Medicaid and Public Health Partnership Learning Series

Public Health and Population Health 101

CONTENTS

OVERVIEW

This paper is intended to serve as a resource for Medicaid personnel and Medicaid contractors about public health, population health, and public health's role in population health management. It includes extended definitions for "public health" and "population health," a discussion of population health's value as a conceptual framework for integration across the healthcare system, and examples of successful practical application and current population health improvement initiatives.

WHAT IS PUBLIC HEALTH?

Public health refers to "the science and art of preventing disease, prolonging life, and promoting health through organized efforts and informed choices of society, organizations, public and private, communities, and individuals."[1] The work of public health is centered on promoting healthy lifestyles through health education, protecting against environmental hazards, controlling infectious diseases, preparing for and responding to disasters, and promoting healthcare equity, quality, and accessibility. Overall, public health is focused on protecting the health of entire populations, from the community level up to the global level.

Public health also refers to the workforce of health professionals (both governmental and nongovernmental) whose chief focus is preventing health problems from occurring or recurring by addressing the conditions or circumstances under which health and disease occur. Public health professionals develop and implement educational programs, conduct research, administer health services, and make policy recommendations. This is in contrast to clinical professionals, who provide direct patient care through clinical screenings, diagnosis, and treatment after a person has become sick or injured.

The primary enterprise of public health is to help identify and establish the conditions in communities under which people can live healthy lives. Public health activities often focus on population-based disease prevention and health promotion programs and policies that extend beyond medical treatment by targeting underlying risks, such as tobacco, drug, and alcohol use, diet and sedentary lifestyles; and social and environmental factors or determinants.[2] Examples of public health activities include:

- Immunizing and controlling infectious diseases.

- Ensuring motor vehicle safety.

- Ensuring workplace safety.

- Ensuring food safety.

- Sanitizing water.

- Protecting maternal and child health and access to family planning.

- Preventing chronic disease.

All of these activities contribute to the health of the population, as they affect the mortality and morbidity of all people.

WHAT IS POPULATION HEALTH?

Population health is defined as "the health outcomes of a group of individuals, including the distribution of such outcomes within the group."[3] It is comprised of three main components: health outcomes, health determinants, and policies.[4] Population health outcomes are the product of multiple "inputs" or determinants of health, including policies, clinical care, public health, genetics, behaviors (e.g., smoking, diet, and treatment adherence), social factors (e.g., employment, education, and poverty), environmental factors (e.g., occupational, food, and water safety), and the distribution of disparities in the population. Thus, population health can be thought of as the science of analyzing the inputs and outputs of the overall health and well-being of a population and using this knowledge to produce desirable population outcomes. A population's health can be analyzed at various geographic levels (e.g., countries, states, counties, or cities), including health disparities based on race or ethnicity, income level, or education level.[5]

It is important to note that currently there is no consensus for the definition of population health, a fact that may stem from differences in practical application across sectors. For example, public health officials, community organizations, and business leaders often use the word "population" in the geographic sense, because they work in terms of geographic units (e.g., federal, state, or county.) This usage differs from how "population" is used in the clinical healthcare system, which often more narrowly refers to patients using a facility within a specific time period, members of an insurance plan, or patients being treated for a specific diagnosis.[6]

Medicaid typically uses the term "population" to refer to the total population of Medicaid beneficiaries (a subgroup of the total United States population) or a specific subgroup of beneficiaries, like pregnant women, children, seniors, individuals with disabilities, or dual eligible individuals.[7] Medicaid serves its part of the population by constructing health plans and reimbursing providers. States rely on Medicaid health plans to contract with an adequate network of providers to ensure that patients have access to physicians. However, plans also provide services such as disease management, case management, and managed behavioral health services.[8]

Stakeholders are currently attempting to distinguish among the various usages of "population health" by boiling them down to two distinct definitions and integrating them into a framework that includes the determinants of health and population health improvement activities.[9] This would expand "population health" from a simply statistical concept into a conceptual framework through which to study how health and well-being vary among populations.[10,11]

In terms of application, population health is an organizing framework that seeks to align the components of the health system, including integration within the care delivery system and broader health and social systems that contribute to health.[12] For the purposes of this resource, the population health framework will be viewed as a paradigm for adoption and integration across the health system and related areas of legislation and policy. The semantics behind the term "population" will be put aside in favor of deferring to the intended usage in the sectoral setting.

