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Assessment, Policy Development, and Assurance: Evolving the Core Functions of Public Health to Address Health Threats

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THE CORE FUNCTIONS OF PUBLIC HEALTH: A HISTORICAL OVERVIEW

For more than a century, growing scientific knowledge about sources and means of addressing disease and gradual public acceptance of public health (PH) management as a possibility and public responsibility have shaped the modern PH system.[1] The pivotal 1988 Institute of Medicine (now the National Academy of Medicine) report entitled "The Future of Public Health"[1] was a call to action that recognized the dire state of PH and its ubiquitous scope, identified core functions of PH, and emphasized the power and responsibility of the government to promote population health in response to persistent and emerging health threats. The core functions of PH, as defined in Table 1, comprise assessment of community health conditions and threats, development of policies that promote and protect population health, and assurance of the provision of PH services to communities and individuals. The core functions are advanced at all levels of government and prioritize the efforts and limited resources of U.S. health departments.[2,3] In 1995, the U.S. Public Health Service operationalized the core functions as 10 Essential Public Health Services (EPHS)[4,5] that inform the organization of state and local PH systems, National Public Health Performance Standards, national standards for PH accreditation, and curricular development in schools of PH.[1–4,6,7] The ubiquitous EPHS were revised, in 2020, to recognize the outsized influence of social inequities on population health[8,9] and to more explicitly center PH actions on equity.[7]

Defining PH as "What we as a society do to assure the conditions for people to be healthy"[1] acknowledges a collective responsibility to protect population health, in contrast with health care's focus on individual health actions and outcomes.[4,10,11] The social determinants of health (SDOHs), as depicted in Figure 1, are factors that influence a person's overall health and well-being[8,10,12] more than individuals' biological characteristics, health care, and behavior.[8,9,12] The SDOHs themselves are attributable to the root causes of inequity, which include inequitable access to power and representation in governance, biases, and value systems that marginalize selected communities.[8,9,12,13] Thus, addressing the root causes of inequities[9] is an underappreciated path to improving the health of the public[1,7–9] and reducing barriers to implementation of the core functions. The core functions of PH alone do not sufficiently explain health status improvements or disparities.[2,3] Therefore, several observations emerge encouraging further evolution of the core functions and their interpretations.

ASSESSMENT

Community-wide approaches targeting SDOHs or root causes of inequity realize broader results than disease-focused efforts.[10–12,14,15] The Centers for Disease Control and Prevention's Health Impact in 5 Years program provides several examples of this approach,[16] including how the use of an Earned Income Tax Credit, which provides up to 40% more income to minimum-wage workers with children, lifted 5.6 million people out of poverty in the U. S. in 2018 alone and improved a wide range of income-dependent health outcomes and social conditions.[16,17]

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Table 1. Themes and Selected Examples of Evolving Core Functions of Public Health

Core public health functions	Current definitions represented by Essential Public Health Services	Themes observed since 1988, "The Future of Public Health"	Expanded interpretations of Essential Public Health Services	Selected examples of evolving public health functions
Assessment	Assess and monitor population health Investigate, diagnose, and address health hazards and root causes	Public health should focus on evaluating and influencing social conditions for population health rather than on individual health behaviors and outcomes	Evaluate public health actions (operational research) and outcomes to address health hazards and root causes and avoid contributing to inequities	Environmental Justice Index identifies hazards and exposures at the ZIP code level to provoke solutions *Healthy People 2030* has increased focus on social determinants of health
Policy development	Communicate effectively to inform and educate Strengthen support and mobilize communities and partnerships Create, champion, and implement policies, plans, and laws Utilize legal and regulatory actions	Political engagement is challenging but required for agenda setting, funding, and implementation of public health	Influence equitable public policy by ensuring that legislators understand the public health impacts of their decisions, investments, and lawmaking actions Increase the use of health economics evidence to communicate public health gaps and impacts and elicit political and public support for interventions Use policy to shift society to values evidenced to protect population health	White House Justice 40 Initiative assures that at least 40% of the benefits of federal funding are focused on marginalized communities U.S. jurisdictions' declaration of racism as a public health crisis compels national and local solutions
Assurance	Build and maintain a strong organizational infrastructure for public health Improve and innovate through research and quality improvement Build a diverse and skilled workforce Enable equitable access	Community engagement and improvements to barrier social conditions are key to assurance of access to health services and population health	Provide services tailored to community needs and the inequities they experience Facilitate the provision of access to nonhealth services such as voting, housing, water, and nutritious food. Partner with appropriate agencies to address social determinants of health and determinants of inequity	Provision of voter education and access at federally funded community health centers promotes civic engagement evidenced to improve local health outcomes Investment of billions in flexible CDC funding for partnerships, workforce, and public health infrastructure

CDC, Centers for Disease Control and Prevention.

