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Public Health Implications for the Future:

Unifying a Fragmented System

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When the picture of mass graves in the Bronx, New York shows up in the New York Times daily inbox summary email, it becomes apparent that the United States (US) is experiencing unprecedented times. This comes as a shock in a country that has been fortunate to avoid nationwide domestic crisis for decades. The pandemic is a public health crisis that demands understanding of the current state of public health in America in order to truly understand how our country is managing the situation. The COVID 19 epidemic highlights the importance of understanding Public Health and preventive medicine as a vital component of the American medical system.

Over the past few centuries in America, Public Health has been in a process of growth and maturation mirroring the rise of modern government and an increasingly global economy. Public Health emerged as a facet of the nation's medical system around the turn of the twentieth century. New York City was the location of the first public health department in America in 1866. By 1900, 40 states had developed similar public health departments. By 1912, the Marine Hospital Service was formed, which evolved into the US Public Health Service. Federal involvement in Public Health grew out of these early movements. In 1922 the Children's Bureau created the first federal program to provide grants to states, establishing a new level of federal influence. As the country marched into the thirties and forties, the federal public health system began to resemble much of what it does today.

The current structure of the federal component of public health is of import in this crisis. Right now, the Department of Health and Human Services (HHS) is the umbrella organization at the federal level. The HHS is part of the president's cabinet which includes 15 different executive departments from the HHS to Veterans Affairs to Transportation to the Treasury and others. Underneath this umbrella there exist familiar organizations that we now consider almost synonymous with modern medicine including the Center for Disease Control (CDC), National Institute of Health (NIH), Food and Drug Administration (FDA), and Center for Medicare and Medicaid Services (CMS). The level of infrastructure and organization that has evolved within each element of the HHS is impressive and inspiring. Yet, digging deeper into government spending elicits a striking incongruency suggesting that this growth was not always adequately proportioned to the growth within the medical system. For example, in 1960 total health expenditures rose from $26.7 billion dollars to $1.3 trillion dollars in 2000. The corresponding increase in public health expenditure was vastly different growing from $192 million to $17 billion. The effects of this incongruent spending raise some questions about the adequacy of available public health resources.

To adequately understanding the American Public Health system as it evolved and as it exists today, it is essential to remember that American government is a Federalist system, in which states have a significant degree of autonomy in running their own affairs of both law and public health, among other things. The Civil War is the most blatant example of how our government

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not a purely top-down or homogenous authority. About 25 years after the end of the Civil War, Congress wrote into law the Epidemic Disease Act of 1890. This law was invoked to prevent a certain practice called “shotgun quarantine” in which one state would claim to quarantine another. This practice used yellow fever outbreaks as a guise for the hidden agenda to create economic advantage. At the time this law was written, the Marine Medical Service – which was funded by the federal government – was given the authority to nullify state and local shotgun quarantines when deemed inappropriate. Although far removed from modern times, this example illustrates the importance of interplay between state autonomy and the federal government. It also points to the imprint that this federalist system has made on the structure of American public health.

Exploring modern examples will help to elucidate the ways in which our federalist system still impacts the structure of public health. Consider the Opioid epidemic. Before the current pandemic, this national crisis was at the forefront of public health law-making and effort. The federal and state response to this epidemic reveal the function of public health structure within the US. Steep rises in opioid addiction and related deaths between 2010 and 2014 provoked both federal and state governments to action. The CDC made recommendations to state and local hospital systems mainly via adjustments to their published guidelines. The FDA provided an adjustment to regulations over these medications. The NIH continued to fund and conduct research. And another federal organization called the Drug Enforcement Administration (DEA) acted to close pill mills, or doctors' offices illegally distributing these drugs. Despite their involvement, these federal systems were mostly limited in their ability to impact change on the ground, leaving the work of response up to the states. States oversaw their own department of justice responsible for related criminal arrests and charges. State medical boards in charge of licensing physicians were more effective at modifying medical practice. In addition, states had the ability to influence hospitals who had their own credentialing and privileging requirements. Despite work to address the opioid epidemic within each individual state, a lack of consistency characterized the national response to the problem. States began building prescription drug monitoring programs (PDMPs) to track the distribution and consumption of controlled substances. These projects were limited by the inability to share information across state borders. In addition, the financial burden on individual states was great. States became so involved in this work that they began suing opioid producing companies in order to recoup the increased costs and damages related to treating addiction within their communities. If looking for ways to improve, a logical connection would be the possibility of a more uniform response organized and funded by the federal government.

A similar argument for more consistent federal leadership can be made in the case of tuberculosis (TB) screening. The US response to TB screening is delegated to state and local public health officials. This lack of federal involvement results in widely variable policies. Under current practices, only 18 states mention that all healthcare workers should be screened for TB and seven of those states recommend hospital workers only. Similarly, only 13 states require all staff and inmates within correctional facilities to be tested. In addition, although 66% of TB within the US is a result of foreign-born individuals, screening for latent and active TB is only required for refugees seeking permanent US residence. Advocates for moving towards more consistent TB screening across states recognize that this would only be possible in the context of increased federal monetary and political support.

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In the field of public health, concern about this fragmented system has been brewing and has occasionally bubbled to the surface. From 2003 to 2007, Bill Frist became the first physician senator since 1928. During his term as Senator, he wrote an article in the journal *Health Affairs* which pointed out a need for increased federal involvement to resolve some of this fragmentation. His primary reason for concern arose from evaluation of the anthrax attacks and events of September 11 raising suspicion about future bioterrorism within the United States. In his article he points out that, despite actions in the Bush administration to increase state and local response to biological warfare, there remained an important and unfulfilled role for the federal government to unify a response plan that was dependent on state and local public health capacity. The threat of bioterrorism did not carry enough weight with the country's political agenda. About 18 years later, Polly Price, professor of law and global health at Emory University, published a paper that addressed the same concerns about the fragmented public health system this Federalist government had produced. Her concern was expressed in the context of federal versus state jurisdiction surrounding quarantine. Her extensive report on the laws and structures that govern quarantine within the US reveal the same dependence on states to make decisions versus a unified federal response. Her paper shows prescient concern for the consequences of a conflict between state and federal government in response to an infectious disease outbreak. Directly quoted she says, "these conflicts can occur when uniformed or excessive panic drives political decisions in a manner detrimental to effective control of a national epidemic."

The unfortunate events of recent history could not have revealed this fragmentation in a more heartbreaking form of tragedy. As of this writing, there are 34,309 Americans dead and trillions of federal dollars spent to avoid a worse catastrophe. This is not to mention the impending economic depression. In one funny medical cartoon the doctor asks, "which is better: one hour of exercise or 24 hours of death?" Perhaps it would be too cruel to make a corresponding cartoon posing a similar question about public health spending. Benjamin Franklin must be turning in his grave and mourning our decided inattention to his famous quote, "an ounce of prevention is worth a pound of cure." The evidence of a fragmented public health system is not only obvious, it glares like a violation of what it means to live in America. States are thrown to the wolves to bid in an international market for medical supplies that everyone needs. States even outbid each other in bidding wars that could mean life or death for one hospital nurse, if not hundreds or thousands of patients. States are unable to test individuals, as the country has a severe lack of reagent to perform a basic polymerase chain reaction viral screen. Restaurant doors are closed, businesses are closed, millions of Americans are jobless. Some say hindsight is twenty-twenty and prevention is rarely a priority. But in the light of mind-numbing statistic, inconsolable tears, and thousands of people who were forced to die alone it can't be too naïve to ask: **WHAT WILL WE DO DIFFERENTLY?**

Resources

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