ALIGNMENT

Population health is inherently aligned with the work of public health, because improving the health of populations is a major goal of public health. In fact, improving population health is one of the three pillars of the Triple Aim, a framework for health system optimization, along with the pillars of improving clinical outcomes and lowering healthcare costs.

Public health organizations and professionals carry out the work of population health by assessing community needs, designing, implementing, and evaluating programs that prevent or mitigate injury and disease, working to reduce health disparities, issuing guidelines and recommendations, identifying best practices, performing population health surveillance and data analysis, convening stakeholders, and providing resources to other organizations to carry out these efforts.

The population health framework can be thought of as an expansion of the public health agenda, such that all the major forces shaping society can see themselves as contributors towards this common goal. The success of this paradigm shift will depend on how well different entities (healthcare providers, payers, public health agencies, policymakers, businesses, and community-based organizations) internalize the framework and collaborate with one another.

PRACTICAL APPLICATIONS OF POPULATION HEALTH

Population health management is a systematic approach that enables all people in a defined population to maintain and improve their health, and is a practical application of population health within the medical delivery system. In order to improve management of patient outcomes at a lower cost, care systems provide individually customized programs, information, and support designed to promote healthy lifestyles and improved adherence to evidence-based care.[13] Medicaid, too, can take a constructive role in managing its covered population by employing population health management.

Population health improvement necessitates collaboration between agencies that have the power to shape the environment and behaviors of individuals in the target population. Community service organizations, parents, business leaders, policy institutes, employers, health agencies, and health plans may coordinate efforts in the following ways:

- Supporting prevention and wellness initiatives.

- Promoting healthier behaviors (e.g., treatment adherence, patient self-care, and lifestyle changes.)

- Implementing a community-based team approach in which healthcare providers and other community resources coordinate to meet people's needs for medical care, food, housing, and social contact.[14]

- Advocating for and implementing health-promoting policies.

- Building community by investing in education, economic, and workforce development projects that aims to produce long-term healthcare savings.[15]

A population health program in a clinical setting may use statistical tools to analyze clinical and administrative data sets in order to risk stratify the population, identify at-risk members of the population, and then collaborate with patients and providers to reduce risk, disease, and hospital readmissions.[16] This method, known as "predictive analytics," was successfully implemented in Camden, New Jersey when a hospital identified a subpopulation of superutilizers (people with frequent emergency room visits or in-patient hospital stays) who generated 90 percent of hospital costs. By targeting this subpopulation and providing coordinated services, the hospital was able to cut emergency room visits by 40 percent and hospital costs by 50 percent.[17] Examples such as this demonstrate that a population health perspective allows clinical providers to see, participate, and take responsibility in a grander vision: managing health on a population-level to achieve a nation of healthier people.

The bridge between individual level health and population levels of health is community health. It is important to remember that individual gains in health (and reductions in Medicaid costs) cannot be achieved in isolation from community health status. As the Healthy People initiative describes it, "the health of the individual is almost inseparable from the health of the larger community and… the health of every community in every state and territory determines the overall health status of the nation."[18] Community health is an opportunity for Medicaid to target populations for interventions because it presents a way to address population health in units that are the most directly meaningful to patients. Through community health, Medicaid agencies are empowered to address the social determinants of health and create the conditions under which individuals can thrive. Expanded Medicaid coverage of community-based services, using community health workers to deliver services, and hospital community benefits are all examples of how population health is achieved by addressing health at a community level.

PUBLIC HEALTH AGENCIES

Federal

As one of the largest administrators and purchasers of healthcare services, the federal government plays a significant role in managing population health through both health policy and financing and delivering healthcare. HHS promotes population health management at the federal level by administering public programs and regulations through entities such as the U.S. Preventive Services Task Force, HRSA, the Centers for Medicare and Medicaid Services (CMS), the Office of the National Coordinator for Health Information Technology, and CDC.

