants commented that not enough has been done to look back at the conditions faced by today's workforce, implement solutions to ameliorate some of the worst impacts, and, at the very least, provide incentives to hire and retain a PH workforce.

There is a need to find creative ways to support workforce fortification and improvement in PH, PC, and CBOs rather than encouraging each entity to push harder. One example of potential workforce support and integration is CDC's Data Modernization Initiative.[54] Improving the health data infrastructure could remove some burden from PH workers who often must interpret and analyze data coming from different streams and in different formats. Still, informants pointed out there needs to be trained PH workers at the receiving end of a new system who can interpret and make actionable decisions based on the information they receive. Work is being done to train PH officers in health departments for these purposes through the Public Health Workforce Research Center, a collaboration between the CDC and Health Resources and Services Administration (HRSA).

Informants emphasized the importance of CHWs as trusted intermediaries between PH, the healthcare system, and community members, particularly in underserved populations. CHWs are critical components of successful community-based health initiatives in the US and abroad in large part because of their deep connections with the communities they serve. CHWs have also been utilized as care navigators for individuals to ensure that resources flow from the prescriber to the patient's home without interruption. However, informants pointed out that CHWs are often funded

through grants rather than yearly appropriations or medically reimbursable means and such funding often ends once the grant period is over. Aside from the obvious issue with abruptly ending community services, the cycle of hiring and loss of employment for CHWs themselves results in an alienation of previously willing community members to participate as CHWs a second time. One informant recalled that Medicare recently sought public comment on ways to create coded payments relating to CHW services, and another informant recommended working on ways to use Medicaid funding for CHWs, doulas, breastfeeding consultants, and social workers. While this avenue for CHW funding is not yet available for healthcare providers, it does provide a signal that the federal government is interested in making CHW services accessible and sustainable to more of the population.

Workforce training was also a common theme among key informants. At the beginning of COVID-19, many healthcare providers and community health centers participated in training on personal protective equipment (PPE) and other infection control measures from PH authorities. These and other examples of interaction between PH and PC entities underscore a need to regularly interact and train together on PH emergency best practices. One program highlighted by informants that brings PC providers into CBOs is HRSA's Teaching Health Center Graduate Medical Education (THCGME) Program.[57] THCGME supports PC medical and dental programs in community health centers and helps to fund and place resident physicians into these programs. The primary recipients of the grant are FQHCs, rural health clinics, and tribal health clinics. In the 2022–2023 academic year, THCGME awarded more than $155 million to 72 Teaching Health Centers.[58] The gap in this program is that it does not involve the training or integration of PH practitioners into these settings, but this is perhaps an area for future expansion. A trained, supported, and protected workforce is one that will withstand future disruptions to the system.

Advisory Working Group Meetings

The research team took a proactive approach to ensuring comprehensive and informed policy recommendations by convening subject matter experts and frontline providers who made up an expert advisory working group (see Appendix E for a list of members). Over a 6-month period, spanning from July to November 2023, the research team led 3, 2-hour meetings of the working group. The primary objectives of these gatherings were to examine the policy analysis, review information gathered during key informant interviews, and contribute to the development of report recommendations, all while considering the dynamic landscape of the current legislative environment.

The working group helped to identify existing federal policies that could drive PC-PH-CBO integration, as well as gaps in federal policy that could be filled. The group also identified actionable steps that do not require congressional intervention but that could be undertaken by federal agencies or other key stakeholders. Throughout this iterative process, working group members, along with the research team, drew on their collective expertise to refine proposed recommendations. This collaborative approach ensured

that the recommendations were not only rooted in the project's findings but also aligned with the present legislative landscape. The following summary contextualizes the recommendations in light of these considerations.

Summary

In a political landscape characterized by vitriol and division, the concept of PC, PH, and CBO integration is highly politicized. The pathway to transformational change in our current fragmented healthcare system seems at times to be unattainable. And yet it is not. The obstacles are not insurmountable, and much can and should be done. In an ideal world, primary care would be a common good, available to all and sufficiently valued and resourced. Public health that promotes and protects the health of people, improves our quality of life, and reduces human suffering would be sustainably funded and highly regarded as a trusted discipline of medicine. The data systems that support integrated HIEs would become public utilities, HIPAA-protected but accessible for use to improve the outcomes of healthcare delivery. Our healthcare and public health workforces would be robust, knowledgeable, skilled, and satisfied in their professional roles and remain in the workforce. Integration of PC-PH-CBOs would utilize its newfound power to repair health equity in the US.

Federal policies, programs, and initiatives, when properly leveraged or expanded, can create incentives for cross-sector PC-PH-CBO integration or remove barriers that impede it. The Affordable Care Act, had it been fully funded and implemented as originally written in 2010, would have addressed many of the challenges currently faced. Looking forward, there are legislative opportunities as well as other actions not requiring congressional adoption to make substantive advances in collaboration across the domains of payment reform, data and information technology, and workforce development and retention. This report notes the innovative programs and models that several states have successfully implemented.

Much can be accomplished despite the chaos of the US political system, both in the short and long terms. The CMS call for applications for the new voluntary, state-based Making Care Primary (MCP) Model[45] (June 2023) and announcement of the voluntary, state total cost of care model, the States Advancing All-Payer Health Equity Approaches and Development Model[59] (AHEAD Model, September 2023), are examples of policies that could be amended to include public health and community-based partners. Funding and payment reforms launched as state experiments and pilot programs can be contextualized to meet the unique geographical, social, and cultural needs of each state. Data interoperability standards and incentives to create willingness for use need to be at a national level with capacity-building funding available to state and local agencies and organizations.

