

Critical Thinking - 3
The Role of Public Health

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One of the major components within the United States Healthcare system is The Public Healthcare System. This system, which has evolved over the years with the most recent guideline update occurring in 2020 (Robeznieks, 2020), is designed to increase the overall health of the collective general population within our country. It carries out its mission by focusing its attention on providing ten essential services within three core functions that include Assessment, Policy Development, and Assurance, thereby contributing to the various aspects of achieving good health and wellbeing to the overall general population within our country (Centers for Disease Control and Prevention [CDC], 2023).

Core Functions and Their Respective Essential Services

Assessment

One of the core functions within the public health sector is Assessment. Assessment, being a core function for the overall health and wellbeing of the general population, includes two of the essential services that are provided through the public healthcare system by our public health workers, professionals, and individual departments. They encompass assessing and monitoring as well as investigating, diagnosing, and addressing (CDC, 2023).

Assess and Monitor

According to the CDC, the first essential service the public health system provides is to, “Assess and monitor population health status, factors that influence health and community needs and assets” (CDC, 2023). A most significant approach in assessing and monitoring health problems within our communities is through the role of Epidemiology. Epidemiology is the study of disease distribution and patterns among populations (Niles, 2021). According to the

Cambridge Dictionary, “Epidemiology is the scientific study of diseases and how they are found, spread, and controlled in groups of people” (Cambridge, 2023). Public health workers utilize the foundation within what is called the epidemiology triangle to achieve this goal, which includes looking at the three components of the triangle: Host, Agent, and Environment. The host identifies Who is carrying the disease, the Agent involves identifying what organism or factor is causing the disease, and Environment is locating where the disease is occurring (Niles, 2021). By identifying these three factors within the epidemiological triangle, public health workers can then move onto the second essential service of public health: Investigate, diagnose, and address (CDC, 2023).

Investigate, Diagnose, and Address

Using the first essential service of Assessment and Monitoring, the collective members within the public health system can then turn to investigating, diagnosing, and addressing the health factor or hazard at hand affecting the population in question (CDC, 2023). Through the public health’s work to diagnose and investigate health problems or hazards within the community, they can address solutions and/or solve, prevent, or moderate the issue that is of concern to the overall health and wellbeing of the community.

Policy Development

The second core function of the public health system is Policy Development which entails the four essential services of:

Communicate

The CDC defines the essential service of Communicate as, “effectively to inform and educate people about health, factors that influence it, and how to improve it” (CDC, 2023). Public health officials and professionals as well as agencies can take all the information they have gathered within the Assessment process to then inform the public about the specific subject at hand. By educating the public on the topic they empower individuals to take control of and make choices to improve or better their health and well-being based on the evidence and circumstances surrounding the matter. They also utilize the Communicate service toward other agencies, law makers, healthcare providers/servicers in advancing the goal of increasing the health and wellbeing of our country’s citizens (CDC, 2023).

Strengthen, Support, and Mobilize

With effective communication the public health system can Strengthen, Support, and Mobilize communities and partnerships to improve the overall health of our communities (CDC, 2023). As outlined by Dr. A. Maybank, Chief Health Equity Officer for the American Medical Association (AMA) in her conversation with Todd Unger, Chief Experience Officer at the AMA in a September 9, 2020 episode of “AMA COVID-19 Update” on *Understanding the Context of Public Health to Improve Equity* (as cited by Robeznieks, 2020), emphasizing the importance and ways to build these partnerships by:

- “Convening and facilitating multi-sector partnerships and coalitions that include sectors that influence health (e.g., planning, transportation, housing, education, etc.)”.
- “Fostering and building genuine, strengths-based relationships with a diverse group of partners that reflect the community and the population.”

- “Authentically engaging with community members and organization to develop public health solutions.”
- “Learning from, and supporting, existing community partnerships and contributing public health expertise.”

By using all of these strategies to strengthen, support, and mobilize, public health entities can help achieve their goal of better health and well-being of the general public.