CDC is an example of a federal public health entity whose activities go beyond a particular targeted or "covered" subpopulation. Instead, CDC plays a major role in protecting the broader population's health and safety (total population health) by performing research, issuing policy and behavior recommendations, distributing funding, and monitoring disease incidence. These services aim to help prevent disease and promote health for the whole country. With a staff of 1,700 people in more than 60 countries, one also cannot dismiss CDC's role in population health at a global level.[19]

CMS also has a significant influence on the population health of the nation. By administering funding and making policy surrounding healthcare financing for elderly or disabled individuals (Medicare) and low-income people (Medicaid), CMS grants healthcare access to people who are most vulnerable to disease and injury. Medicaid started out as an add-on to state welfare programs, but has since expanded to become the nation's largest health insurer.[20] Medicaid's population health improvement efforts include initiatives to better manage patients with chronic conditions, reimburse community-based prevention services, incentivize providers with value-based rather than volume-based payment, and reduce preventable hospital admissions.

HRSA's community health center program is one of the nation's largest safety-net systems of preventive and primary healthcare, and has significant overlap with Medicaid populations as care is provided regardless of a patients' ability to pay. In addition to CMS programs, health centers serve as an example of the federal government's role in patient-oriented population health.[21]

The Health Information Technology for Economic and Clinical Health Act (funded by the American Recovery and Reinvestment Act of 2009) is an example of federal health policy that improves population health. It promotes and increases provider use of electronic health records through a set of criteria known as "Meaningful Use." These criteria are largely based on population health goals to:[22]

- Improve care coordination.

- Reduce healthcare disparities.

- Engage patients and their families in their healthcare.

- Improve population and public health.

- Ensure adequate privacy and security.

Nationwide there are many initiatives that address health improvement at a population level. These initiatives engage a diverse range of stakeholders all seeking to be part of the same solution (including Medicaid and public health departments), and foster collaboration between agencies, communities, and individuals across sectors, levels of government, and geographic region:

- CMS's Partnership for Patients initiative is a public-private partnership working to make hospital care safer, more reliable, and less costly by reducing preventable hospital acquitted conditions by 40 percent and reducing hospital readmissions by 20 percent, compared to 2010.[23] HHS data shows a nine percent decrease in harms experienced by patients in hospitals in 2012 compared to the 2010 baseline, an eight percent decrease in Medicare Fee-for-Service 30-day readmissions, and $4.1 billion in cost savings.[24]

- Million Hearts is a national initiative that brings together communities, health systems, nonprofit organizations, federal agencies, and private-sector partners to prevent 1 million heart attacks and strokes by 2017.[25] The National Association of Medicaid Directors and ASTHO have released a factsheet on how states are using an interagency partnership approach across Medicaid and public health to enhance cardiovascular disease prevention and treatment.

- Healthy People is a national health promotion and disease prevention initiative that establishes 10-year objectives and goals that are applicable at the national, state, and local levels to improve the health of all individuals in the United States. Two of its objectives specifically target Medicaid enrollees regarding tobacco use and sexual health.[26] Many states and territories have used the Healthy People national benchmarks to develop state plans that align with the national goals and objectives.

State and Local

Population health improvement occurs most often directly at the state and local level. State and territorial health agencies, as well as local and tribal health departments, are charged with population health duties for specific geographic populations. Most public health programs are implemented at these levels, including community-based prevention programs administered by local health departments (LHDs), local clinics, schools, recreational facilities, faith-based organizations, and neighborhood initiatives.

Currently, many states are engaged in population health improvement thanks to grants from the Center for Medicare and Medicaid Innovation's State Innovation Models (SIM) Initiative, which funds healthcare payment and delivery system reform and requires states to develop a population health plan. For example:

- The Colorado Department of Public Health and Environment developed the 10 Winnable Battles, a framework for progress across a broad set of population health goals that has since been adopted for prioritization by multiple state agencies and community partners.[27]

- The Connecticut Department of Health is establishing Prevention Service Centers to support clinical practice and multi-sector coalitions called Health Enhancement Communities that will address social determinants of health and community development in particularly burdened communities.[28]

- The Pennsylvania Department of Health is collaborating with the Pennsylvania Department of Public Welfare's Office of Mental Health and Substance Abuse Services to expand mental health and substance use screening strategies within patient-centered medical homes (PCMHs) to better coordinate physical health and behavior healthcare for individuals with serious mental illness and other behavioral health disorders.[29]

LHDs play their part in population health by addressing health needs at a regional level, developing and implementing health improvement initiatives, and collaborating with community partners. Examples of LHD work in population health management and improvement include:

- Quality improvement learning collaboratives and regional health collaboratives (including local integration of hospitals and public health.)