A national healthcare workforce strategy based upon modeling of future demand and grounded in the evidence around team-based care, if developed, could serve as a roadmap for future workforce development. The national healthcare workforce of the

future should be both broad and diverse, reflecting the communities in which people live and work. Low- or no-cost changes to healthcare curricula—with a focus on team-based, multidisciplinary training and training with public health and community-based organizations in primary care and nurse residency programs—is one opportunity to advance integration.

Recommendations

There was considerable consistency among the literature, interviews, and advisory working group meetings. Based on our analysis and synthesis of the best literature and reports, assessment of the most tractable and potentially effective recommendations from the informants and the advisory group, and observation of real-life outcomes from the case studies, we conclude that the following are wise, feasible, effective reforms and measures that should be undertaken in order to improve PC-PH-CBO integration. Many of the recommendations require additional funding or new appropriations and some require legislative action, which is challenging, especially in the near term. Therefore, we emphasize actions by agencies that are possible without new legislation. Most of these recommendations cannot be accomplished immediately or even within the next year. It will take time, possibly years, but our goal is to lay out the elements of a strategy to foster integration regardless of how long it takes. The recommendations fall neatly into 3 domains: funding, data, and workforce.

Domain I: Funding & Payment Model Reform – Recommendations

- Congress should appropriate new or increased sustainable core operational funding for primary care and public health in a coordinated format that is flexible and specific to serving local primary care, public health, and population health needs.
- CMS should recommend states double or achieve a set percentage (around 12%) of health spending budgets to be directed toward provision of primary healthcare or public health.
- CMS should require state applications for 1115 Medicaid waivers to include specific payment provisions for health-related social needs (eg, housing, food, CHWs, workforce development, education) in order to drive integration of PC, PH and CBOs.
- CMS should promote increased participation in the Medicare Shared Savings Program with modification or redesign of ACO requirements to reduce administrative burden, reduce costs, and encourage linkages with PH.
- CMS should expand funding to include building capacity for and implementation of closed loop referral systems that enable referrals from clinicians to CBOs for nonclinical services. The closed loop system also provides CBOs with the ability to provide feedback to clinicians, driving integration through improved communication.

- The CMS Innovation Center should promote hybrid payment models, like its Making Care Primary (MCP) Model and Maryland's Total Cost of Care Model (MD TCOC) and Primary Care Program (MDPCP), with reconsideration of application and implementation requirements, which require a substantial portion of the funds and produce a significant administrative burden.
- CMS should clarify its MCP Model and AHEAD Model to explicitly include public health.
- CMS Innovation Center's future multi-payer total cost of care models should include public health, as they are designed to drive integration of PC and CBOs.
- CMS should add International Classification of Diseases (ICD)-10 Z codes (ICD-11 Q codes) that cover social determinants of health to their fee schedule.
- CMS should create relative value units (RVUs) for collaborative care, including for CHWs. This is needed to enable Medicare and Medicaid payment for such services.
- CMS should encourage state Medicaid programs to include payment for CHWs and collaborative care models.

Domain II: Data Interoperability – Recommendations

- Incentives, standards, and policies should be more effectively leveraged by ONC to improve the quality, interconnectivity, and transfer of clinical information between EHRs to facilitate data exchange for collaboration among PC, PH, and CBOs, with pre-existing HIEs serving as the foundation for these systems to be built upon.
- Existing ONC and Gravity Project standards initiatives should emphasize the importance of collecting local data, and ONC should provide clear standards for data ownership of medical information, as well as data to gauge social needs, income, employment, and other public use metrics. Capacity-building and skills development resources should be paired with these standards to facilitate improvements.
- ONC should encourage that data consent forms contain language capturing consent from patients for transfer of some specific minimum necessary HIPAA data to non-HIPAA entities.
- ONC should remove financial and regulatory barriers that hinder data interoperability across EHR vendors and limit effective utilization of HIEs.
- ONC and collaborators like CMS and CDC should develop strategies to strengthen standards for data interoperability, including mandatory reporting of demographic information, social determinants of health, and mental health indicators, and be empowered to rapidly enforce information sharing requirements.
- ONC and key stakeholders should encourage more rapid adoption of United States Core Data for Interoperability (USCDI) elements, establish traceability

standards, and agree upon any supplementary data points that are relevant, timely, and actionable across PC, PH, and CBOs and use these data points as the starting point for information exchange.

- ONC, CMS, and CDC should invest resources to update health IT infrastructure, including capacity-building grants to fund the skillsets necessary to utilize updated systems.
- End-users from PC, PH, and CBOs who will be leveraging data exchange programs to improve care should be actively included in discussions to improve data interoperability and increase its use.

Domain III: Workforce – Recommendations

- CMS should require and the Accreditation Council for Graduate Medical Education (ACGME) should enforce that primary care residency programs collaborate with public health and community-based organizations as part of the THCGME Program.
- Congress should appropriate funds such that CMS, CDC, HRSA, and the Substance Abuse and Mental Health Services Administration (SAMHSA) align efforts to expand and provide sustainable funding for PC, PH, nursing, behavioral health, and dental education and training programs and identify areas for overlapping workforce support. Emphasis should be placed on recruiting individuals from marginalized communities, supporting rural communities, and retaining talent in the public vs private sector.
- HRSA should establish and sustain funding for a national Public Health Service Corps while expanding all their health workforce loan programs to include public health practitioners—specifically those employed at local, state, and federal public health organizations—as eligible.
- Congress should appropriate funds such that HRSA can substantially increase the current award limits for the National Health Service Corps (NHSC) Loan Repayment Program (ie, NHSC Students to Service Loan Repayment Program, NHSC Substance Use Disorder Workforce Loan Repayment Program, and NHSC Rural Community Loan Repayment Program), Nurse Corps Loan Repayment Program, and Public Health Workforce Loan Repayment Program and include specific incentives to engage in team-based practices.
- HRSA should increase the award limit and repayment period for its School-Administered Loan Program for the healthcare disciplines and create loan forgiveness incentives for longevity in health professional shortage areas (HPSAs) or medically underserved areas.
- HRSA should provide funding via Public Health Service Act Section 330 grants or other funding to enable FQHCs to engage in team-based care training that has a goal of improving health, including health equity outcomes in the local community, while filling workforce needs to provide wraparound services via case

management, outreach, and community health education, which are historically non-billable services.