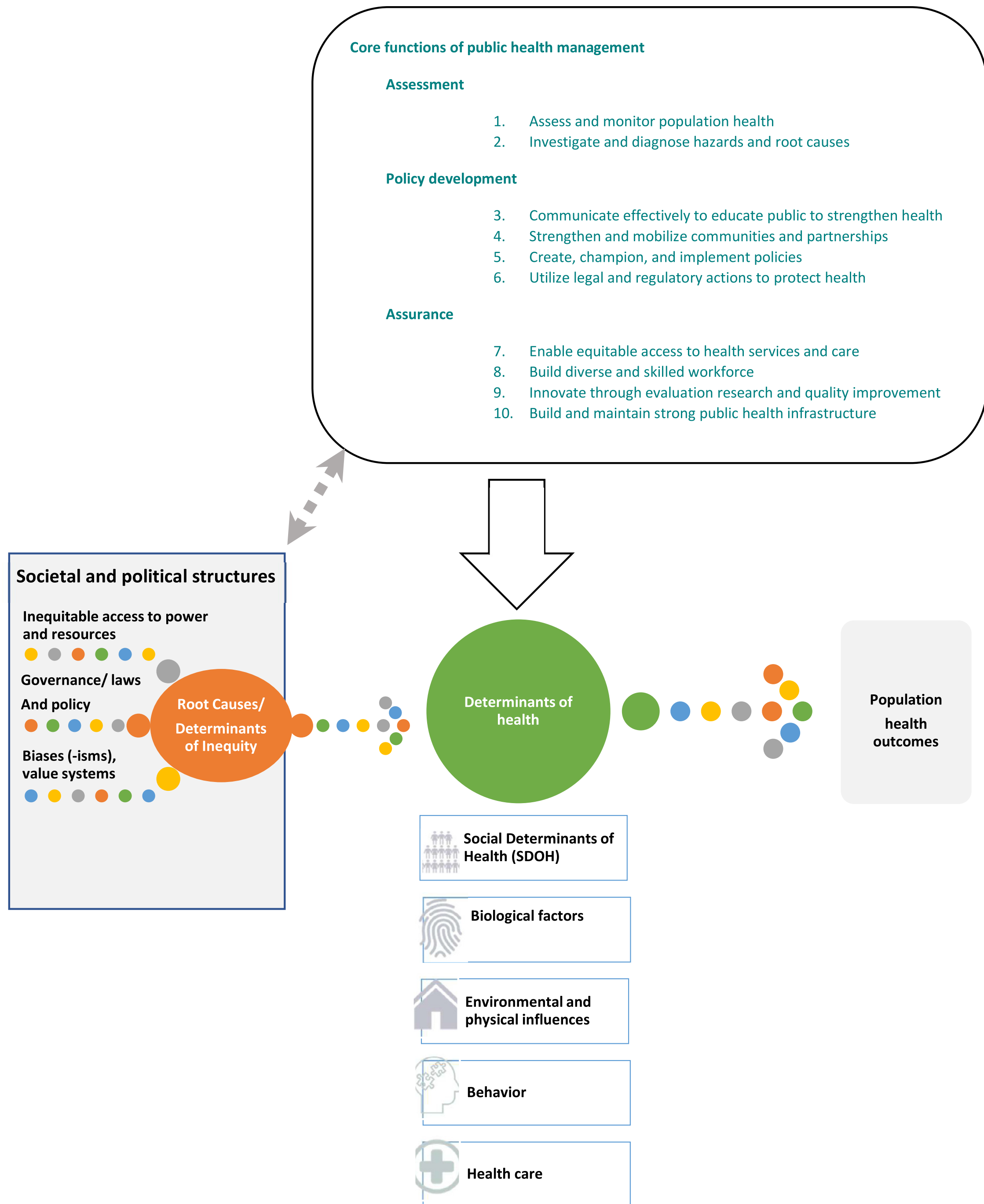

Figure 1. Schematic of the core public health functions, 10 Essential Public Health Services, determinants of inequity, and the determinants of health. The core functions of public health altogether focus on improving conditions to promote population health and reduce inequities. The dashed arrow illustrates that determinants of inequity can influence public health management and vice versa.

Yet, assessment in PH overwhelmingly focuses on medical care, individual behaviors, and outcomes such as obesity and the incidence of cancer rather than on the SDOHs.[4,6,7,10–13] Consequently, the evidence base generated is insufficient for addressing the root causes of poor health.[10,11,13] In addition, research priorities are influenced by political processes and the novelty of emergencies,[10,11,18] which limits sustainability and effectiveness. Unsurprisingly, just 3% of $3.6 trillion in annual health spending in the U.S. is invested in PH and prevention.[18] Consequently, since 2000, 91% of health departments nationwide have experienced declining budgets, virtually eliminating already strained PH system capacity.[18,19] Compounding these challenges is that the

healthcare and PH workforce is overwhelmingly White[5,7] and features a centrality and density of perspectives that lack the historical or experiential context to interrogate White supremacy, manifested as health and non–health sector overinvestments in White communities and underinvestment in communities of othered groups.[5,7–9] Consequently, severe health disparities persist among historically disadvantaged and predominantly Black and Brown communities, whereas positive health outcomes are mostly realized in White and affluent communities.[2,10–12,18,20,21] Furthermore, deficiencies in identification, measurement, and analyses of community needs and investments and their differential, intersectional impacts on historically disadvantaged communities lead to uneven persistence of health threats and prevent strategic development and funding of interventions for the most impacted and least resilient groups.[7,8]