- Community health assessments and community health needs assessments.

- Health extension centers.

- Pilot programs in community health improvement.

- Emergency response plans.

- Local data collection and reporting.

- Developing, applying, and enforcing health-promoting policies.

LHDs are also using SIM grants to play a role in population health improvement efforts:

- Oklahoma's Tulsa Health Department applied to be and was named a Certified Application Counselor-designated agency for healthcare navigators. Navigators provide coverage at three regional health centers upon request and assist residents at the main public library and when out on home visitations.[30] They aim to increase enrollment in the state's healthcare insurance marketplace, thereby increasing Oklahomans' access to care (a population health improvement strategy.)

- Oregon has created a regional system of 16 locally governed coordinated care organizations (CCOs) that provide integrated dental, mental, and physical healthcare for Oregon Health Plan (Medicaid) members. SIM is funding a $1.8 million grant program for LHDs and CCOs to implement evidence-based population health interventions in clinic and community settings. As part of the SIM work, CCOs must contract with LHDs for safety net services.[31]

The public health and clinical care sectors are collaborating to improve population health outcomes in new ways, due to provisions of the Affordable Care Act. Initiatives such as ASTHO's Integration Forum emphasize and support primary care and public health integration. Examples of primary care-public health integration are listed in the Practical Playbook.

Some states are also beginning to explore innovative strategies for improving health while reducing costs. For example, through an 1115 waiver demonstration, Oregon CCO's are using a "flexible services" model that enables them to pay for services or equipment that are not typically covered by Medicaid but have the potential to help patients manage chronic conditions while reducing costs and improving health (e.g., purchase of a vacuum to control asthma.) There are other non-traditional opportunities that public health and Medicaid agencies can continue to explore by partnering with agencies already engaged in these efforts to address the upstream determinants of health of individuals and improve population health.

CONCLUSION

Governmental public health agencies are critical players in the nation's population health. These agencies provide indispensable healthcare services, formulate and carry out health-promoting policies, and convene a wide range of stakeholders to collaborate on initiatives that endeavor to improve the healthcare system, prevent disease and injury, and promote healthier behaviors. Public health agencies have long served as the leading advocates for a population-based perspective in health, and continue to call for a systematic prevention approach that factors in the determinants of health, reduces health inequity, and ensures continuous quality improvement in healthcare delivery. Currently the United States spends less than two percent of its health dollars on population health, despite the fact that chronic diseases account for 80 percent of the total disease burden, and unhealthy behaviors (e.g., smoking, poor diet, inactivity, and alcohol consumption) account for 40 percent of all deaths.[32] Clearly, the population health approach is essential to addressing the United States' health challenges.

The population health framework is now being internalized and integrated across the U.S. healthcare system and on a global level, making concerted, large-scale change more possible than ever before. As people and governments come to see health as more than medical treatment, and providers themselves come to take on more active roles in promoting health and meeting community needs, we can create a strong, widespread culture of health in the United States.

RESOURCES

- "What Are We Talking About When We Talk About Population Health?" David Kindig. *This blog post provides an overview of population health terminology and clarifies the definition of population health.*

- "Defining Population Health: First in a Five-Part Series." Robert Wood Johnson Foundation. *This blog post provides a synthesis of the definition of population health as described by 17 thought leaders in primary care and population health.*

- "National Health Initiatives, Strategies, and Action Plans." CDC. *This web page provides a sample list of national health initiatives, strategies, and action plans.*

- "Population Health in Medicaid Delivery System Reforms." Milbank Memorial Fund. *This paper looks at ways that states have incorporated population health goals and priorities into accountable care organizations or similar models, highlighting challenges, state strategies, and case studies.*

- "Successes and Challenges in Community Health Improvement: Stories from Early Collaborations." ASTHO. *This issue brief provides a systemwide view of the challenges and opportunities that community health needs assessments and population health improvement present by sharing the perspectives of key stakeholders (including public health officials) from Massachusetts, Maryland, and North Carolina.*

- "A Framework for Public Health Action: The Health Impact Pyramid." Thomas R. Frieden. *This article presents a five-tier pyramid to conceptualize the impact of different types of public health interventions.*

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