- HRSA should require medical and nursing postgraduate residency programs to engage in team-based care training involving multidisciplinary collaborationamong PC, PH, and CBOs as a core competency and requirement of the THCGME Program and those programs funded by Advanced Nursing Education Nurse Practitioner Residency.

Importance of PC-PH-CBO Integration to Emergency Preparedness

Public health emergency preparedness has been described as "the capability of the public health and healthcare systems, communities, and individuals to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities."[60] The CDC Public Health Emergency Preparedness Program describes 6 domains for state and local public health systems to advance in order to prepare for emergencies that threaten the health of the public. These domains include community resilience, incident management, information management, countermeasures and mitigation, surge management, and biosurveillance.[61] Underlying these domains is a fundamental tenet of emergency response that key organizations within the healthcare and public health systems have established a firm foundation for communication, collaboration, and coordination, prior to the onset of the event.

If the COVID-19 pandemic exposed anything, it was the predominant lesson that a lack of collaboration among PC, PH, and CBOs had devastating consequences for patients, families, and vulnerable communities. Glaring inequity in healthcare access was revealed and compounded.[2] The US is not alone in its communication gap among PC-PH-CBOs. In an assessment of the integration of PC and PH in addressing the needs of vulnerable populations in 8 high-income countries during the pandemic, Vanden et al identified a clear lack of communication between PC and PH in all countries, and the absence of PC at decision-making tables.[61]

As far back as 2012, the Institute of Medicine envisioned the level of integration between PC and PH as occurring on a continuum spanning from isolation to merger, with a focus on mutual awareness, cooperation, collaboration, partnership, and other activities that move toward greater coalescence.[63] More recently, in the 2020 *Operational framework for primary health care*, WHO and UNICEF state that "models of care should promote integrated health services, strategically prioritizing primary care and public health functions and ensuring adequate coordination between them," and the entities encourage pursuit of models of care that "promote high-quality, people-centered primary care and essential public health functions as the core of integrated

health services throughout the course of life."[64] Thereby, efforts to leverage policies and programs that advance the spectrum of collaboration and optimize health systems in day-to-day operations should directly improve capacity and effectiveness in public health emergency response. Kinder et al agreed, concluding that with PC and PH integration "greater capacity to respond to emergencies may be possible if the synergies gained by harmonizing the 2 are realized."[65]

The importance of including CBOs in these calls for better integration cannot be overstated. Unmet social needs associated with the pandemic placed tremendous strain on CBOs, limiting their capacity to sustain some programs and partnerships. Isolation associated with COVID-19 also had wide-ranging effects on service delivery, communication with Medicaid managed care enrollees and partners, and the ability to maintain relationships.[66] Calls to make communities more visible and more participatory in advancing public health to achieve greater health equity require new communication channels and an equity lens toward data systems on all levels, from collection and analysis to interpretation and distribution.[67]

Enhanced collaboration among PC-PH-CBOs allows PC providers to "identify the needs of their patients at a community level, develop strategies to address these needs on a population basis, and communicate with public health to implement and evaluate these strategies. Public health can act as a partner, providing leadership, advice, surveillance tools, evaluation, population approaches, and channels for information dissemination to the public."[68] Ultimately, the development of this framework in day-to-day operations will facilitate timely, coordinated, and effective response to public health emergencies.

Conclusion

Though calls for improved integration of PC and PH, as well as CBOs, have been made for more than a decade, much work remains to be done moving forward. A strategic roadmap for implementing these recommendations in each of the 3 domains should be developed with clear detail executing each step of the work. In light of the current legislative landscape, change will not be easy or rapid. Primary care payment reform is a necessary, but not sufficient step, to begin to integrate PH, PC, and CBOs. Funding and payment reforms that are occurring now as state-based experiments and pilot programs show great promise, particularly if public health can be incorporated into these programs. Fixing data interoperability challenges may require action at the national level.

The most promising long-term changes may lie in enacting the recommendations within the workforce collaboration category. Many of these recommendations are relatively low cost, such as moving to team-based, multidisciplinary training and training with public health and community-based organizations in primary care residency programs. Implementation of a workforce survey or report on what medical, nursing, and public health programs currently exist that promote this type of training and what their outcomes have been in terms of influencing workforce constituency

and practice would be a first step. Special emphasis should be placed upon a national workforce development plan with the goal of not only achieving rapid stabilization and retention of healthcare and public health professionals but establishing an evidence-driven framework for the future workforce. The US would be well-served to widen its aperture on how to recruit, prepare, and sustain the healthcare workforce, including how to incentivize them to work where they are most needed. Our nation's preparedness for the next major event that threatens human health and well-being is best served by integrating and strengthening our healthcare and public health systems for daily practice and building a strong, resilient, and collaborative workforce

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Appendix A. Methods

Review of Published Literature

We conducted a review of the published literature to identify articles addressing barriers and facilitators of integration between PH and PC. The search was conducted in 3 databases: PubMed, Web of Knowledge, and Google Scholar. The literature search strategy—including search terms, a priori inclusion and exclusion criteria, and desired publication time range—is detailed here. Ultimately, 63 articles were included in the final review. In this review of the literature, 3 primary themes emerged that play a pivotal role in determining the extent to which integration will be successful: data system integration, payment reform, and workforce expansion and development.