Create, Champion, and Implement

The fifth essential service and third component of the Policy Development core function for public health is to Create, Champion, and Implement policies, plans, and laws that impact health. According to the Center for Community Health and Development (CCHD) at the University of Kansas (2023), a few activities that encompass this objective are:

- “Systematic community-level and state-level planning for health improvement in all jurisdictions.”
- “Development and tracking of measurable health objectives as part of continuous quality improvement strategies.”
- “Development of codes, regulations, and legislation to guide the practice of public health.”

One of the real-world examples introduced is the National program by The Robert Wood Johnson Foundation, Active Living by Design, a part of the University of North Carolina at Chapel Hill School of Public Health (CCHD, 2023). This program looks to build partnerships and collaborations with a variety of organizations focused on public health as well as other disciplines; including but not limited to city planning, transportation, architecture, recreation,

traffic safety and others (CCHD, 2023). Through these collaborations the program seeks to find innovative approaches to increase physical activity while evaluating outcomes to help establish standard practices (CCHD, 2023).

Utilize

This essential service directs public health stakeholders to “Utilize” legal and regulatory actions designed to improve and protect the public’s health” (CDC, 2023). A couple of ways in which public health entities can “Utilize” is by enforcing sanitary codes, protecting potable water supplies, enforce clean air standards, and review new drug, biologic, and medical device applications (CCHD, 2023).

Assurance

The third and final core function for a strong, organized, effective, and sustainable public health infrastructure is to provide Assurances. Assurances include the final four essential services for public health, which includes:

Enable Equitable Access

The seventh essential service is outlined as, “Assure an effective system that enables Equitable Access to the individual services and care needed to be healthy” (CDC, 2023). Several ways to ensure equitable access as pointed out by the CCHD (2023) are:

- “Assuring effective entry for socially disadvantaged people into a coordinated system of clinical care”.
- “Culturally and linguistically appropriate materials and staff to assure linkage to services for special population groups”.

- “Transportation services”.

The federal government is an instrumental part of assuring the equitable access to services for those who would not otherwise have access to services through safety net programs such as Medicaid and the State Children’s Health insurance Program (SCHIP) as revealed by the CCHD (2023).

Build and Support

The eighth item on the list for essential services in public health as defined by the CDC is, “Build and Support a diverse and skilled public health workforce” (CDC, 2023). Of course, a good solid system must focus efforts to build and maintain skilled and diverse public health workforce in order to be successful and carry out its mission and goal. Education, licensure, facilities certification, continuing education requirements, employee development initiatives are some of the ways in which the Public Health Sector can continue to meet the needs of those that they service (CCHD, 2023).

Improve and Innovate

Evaluation, research, and continuous quality improvement are just a few of the ways to carry out the ninth essential service for Public Health (CDC, 2023).

Build and Maintain

The final essential service is to Build and Maintain a strong organizational infrastructure for public health (CDC, 2023). Several ways to carry out this final essential service by state and local health departments could include (CCHD, 2023):

- “Continuous linkage with appropriate institutes of higher learning and research”.

- “An internal capacity to mount timely epidemiologic (e.g., outbreak investigations) and economic analyses (e.g., cost-benefit studies)”.
- “An internal capacity to conduct needed health services research (e.g., survey design; conducting interviews and facilitation focus groups; conducting clinical trials; and accessing and using public record)”.

Responsibilities at the Federal, State, and Local Levels

Federal Level

Most of the responsibilities of the Federal Government in public health are managed within the Department of Health and Human Services (DHHS), more specifically the bulk of this is handled by the unit of the United States Public Health Service (Institute of Medicine (US), 1988). The second major unit would be the Health Care Financing Administration; however, there are other Departments within the makeup at the federal level that also oversee and coordinate specific responsibilities within the Public Health System such as the Department of Agriculture and the Environmental Protection Agency (Institute of Medicine (US), 1988).

