



The Role Of Healthcare Managers In Pandemic Preparedness And Response

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ABSTRACT

The fragmented and inefficient healthcare system in the United States leads to many preventable deaths and unnecessary costs every year. Universal healthcare could have alleviated the mortality caused by a confluence of negative COVID-related factors. Incorporating the demography of the uninsured with age-specific COVID-19 and nonpandemic mortality, we estimated that a single-payer universal healthcare system would have saved 212,000 lives in 2020 alone. We also calculated that US\$105.6 billion of medical expenses associated with COVID-19 hospitalization could have been averted by a Medicare for All system.

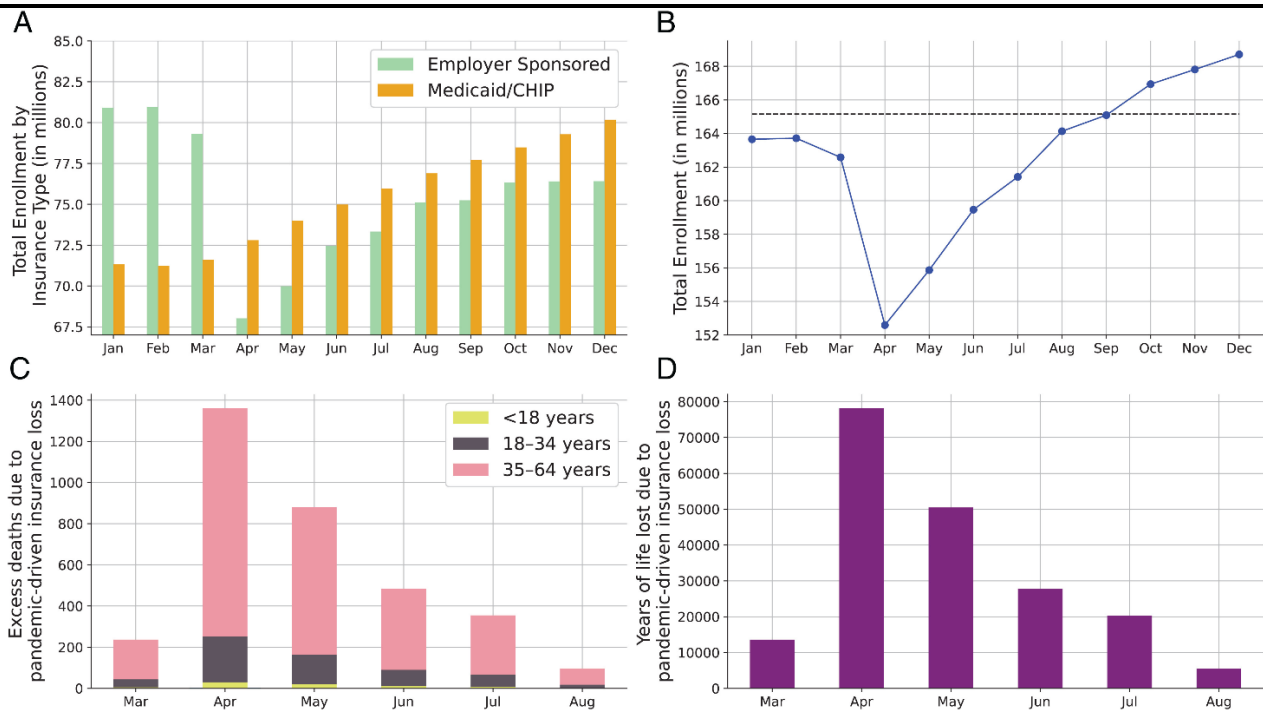
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Introduction