Next, we conducted a scoping review of the grey literature to specifically identify landmark reports that have been key contributors to the overall conceptualization and ideals of PC and PH integration. Reports were considered landmark if they were significant in making a key contribution in advancing the understanding of PC and PH integration. The full set of landmark reports that were reviewed, with data extracted and summarized, appears in Appendix B.

Literature Review Terms

- Time Frame: 2010–2023
- *[tiab] limits to articles containing the search term in the title or in the abstract

Component	*[tiab] Terms	MeSH Terms
United States	---	"United States" [Mesh]
Public Health	"Public Health Practice*"[tiab] OR "Public Health Administration*"[tiab] OR "Public Health Systems Research"[tiab] OR "Community Health Service*"[tiab] OR "Community Health Care"[tiab] OR "Community Healthcare*"[tiab]	"Public Health"[Mesh] OR "Public Health Practice" [Mesh] OR "Public Health Administration"[Mesh] OR "Public Health Systems Research"[Mesh] OR "Community Health Services"[Mesh]
Primary Care	"Primary Healthcare"[tiab] OR "Primary Care"[tiab]	"Primary Health Care"[Mesh] OR "Access to Primary Care"[Mesh]
Date Systems	"Data"[tiab] AND "Interoperability"[tiab]	"Data Syst"ms"[Mesh] OR "Medical Records"[Mesh] OR "Electronic Health Records"[Mesh] OR "Medical Informatics"[Mesh]

Component	*[tiab] Terms	MeSH Terms
Funding & Payment Reform	"Value Based Payment"[tiab] OR "1115 Waiver"[tiab] OR "Fina"c*"[tiab] "R "Fu"d*"[tiab] "R "Paym"nt"[tiab] OR "Payment Reform"[tiab] OR "Reimburse*"[tiab] OR "Fee-for-Service"[tiab]	"Medic"id"[Mesh] "R "Centers for Medicare and Medicaid Services, U"S."[Mesh] OR "Prospective Payment System"[Mesh] OR "Insurance, Health, Reimbursement" [Mesh] OR "Reimbursement Mechanisms" [Mesh] OR "Fee-for-Service Plans" [Mesh]
Workforce	"Community Organizat"on"[tiab] "R "Community Based Organizat"on"[tiab] OR "Workforce"[tiab]	"Health Workforce"[Mesh] "R "Community Health Work"rs"[Mesh] OR "Organization, Nonprofit"[Mesh]

Environmental Policy Scan

We used 2 policy databases, ProQuest Congressional and GovInfo, to execute an environmental policy scan for federal laws, legislation, and regulations with relevance to the integration of PH, PC, and CBOs. Searches were conducted between December 1, 2022, and February 28, 2023. "Public health," "primary care," "community-based organizations," and "integration" were key terms used to find relevant policies introduced, passed, or codified after March 23, 2010, the passage date of the Affordable Care Act, a landmark enabling policy for these issues. Policies including the following keywords were excluded: "military," "addition," "cancer," "energy," "defense," and "allergy." With these exclusions, the search was narrowed to 94 unique results on GovInfo and 78 unique results on ProQuest Congressional. Duplicates were manually eliminated, and a final review was conducted to identify and exclude nonrelevant content.

Overall, 131 results were identified, with the search ultimately identifying 24 bills passed by the US Congress and 37 pieces of relevant legislation not passed by Congress between March 23, 2010, and January 3, 2023, when the 118th session of Congress began. Therefore, the results of this scan only include relevant measures presented during the 110th Congress through the 117th Congress. Reasons for exclusion of the other 70 laws included nonhealthcare topics, policies solely oriented to defense, condition-specific legislation with no integration of PH-PC-CBOs, nondomestic policies, and appropriations acts from completed fiscal years. The resulting 61 pieces of legislation, chosen because they are the most relevant to the topic under investigation, are included in Appendix C.

Key Informant Interviews

From November 2022 to September 2023, we conducted 34 semi-structured, remote key informant interviews with subject matter experts to discuss the integration of PC, PH, and CBOs. Participants were purposively identified and invited based on their

experience and expertise in the PC and PH sectors. Snowball sampling was used to identify additional interviewees. A full list of interviewees along with their respective titles and credentials is available in Appendix D.

A semi-structured interview guide was utilized for each interview. Interviews focused on interviewee experience regarding the implementation of PH and PC integration as well as associated facilitators and barriers. Interest was paid to federal and state policies and programs, payment models and associated reforms, and data-sharing initiatives that could be leveraged to aid integration efforts. Interviews were conducted via the Zoom videoconferencing platform for a duration of approximately 45-60 minutes. Interviews were semi-structured in nature, allowing interviewees to direct the conversation based on their knowledge and experience. All interviews were conducted on a not-for-attribution basis to promote transparency. Interview notes, audio transcription, and audio and video recordings were collected for each interview with participants' consent.

Audio transcripts of key informant interviews underwent qualitative analysis. An initial codebook was developed based on topics discussed during interviews and revised internally by consensus to create the final coding framework. All coding was reviewed by a coding team lead for quality assurance, and coding discrepancies and concerns were discussed and resolved by consensus among the coders.