The Federal Government can do all the work that it does for the benefit of Public Health mostly through two powers that have been delegated to it: the power to regulate interstate commerce and the power to tax and spend for the general welfare of the country's citizens (Institute of Medicine (US), 1988). According to the NIH: Institute of Medicine (US) Committee for the Study of the Future of Public Health (1988):

The federal government's regulatory activities, such as labeling hazardous substances, are based in the power to regulate interstate commerce. Its service-orientated, such as the

cleanup of hazardous substances or financing personal health services through Medicaid and Medicare programs, are based in its power to tax and spend for the general welfare.

State Level

The tenth amendment of the U.S. Constitution says, “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people” (U.S. Const. amend. X). As a result, States are their own sovereign governments and therefore get their inherent power to govern from their people (Institute of Medicine, 1988). This makes the State the gatekeeper or guardians, if you will, of the public interest to protect their citizens for the good of the entire population of the State (Institute of Medicine, 1988). According to Hanlon and Prickett (as cited in Institute of Medicine), “Massachusetts was the first state to establish a State Board of Health and did so, “in the interests of health and life among the citizens of the Commonwealth” (1988). Today there are fifty-five state health agencies in the country including the District of Columbia, Guam, Puerto Rico, American Samoa, and the U.S. Virgin Islands (Institute of Medicine, 1988). This makes the State the principal overseer responsible to and for the health of the public within their state boundaries (Institute of Medicine, 1988).

According to Institute of Medicine (1988), while each State Health Department may have a different organizational makeup and responsibilities, there are some foundational programs that most all states share. They list some examples, such as:

- Vital statistics and epidemiology
- Planning divisions
- Regulatory frameworks

- Environmental safety such as water and sanitation
- Personal health services

Local Level

The local health departments are considered the “front line” agencies within the Public Health System (Institute of Medicine, 1988). They are the ones that provide the “direct” services to the public population within their immediate jurisdiction (Institute of Medicine, 1988). The State can delegate power to these local agencies giving them varying degrees of authority and autonomy in administrative and enforcement procedures and policies; however, some state also gives the power to delegate or dictate how these systems, procedures, rules, and laws may be manifested within their local cities, counties, and/or townships (Institute of Medicine, 1988). These may consist of many local governing bodies such as City Councils, County Boards of Supervisors, and Local Health Boards (NIH). As such, one must keep in mind that even on the local level, these Health Agencies and Departments all adhere to the mission and goals outlined in the ten essential services for Public Health.

Current and Projected Trends

Current Trend

One of the current trends within the Public Health Sector is being led by the CDC’s Data Modernization Initiative (DMI). This initiative according to the CDC, “is a multi-year, multi-billion-dollar effort to modernize data across the federal and state public health landscape” (CDC- DMI, 2023, April 7). In late December 2021, the CDC foundation launched a four-summit series that had more the 1500 public health professional participants held over the course of four months (CDC Foundation, 2021). The second summit held in January 2022 focused on,

“Creating an Interoperable and Modern Data and Technology Infrastructure” where the main topic of discussion and debate was the status, progress, and future of the CDC’s DMI initiative (CDC Foundation, 2021). In a summery report of Session 2 published by the American College of Preventive Medicine (ACPM, 2022, August 10), a statement by Dr. Daniel Jernigan, MPH – CDC summed up the end-goal and benefits we will see as direct result of the DMI when he said:

When the next emergency happens, we will have a foundation for data-sharing across all levels of public health for coordinated, scalable and timely case investigation, management and reporting. And we will have shared analysis capabilities for rapid identification of trends within and across jurisdictions, including forecasting and things like the social determinants of health, and a prepared data science workforce and decreased burden on data reporters and public health staff (Jernigan, D., ACPM report 2022).

He concluded that during the COVID-19 response the public health system proved that all of this is possible. The pandemic response enlightened the industry to see the capabilities of the near future and more importantly gave public health professions the data and experience in how to achieve this goal (ACPM, 2022).