The fragmented and inefficient healthcare system in the United States leads to many preventable deaths and unnecessary costs every year. During a pandemic, the lives saved and economic benefits of a single-payer universal healthcare system relative to the status quo would be even greater. For Americans who are uninsured and underinsured, financial barriers to COVID-19 care delayed diagnosis and exacerbated transmission. Concurrently, deaths beyond COVID-19 accrued from the background rate of uninsurance. Universal healthcare would alleviate the mortality caused by the confluence of these factors. To evaluate the repercussions of incomplete insurance coverage in 2020, we calculated the elevated mortality attributable to the loss of employer-sponsored insurance and

to background rates of uninsurance, summing with the increased COVID-19 mortality due to low insurance coverage. Incorporating the demography of the uninsured with age-specific COVID-19 and nonpandemic mortality, we estimated that a single-payer universal healthcare system would have saved about 212,000 lives in 2020 alone. We also calculated that US\$105.6 billion of medical expenses associated with COVID-19 hospitalization could have been averted by a single-payer universal healthcare system over the course of the pandemic. These economic benefits are in addition to US\$438 billion expected to be saved by single-payer universal healthcare during a nonpandemic year.



Concurrent with reductions in employer-sponsored insurance over the course of 2020, Medicaid/CHIP enrollments rose steadily from 71.6 million in March 2020 to 80.2 million in December 2020. There were fewer total insurance enrollments from March through September 2020 compared to December 2019, but increasing Medicaid/CHIP enrollment boosted total insurance enrollment to 3.5 million above that baseline by December 2020 (Fig. 1B). Increased Medicaid enrollments in 2020 may be a response to unemployment, the result of ongoing Medicaid expansion efforts, or due to individual perception of elevated risk during the pandemic. Another driver may be the disaggregation of family members previously covered together under an employer-sponsored family plan. On average, each employer-sponsored enrollment covers more than one individual. Some individuals may be eligible for employer-sponsored coverage through their spouse or may opt to purchase insurance, such that unemployment does not necessarily lead to becoming uninsured. Conversely, job loss may be associated with the loss of insurance for an entire family, potentially resulting in separate enrollments into Medicaid or CHIP for each family member. Such events might appear from the federal data as an increase in enrollments,

when in reality the same number of individuals have coverage prior and subsequent to the job loss. Due to this disaggregation, the apparent rise in Medicaid/CHIP enrollments may not have translated to higher overall coverage, and the pandemic-driven insurance gap may have persisted longer than indicated by the raw data. Despite these sources of uncertainty, US Census Bureau data indicate that more Americans were uninsured at some point in 2020 compared to 2018. Consistent with our evaluation, April was the most common month for insurance loss in 2020, contrasting with nonpandemic years Insurance Gap Prior to the COVID-19 Pandemic. The pandemic-driven changes occurred against a backdrop of preexisting incomplete insurance coverage. To evaluate coverage when SARS-CoV-2 emerged, we calculated the age-specific number of uninsured individuals in 2019 by applying the change in overall reported coverage between 2018 and 2019 (24) to the 2018 coverage in each age cohort (25). We estimated that 40,963,120 Americans were uninsured in 2019 (SI Appendix, Table S1).

Life-Saving Potential of Universal Healthcare.

Quantifying lives that could be saved by universal healthcare in nonpandemic conditions.

Demographic shifts and the expanding insurance gap combined to increase the annual lives that could have been saved by the provision of universal healthcare compared to our previous analysis, even in the absence of COVID-19. We previously calculated that enacting universal healthcare would have saved over 68,000 lives in 2017. To update this analysis to the most recent nonpandemic year, we took into account the proportion of uninsured in each age class for 2019, the size of every age class, age-specific life expectancy, and the elevation in mortality associated with lacking insurance. Our calculations indicate that 76,064 lives would have been saved by universal healthcare among individuals of all ages in 2019 (SI Appendix). Incorporating the life expectancy of the lives that were lost, we further calculated that 2,094,548 y of life would have been saved by universal healthcare in 2019 (SI Appendix), an increase of 360,519 compared to our calculation for 2017. The greater loss of lives is due both to a widened insurance gap and to a rise in the average age of an uninsured individual (SI Appendix, Table S1).