Advisory Working Group

The research team convened a small working group of subject matter experts and frontline providers that included individuals from national primary care organizations, public health leadership, medical and nursing organizations, and individuals providing direct primary patient care and those in leadership positions in healthcare technology (see Appendix E). The working group met with the research team 3 times over a period of 6 months (July, September, and November 2023) to inform the policy analysis, review the findings from the key informant interviews, and develop the report recommendations considering the current legislative environment. Each of the 2-hour meetings included a review of the study findings to date and a facilitated discussion regarding the major themes (data system integration, payment reform, and workforce expansion and development) and sought to identify which federal policies could be leveraged to drive integration. The working group also explored what steps could be taken without congressional action. Proposed recommendations were generated and refined over the course of the meetings. The working group also identified the federal agencies and key stakeholders who should be accountable for each recommendation.

Appendix B. Landmark Reports for PC and PH Integration

Publication Name & Year	PC and PH Integration Definition	Key Recommendations to Support Integration
Health is a Community Affair—Report of the National Commission on Community Health Services (aka "The Folsom Report"), 1966[1]	Drawing upon any and every service needed to solve health issues impacting populations within "communities of solution," wherein the boundaries of the community are those within which a problem can be defined, dealt with, and solved	• Organize and deliver comprehensive personal health services around "communities of solution," wherein every individual has a personal physician who is the central point for integration and continuity of all high-quality medical and related services • Address and transcend bureaucratic, political, and other service delivery boundaries (eg, public-private care delivery) • Involve service providers and consumers in planning processes to ensure acceptability and accessibility to a well-informed and motivated citizenry • Remove economic, racial, organizational, residential, and other barriers to services • Prioritize and address key areas of environmental health services, accident prevention, family planning, health education, health workforce shortages, rising hospital care costs, built environment • Ensure every state has a single, strong, well-financed, professionally staffed, official health agency with sufficient authority and funds to carry out its responsibilities and assure every community of coverage by an official health agency and access to a complete range of community health services
Integration of Primary Care and Public Health (Position Paper), 2020[2]	Alignment between family medicine and the public health sector to promote "community-oriented primary care"—focused on upstream (eg, governance, culture, and societal values) and downstream (eg, morbidity, mortality, access to healthcare, behavioral risk factors, living conditions) factors—to create a whole-person concept of health that promotes a continuum of care wherein overlapping services are managed collaboratively rather than in duplicate	• At the individual physician level: better understand the role of PH and integration • At the practice level: collaborate and communicate with PH, redefine population of interest to the geographic area, identify and collect data regarding social determinants of health, ensure community voices take part in planning and decision-making for community health • At the education level: prepare future physicians to take part in community-oriented primary care • At the advocacy level: promote payment reform; improve data interoperability among PC, PH, and CBOs; ensure government policies foster integration; advocate for regulatory and economic frameworks that make PH and population health critical to private sector health efforts

Publication Name & Year	PC and PH Integration Definition	Key Recommendations to Support Integration
Integrating Public Health and Health Care: Getting Beyond the Theory, 2016[3]	Relationship(s) between PH officials and healthcare organizations that aim(s) to strengthen the connection between clinical processes or the delivery of healthcare and public health prevention efforts—combining efforts, resources, and expertise to achieve a shared goal of improving the health of populations; however, prescribing specific models or templates for how integration should look is not possible because interactions between healthcare and PH sectors are varied and dependent on local circumstances (eg, availability of resources, differences in health challenges)	• Enter into informal or formal written agreements to broadly coordinate efforts • Create a shared governance structure (eg, PH representative on a governing board) • Healthcare providers or health plans invest financially in PH infrastructure (eg, direct payment to health department) • Implement processes for sharing population health information and analyses with providers • PH agencies certify, recognize, or otherwise promote providers who deliver high-quality care, either for select services or to targeted groups of individuals • State, local, or municipal PH authorities work with providers to support them in achieving prevention and quality improvement goals for their patients and communities, including via development of tools, customized programs, or standards • State purchasers leverage their managed care contracts to compel health plans to formally coordinate with PH agencies on prevention and health promotion activities
Practical Playbook I & II, 2015 & 2019[4,5]	A collaborative partnership between PC and PH actors to address a specific health issue, leveraging the strengths and perspectives of both	Partners should: • Focus on the shared goal of population health • Engage community members early and throughout the planning process to benefit from insights and support in choosing problems and selecting effective solutions • Agree about the core aspects of shared work including goals, values, and key competencies needed to achieve the goals • Develop a shared infrastructure and foundation for demonstrating enduring value and impact that may be evaluated and adjusted over time (ie, sustainability) • Share data and analysis
Communities of Solution: The Folsom Report Revisited, 2012[6]	Combine the approaches of "community-oriented primary care" and "communities of solution" to provide integrated and effective comprehensive health services via large scale reforms to replace the current fragmented US healthcare structure with community-centered health systems	• Create a national network of community partnerships that engages and activates the citizenry to self-define communities of solution to develop and sustain community-tailored health programs at the local level aimed at matching local health needs with integrated health services • Foster the ongoing development of integrated, comprehensive care practices (patient-centered medical homes), accessible to all groups in a community, through the creation of explicit partnerships with PH professionals and communities of solution