Projected Trend

In recent years, the number of consumer-grade wearables such as the FitBit™ or Apple Watch™, and devices designed specifically for healthcare use have increased significantly (Dunn et al., 2018 as cited by Ming, D. et. al., 2020). With the increasing number of available wearable technological devices available and more people choosing to adopt this technology and wear these devices that are standardly equipped with health monitoring sensors, there is an

opportunity for the sectors within Public and Private Health System to harness and utilize these devices in their overall goal of improving the health and well-being of the population (Ming, D., et. al.,2020). Dr. D. Ming, et. al in a study titled, *Continuous physiological monitoring using wearable technology to inform individual management of infectious diseases, public health, and outbreak responses*, looked at incorporating wearables into outbreak management programs for Public Health among other uses (Ming, D., et. al., 2020). He suggests that while continuous physiological monitoring will generate significant changes in patient care, there is a lack of studies to demonstrate an optimal use of this technology to date (Ming, D., et. al. 2020).

Additionally, health insurance companies are looking to encourage insured clients to wear the devices as a means of determining risk-factors and cost analysis which could potentially lower the insurance overall claims expense numbers (Solino-Fernandez, D., et.al., 2019). A main concern is, “are people willing to allow companies access to this personal data?” According to Solino-Fernandez, et. al., if consumers are offered incentives, such as health credits and/or lower out-of-pocket expenses, they are more likely to agree to wearing the device (2019).

Various Roles and Positions in Public Health

While the various roles and positions that are found in and make up our Public Health System are too great in number to list, I will focus on two emerging roles/positions that are or will become more intracule to the future of our Public Health System.

- Health Data Analyst – with the tremendous about of technological data now available and the vast amount that will be available in the future, Public Health relies on and will need significantly more Health Data Analysts to organize, sift thought, categorize, and analyze all the data sets. Data Analyst uses various

coding languages to help achieve these goals such as python or SQL. While these positions are in technology the skills these professionals bring into the public health sector are invaluable to say the least.

- Any position dealing with Social Determinants of Health (SDOH) – according to the Office of Disease Prevention and Health Promotion (ODPHP) Healthy Peoples 2030 report, which increased “an overarching focus” on social determinants, define them as, “conditions in the environments in which people are born, live, learn, work, and play that impact a wide range of health and quality-of-life outcomes and risks” (2020). Some positions that help mitigate and/or manage these determinants include community health workers/specialists, community benefits directors, case managers, and resource managers.

The Bridge Between Public and Private Health Care

Public health and private healthcare have traditionally been focused on two different approaches to the health and wellbeing of their respective patient base. Public health’s approach has been to develop strategies that promote the health of the entire community, while private healthcare has focused on providing a curative approach or establishing some sort of tertiary care (Reiser, 1996, cited by Niles, 2021). Historically speaking these two approaches have conflicted with one another with limited, sometimes hostile, corroboration between the two. In the mid-90’s there began an increase in the collaboration between the two when the AMA and the APHA established long-terms initiatives formalizing a partnership (Niles, 2021). With the recognition from the private sector in the importance of Public Health strategies and a couple of public health crises, such as the opioid epidemic and the measles outbreak, this corroboration has only strengthened in the past decade (Niles, 2021).

Additionally, with the Federal Government having become the largest payer in medical services, through Medicare and Medicaid programs, it had an interest in evolving the reimbursement and payer model with an obvious focus upon cost saving measures without diminishing quality of care. According to the Association of State and Territorial Health Officials prediction (1997, cited by Niles, 2021), connecting the public health systems promotion and wellness programs with healthcare delivery partners is essential as payers look to reduce overall healthcare spending (Niles, 2021). By altering reimbursement algorithms to compensate for performance in outcomes of treatment, this is the important and significant bridge that is needed to close the gap between preventive ideals into direct treatment ideals while ultimately decreasing overall healthcare expenditures and giving private and non-profit healthcare providers the incentive to adopt preventative measures and more effective treatment protocols thereby benefiting all segments within the healthcare system, most of all the general public population (Niles, 2021).

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