POLICY DEVELOPMENT

PH requires strong engagement in the political process[3,11,12,20] to stimulate all stages of policy development, including agenda setting, decision making, implementation, and evaluation.[22] Mobilizing communities to civic action can strengthen health through policy development. Yet, advocating for societal conditions that improve population health while attracting sufficient political support is a challenge that PH administrators are poorly equipped to handle.[3,10,11] Complicating the clash of political support with professional responsibility is that PH priorities depend primarily on federal appropriations[11,18] by lawmakers who often lack evidence about the economic returns of addressing societal inequities,[13] determinants of health,[10,20] opportunity costs, and national security risks incurred by underfunding PH.[2] Similar complexities affect the distribution of funding and policy development at the state and local levels.[2,3] In addition, federalism decentralizes PH authority, limiting national policy administration and resulting in cross-border disparities in how PH is addressed down to the ZIP code level.[6,10,14,18] These challenges must be navigated against a backdrop of individual liberties versus collective benefit. For example, mask and vaccine mandates, albeit differentially imposed in various jurisdictions as part of the coronavirus disease 2019 (COVID-19) pandemic response, have led to renewed efforts to further curtail PH authority.[23] The development, public communication, and administration of PH policy at various levels of government is fraught. It is no wonder, then, that even on a self-reported basis, the most common omission of U.S. health departments' action on any core PH function is in the policy development realm, with nearly 50% of jurisdictions found either inactive or declining actions.[2,3]

ASSURANCE

Given the expansive scope of PH and the government's responsibility to protect population health,[1] PH assurance functions, such as vaccination campaigns, require collaboration amongst nontraditional public and private sector partners.[3,5,10,20] Accordingly, efforts to strengthen PH infrastructure must equip state and local health departments to provide EPHS that are accessible and sensitive to cultural, linguistic, and social diversity. Therefore, what constitutes PH assurance may include services and actions that mitigate barriers to PH intervention or improve health outcomes. Examples include fair housing, voting rights, equitable education (e.g., development of a demographically diverse PH workforce), and the elimination of racism from all institutions.[4,7,10,15,19] The U.S. Census projections of a non-White majority by 2050, inclusive of all historically disadvantaged groups, signify that neglecting to centrally and equitably address PH needs and barriers may compound the cost of inequity to individuals and the nation beyond ∼$978 billion.[15,24] In addition, the rising frequency and severity of national health security threats, including climate emergencies, emerging infectious diseases[25] concurrent with chronic diseases, and environmental pollution and inadequate health infrastructure,[18] predominantly impact historically disadvantaged groups who often lack resilience and equitable access to government interventions.[26–28]

CURRENT AND FUTURE DIRECTIONS

Revised EPHS and SDOH models promulgate that equity must be the core (Figure 1) of all PH actions,[4] a major shift in ideology that reflects the field's acceptance that PH cannot exist in the absence of justice.[11] The revised models provoke an evolved interpretation of the core functions of PH (Table 1) and amplify calls to tackle both the root causes of inequity and the SDOHs to address both health outcomes and disparities.[9,13,15] Examples of U.S. government actions that aim to advance equity include the White House Justice 40 initiative to ensure that 40% of benefits from federal programs reach disadvantaged communities; the Environmental Justice Index created for states and communities to become aware of hazards and stimulate actions; creation of the HHS Office of Climate Change and Equity, which provides a national nexus for federal action[29]; and the Biden Administration's revocation of the prior Administration's Executive Order 13950, which prevented federal workforce trainings on

racism's role in shaping America's systems.[7,8] Unlike prior iterations, *Healthy People 2030*, which promulgates nationwide measurable 10-year health and well-being objectives, emphasizes focus on SDOHs to reduce inequities that cause disparities. Illustrating this trend is Executive Order 14019, which requires federal agencies to, within the law, facilitate voting access known to improve community engagement and positively impact health outcomes (Table 1). Federally Qualified Health Centers serving 30 million people from disadvantaged communities capitalize on this policy. The Centers for Disease Control and Prevention is currently providing an unprecedented and flexible (disease-agnostic) 4 billion dollars to health departments nationally to strengthen critical PH infrastructure, workforce, and data systems and activate PH investments in marginalized communities.[30] Yet, efforts to achieve health equity remain peripheral to day-to-day agency actions as an unfunded mandate lacking influential champions[7] and highly susceptible to politics and mostly White perspectives.[11]

CONCLUSION

Since 1988, the core PH functions provided a road map for understanding the role of the PH system. Since then, society's values and experiential and educational contexts have gradually evolved toward accepting the ubiquitous scope of the field and the criticality of equity in achieving population health. To further this beneficial evolution, interpretations and implementation of the core PH functions must reflect these new ideologies.

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