Publication Name & Year	PC and PH Integration Definition	Key Recommendations to Support Integration
		• Provide every individual in the US the opportunity to form a partnership with a personal physician and a team of health professionals utilizing integrated community health services in communities of solution • Engage communities of solution in priority areas of environmental health, injuries, family planning, built environment, and health literacy • Create a health workforce to serve the needs of US communities, including community health workers • Integrate health services—aligning hospital, ambulatory, and community care—across settings to promote quality and create value • Transform the roles of the relevant federal, state, and local agencies by bridging PH and medicine to be effective partners in communities of solution • Engage and support a citizen volunteer network formed by communities of solutions to educate, motivate, and collaborate for strategic local, regional, and national resource allocation informed by credible and actionable data • Utilize health information technology and emerging data-sharing innovative networks that enable the flow of relevant knowledge (public health, environmental, educational, legal, etc.) to the communities of solution
Uniting Public Health and Primary Care for Health Communities in the COVID-19 Era and Beyond, 2021[7]	A comprehensive, collaborative system of community care integrating PC, PH, oral health, behavioral health, CBOs, and other stakeholders that simultaneously responds to the challenges exposed by COVID-19 and positions the US to address future epidemics while producing health, containing costs, and relieving inequities	• Utilize the community of solution approach: identify the problem-shed—that region, population, group of people with a common experience, suffering from a health problem—and then engage and activate the local asset-shed—the PC, PH, and CBOs available to address the problem. In addition, local communities must have access to state and national assets • Expand the workforce by recruiting and training a new Community Health Worker Corps comprised of PH workers, PC practice staff, and members of the community • Cross-train PH and PC workforces • Enhance collaboration across multiple platforms: funding, data sharing, branding/planning/execution of activities, federal agency supervision, task forces, etc. • Evaluate integration efforts via multiple avenues

Publication Name & Year	PC and PH Integration Definition	Key Recommendations to Support Integration
Primary Care and Public Health: Exploring Integration to Improve Population Health, 2012[8]	Link PC and PH programs and activities to promote overall efficiency and effectiveness and achieve gains in population health	Federal agency level recommendations: • Link staff, funds, and data at the regional, state, and local levels • Create common research and learning networks to foster and support the integration of PC and PH to improve population health • Develop the workforce needed to support the integration of PC and PH • Improve the integration of PC and PH through existing US Department of Health and Human Services (HHS) programs • HHS secretary should work with all agencies within the department as a first step in the development of a national strategy and investment plan for the creation of a PC and PH infrastructure strong enough and appropriately integrated to enable the agencies to play their appropriate roles in furthering the nation's population health goals
Integrating Primary Care and Public Health to Save Lives and Improve Practice During Public Health Crises: Lessons from COVID-19, 2021[9]	Focus on PH in the delivery of healthcare in the US and strengthen and expand local PC, PH, and community networks to build and sustain thriving, resilient, integrated PC, PH, and community sectors capable of optimizing health outcomes during future pandemics and large-scale public health emergencies	• Co-locate PC and PH services to benefit population-level health and facilitate active collaboration • Align PC society efforts with PH in a unified voice to drive congressional action to ensure that the disastrous response to the COVID-19 pandemic is not repeated • Craft efforts to support, protect, and sustain the PC and PH workforces to drive integration across disciplines • Public health "moves at the speed of trust" and people trust their PC providers and CBOs; therefore, use PC and PH collaborative partnerships with strong ties to CBOs to enhance health systems surge capacity, extend PH disease containment interventions, and position the US for improved response to future pandemics
The Seven Vital Conditions for Well-Being[10]	While this report does not explicitly define PC-PH integration, it provides an oft-cited framework for conceptualizing holistic wellbeing and the distinct, indispensable vital conditions (ie, determinants of health) that give rise to it; identifies levers for community change and community health and wellbeing; and helps identify	Foster the following vital conditions across institutions and activities to support community health: • Humane Housing: access to secure, consistent places to live, homes, and neighborhoods that are safe from hazards, and neighborhoods that provide access to food and other basic needs, opportunities, and resources that promote healthy living • Meaningful Work & Wealth: access to good paying, fulfilling jobs and careers, and financial security that extends across the life span

Publication Name & Year	PC and PH Integration Definition	Key Recommendations to Support Integration
	where and how to invest in communities to yield better results over time	• Belonging & Civic Muscle: building fulfilling relationships and social support that people need to thrive • Basic Needs for Health & Safety: access to fresh air and water, nutritious food, and the security of a stable home as well as healthy relationships—with freedom to express gender and sexuality—and a life free from violence, injury, and toxic stress in addition to access to routine and critical healthcare • Lifelong Learning: providing educational opportunities that ensure all people, regardless of age, background, or ability, are set up for success and have the chance to reach their full potential • Reliable Transportation: reliable means to get to work, home, and any other necessary destinations • Thriving Natural World: a healthy environment that is free from environmental hazards, resilient to future changes and threats, and fulfills our needs to connect with nature, including clean air, clean water, clean land, and well-functioning ecosystems

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Appendix C. Environmental Policy Scan

Name of Legislation	Most Recent Status	Introduction Date	Resolution Number
Supporting Children's Mental Health Care Access Act of 2022	Referred to committee	2022	H.R.7076
Primary and Behavioral Health Care Access Act of 2022	Referred to committee	2022	S.4905
Coordinating Substance Use and Homelessness Care Act of 2022	Introduced	2022	S.4482
Building a Sustainable Workforce for Healthy Communities Act	Referred to committee	2022	H.R.8151
Improving Access to Behavioral Health Integration Act	Introduced	2022	S.4306
Medicare for All Act of 2022	Introduced	2022	S.4204
Restoring Hope for Mental Health and Well Being Act of 2022	Sent to Senate	2022	H.R.7666
Reauthorizing Evidence-based And Crisis Help Initiatives Needed to Generate Improved Mental Health Outcomes for Patients Act of 2022	Referred to committee	2022	H.R.7237
Public Law 117-323 – Justice and Mental Health Collaboration Reauthorization Act of 2022	Public law	2022	S.3846
Collaborate in an Orderly and Cohesive Manner Act	Referred to committee	2021	H.R.5218
Maximizing Outcomes through Better Investments in Lifesaving Equipment for (MOBILE) Health Care Act	Public Law	2021	S.958
Rural Health Innovation Act of 2021	Referred to committee	2021	S.2450
Ensuring Access to Primary Care for Women & Children Act	Referred to committee	2021	S.1833
Direct Primary Care Accessibility Act of 2021	Referred to committee	2021	H.R.3436
Access to TESTs Act	Referred to committee	2021	S.1018
Leveraging Integrated Networks in Communities to Address Social Needs Act of 2021; LINC to Address Social Needs Act of 2021	Introduced	2021	S.509

Name of Legislation	Most Recent Status	Introduction Date	Resolution Number
Protecting Moms and Babies Against Climate Change Act	Introduced	2021	S.423
Mothers and Offspring Mortality and Morbidity Awareness Act; MOMMA's Act	Introduced	2021	S.411
Full-Service Community School Expansion Act of 2021	Introduced	2021	S.385
Medicare-X Choice Act of 2021	Introduced	2021	S.386
Health Force, Resilience Force, and Jobs to Fight COVID-19 Act of 2021	Introduced	2021	S.32
Public Law 117-4 – Strengthening and Amplifying Vaccination Efforts to Locally Immunize All Veterans and Every Spouse Act or the SAVE LIVES Act	Public law	2021	H.R.1276
Public Law 117-79 – Accelerating Access to Critical Therapies for ALS Act	Public law	2021	H.R.3537
Helping Emergency Responders Overcome Act; HERO Act	Referred to committee	2020	H.R.1646
Health Force and Resilience Force Act of 2020	Introduced	2020	S.3606
Coronavirus Relief for Seniors and People with Disabilities Act of 2020	Introduced	2020	S.3544
HERO Act of 2020	Introduced	2020	S.3244
Public Law 116-127 – Families First Coronavirus Response Act; Emergency Family and Medical Leave Expansion Act; Emergency Paid Sick Leave Act; Maintaining Essential Access to Lunch for Students Act; MEALS Act; COVID–19 Child Nutrition Response Act; Emergency Unemployment Insurance Stabilization and Access Act of 2020	Public law	2020	H.R.6201
Community Health Center and Primary Care Workforce Expansion Act of 2019	Referred to committee	2019	S.962
Geriatrics Workforce Improvement Act	Introduced	2018	S.2888
Public Law 115-327 – Sickle Cell Disease and Other Heritable Blood Disorders Research, Surveillance, Prevention, and Treatment Act of 2018	Public law	2018	S.2465

Name of Legislation	Most Recent Status	Introduction Date	Resolution Number
Public Law 115-328 – Prematurity Research Expansion and Education for Mothers who deliver Infants Early Reauthorization Act of 2018 or the PREEMIE Reauthorization Act of 2018	Public law	2018	S.3029
Public Law 115-80 – National Clinical Care Commission Act.	Public law	2017	S.920
Public Law 115-92 – An act to amend the Federal Food, Drug, and Cosmetic Act to authorize additional emergency uses for medical products to reduce deaths and severity of injuries caused by agents of war, and for other purposes	Public law	2017	H.R.4374
Public Law 114-268 – First Responder Anthrax Preparedness Act	Public law	2016	S.1915
Public Law 114-270 – Expanding Capacity for Health Outcomes Act or the ECHO Act	Public law	2016	S.2873
Public Law 114-315 - Jeff Miller and Richard Blumenthal Veterans Health Care and Benefits Improvement Act of 2016	Public law	2016	H.R.6416
ACE Kids Act of 2015	Introduced	2015	S.298
Safe Food Act of 2015	Introduced	2015	S.287
Public Law 114-89 – Improving Regulatory Transparency for New Medical Therapies Act	Public law	2015	H.R.639
Public Law 114-41 – Surface Transportation and Veterans Health Care Choice Improvement Act of 2015	Public law	2015	H.R.3236
Better Care, Lower Cost Act	Introduced	2014	S.1932
Public Law 113-166 – Paul D. Wellstone Muscular Dystrophy Community Assistance, Research and Education Amendments of 2014	Public law	2014	H.R.594
Public Law 113-168 – Tribal General Welfare Exclusion Act of 2014	Public law	2014	H.R.3043
Public Law 113-146 – Veterans Access, Choice, and Accountability Act of 2014.	Public law	2014	H.R.3230
Public Law 113-185 – Improving Medicare Post-Acute Care Transformation Act of 2014 or the IMPACT Act of 2014	Public law	2014	H.R.4994

Name of Legislation	Most Recent Status	Introduction Date	Resolution Number
Building a Health Care Workforce for the Future Act	Introduced	2013	S.1152
Older Americans Act Amendments of 2013	Introduced	2013	S.1028
Public Law 113-5 – Pandemic and All-Hazards Preparedness Reauthorization Act of 2013	Public law	2013	H.R.307
Public Law 113-55 – An act to reduce preterm labor and delivery and the risk of pregnancy-related deaths and complications due to pregnancy, and to reduce infant mortality caused by prematurity, and for other purposes	Public law	2013	S.252
Public Law 112-202 – Taking Essential Steps for Testing Act of 2012	Public law	2012	H.R.6118
Consolidation of Grants to Strengthen the Healthcare System's Response to Domestic Violence, Dating Violence, Sexual Assault, and Stalking Act	Introduced	2011	S.1765
American Health Security Act of 2011	Introduced	2011	S.915
Supporting Child Maltreatment Prevention Efforts in Community Health Centers Act of 2011	Introduced	2011	S.54
Public Law 112-56 – An act to amend the Internal Revenue Code of 1986 to repeal the imposition of 3 percent withholding on certain payments made to vendors by government entities, to modify the calculation of modified adjusted gross income for purposes of determining eligibility for certain healthcare-related programs, and for other purposes	Public law	2011	H.R.674
Public Law 112-37 – Veterans Health Care Facilities Capital Improvement Act of 2011	Public law	2011	H.R.2646
Public Law 111-375 – National Alzheimer's Project Act	Public law	2011	S.3036
Community Health Improvement Councils Act of 2010	Introduced	2010	S.3796
Positive Aging Act of 2010	Introduced	2010	S.3698
Public Law 111-275 – Veterans' Benefits Act of 2010	Public law	2010	H.R.3219

Appendix D. Key Informant Interviewees

Listed in alphabetical order by surname

Name	Organization
Rachel Abbey, MPH	Office of National Coordinator for Health IT, US Department of Health and Human Services
Scott Afzal	Audacious Inquiry
Asaf Bitton, MD, MPH	Ariadne Labs, Brigham and Women's Hospital and Harvard University
Fredric Blavin, PhD	Urban Institute
Nadine Chan, PhD, MPH	Seattle and King County Public Health Department
Eric Chow, MD, MPH	Seattle and King County Public Health Department
Vazaskia Crockrell, MBA	Seattle and King County Public Health Department
Jeff Duchin, MD	Seattle and King County Public Health Department
Barbara DiPietro MD	National Healthcare for the Homeless
Rebecca Etz, PhD	Larry A. Green Center for the Advancement of Primary Health Care for the Public Good, Virginia Commonwealth University
Lindsey Ferris, DrPH, MPH, CPH, PMP	Audacious Inquiry
Margaret Flinter, PhD, APRN, FAAN, c-FNP	The Community Health Center, Inc.
Howard Haft, MD	Maryland Primary Care Program
Margaret Hamburg, MD	Foreign Secretary, National Academy of Medicine; President-elect, AAAS
Yalda Jabbarpour, MD	Robert Graham Center for Policy Studies in Family Medicine and Primary Care, American Academy of Family Physicians
Doug Jacobs, MD, MPH	Centers for Medicare and Medicaid Services
Jessica Jeavons, JD, MA	Seattle and King County Public Health Department
Joann Kang, JD	Rippel Foundation
Tamara Kramer	National Planned Parenthood
Steven Kravet, MD, MBA	Johns Hopkins Community Physicians
Jeffrey Levi, PhD	The George Washington University
Alan Lieber, MBA	Rippel Foundation
Nicole Lurie, MD, MSPH	Coalition for Epidemic Preparedness Innovations (CEPI)
Sharon McDevitt, MD	Office of the Assistant Secretary for Health, US Department of Health and Human Services

Name	Organization
Erin McDonald	Office of the Assistant Secretary for Health, US Department of Health and Human Services
Larry McNeely, MPA	Primary Care Collaborative
Wendy McWeeny, MPA	The Community Health Acceleration Partnership
Lloyd Michener, MD	Duke University
Bobby Milstein, PhD, MPH	Rippel Foundation
Tiona Moore, MSW	Rippel Foundation
Becky Payne, MPH	Rippel Foundation
Kelly Quintero	Feeding America
Anne Morris Reid, MPH	Protect Our Care
Joshua Sharfstein, MD	Johns Hopkins Bloomberg School of Public Health
Adele Shartzer, PhD	Urban Institute
Mia Shim, MD	Seattle and King County Public Health Department
Laura Smith, PhD	Urban Institute
Judith Steinberg, MD	Office of the Assistant Secretary for Health, US Department of Health and Human Services
Marriane Udow-Phillips, MHSA	University of Michigan Center for Health and Research
Julie Wood, MD	American Academy of Family Physicians
Stephen Zuckerman, PhD	Urban Institute

Appendix E. Advisory Working Group Members

Listed in alphabetical order by surname

Barbara DiPietro, PhD
Senior Director of Policy, National Health Care for the Homeless Council

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Professor, Family Medicine and Population Health, VCU School of Medicine
Co-Director, The Larry A. Green Center, Advancing Primary Health Care for the Public Good
Distinguished Fellow, ABFM Foundation

Lindsey M. Ferris, DrPH
Senior Interoperability and Public Health Director, Audacious Inquiry, A PointClickCare Company

Margaret Flinter, PhD, APRN, c-FNP, FAAN
Senior Vice President and Clinical Director, Moses Weitzman Health Center & Community Health Center, Inc.

Howard Haft, MD, MMM, CPE, FACPE
Founding Executive Director, Maryland Primary Care Program
Adjunct Professor of Medicine, University of Maryland School of Medicine

Nicole Lurie, MD, MSPH
Executive Director for Preparedness and Response and US Director, CEPI
Senior Lecturer, Harvard Medical School
Adjunct Professor of Medicine, George Washington University School of Medicine

Wendy McWeeny, MPA
Co-Director, The Community Health Acceleration Partnership

Lloyd Michener, MD
Professor Emeritus, Department of Family Medicine & Community Health, Duke School of Medicine
Adjunct Professor, Public Health Leadership, UNC Gillings School of Global Public Health

Rishi Sood, MPH
Executive Director, Health Care Access and Policy, New York City Department of Health & Mental Hygiene

Marianne Udow-Phillips, MHSA
Senior Advisor, Center for Health and Research Transformation
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