We also evaluated the deaths and years of life lost that are attributable to uninsurance for 2020, based on demographic trends, for the counterfactual scenario where the COVID-19 pandemic did not occur (SI Appendix, Table S1). Using 2019 estimates for age-specific coverage and updating with 2020 population growth, we estimated that there were 77,675 excess deaths and 2,099,133 excess years of life lost in 2020 due to lack of insurance without including repercussions from the pandemic (which we calculate below in Quantifying lives that could have been saved by universal healthcare during the COVID-19 pandemic).

In addition to those without insurance, another 45.3 million adults are underinsured, burdened by copays and deductibles that are not affordable relative to their salary. Underinsured Americans often forgo healthcare that they require, thereby increasing their risks of

mortality. Consequently, our estimates are conservative with regard to the life-saving benefits of comprehensive universal healthcare that eliminates all costs to the patient.

Quantifying lives that could have been saved by universal healthcare during the COVID-19 pandemic.

As well as demographic shifts since 2019, loss of employment and therefore insurance coverage during the COVID-19 pandemic further contributes to premature mortality. Using the same methods detailed in Quantifying lives that could be saved by universal healthcare in nonpandemic conditions for age-specific elevations in mortality among the uninsured, we estimated the mortality impact specifically among those who experienced pandemic-driven job loss. Given the high Medicare coverage among elderly, we applied the pandemic-driven enrollment changes only to those under 65 y of age. While coverage rose toward the end of 2020, these gains were insufficient to compensate for the extent of lower enrollment early in the pandemic. Incorporating both the widening and then contracting insurance gap, we estimated 2,784 lives lost over the course of the year. From the combination of pandemic-related and background uninsurance, we calculate 80,459 excess deaths and 2,214,033 y of life lost in 2020.

We previously calculated that 26.4% of the lives that were reported to be lost due to COVID-19 would likely have been saved if there had been universal healthcare throughout the pandemic. In addition, it has been estimated that 24.1% of COVID-19 fatalities were not documented on death certificates. In 2020, 377,883 deaths from COVID-19 were recorded, implying 497,870 actual deaths, of which 131,438 could have been averted if the United States had universal healthcare. Therefore, the number of lives that could have been saved in 2020 by universal healthcare from both non-COVID conditions and COVID-19 would be 211,897.

Across the entire time frame of the pandemic thus far, 973,459 COVID-19 deaths have been recorded in the United States, meaning that there were actually 1,282,555 deaths due to COVID in the United States. Therefore, 338,594

COVID deaths are attributable to incomplete insurance coverage in the United States.

Mechanisms by which Medicare for All would save lives and avert morbidity during a pandemic.

The observed relationship between healthcare coverage and COVID-19 mortality is attributable to multiple factors, as detailed below.

Improved access to primary care and reduction in comorbidities.

First, the prevalence of those underlying conditions which exacerbate COVID-19 severity would be reduced via equitable access to care. For example, uninsured adults are significantly more likely than insured adults to be unaware of their hypertension, much less likely to be receiving treatment, and much less likely to have their hypertension under control. Hypertension specifically increases the risk of COVID-19 mortality by 188%. Additionally, uninsured women were found to have a higher prevalence of obesity, which is another risk factor for severe COVID-19. Diabetes has similarly been associated with significantly increased COVID-19 severity and mortality. Uninsured adults with diabetes were half as likely to be aware of their condition as their insured counterparts

Due to constantly evolving threats and the complex nature of emergency management, it is critical that healthcare executives ensure their organization develops an all-hazards emergency management program and plan relevant to their location and type of organization.

Hospitals and other healthcare delivery organizations must be prepared to care for those in need of medical services and, to the extent possible, protect staff and patients from being exposed to any further risk. The organization's emergency operations plan should recognize that a healthcare organization may be directly impacted by a disaster and still continue to operate and receive victims of the event. Such disasters include incidents of terrorism and natural occurrences such as hurricanes, tornados, floods, earthquakes or epidemics/pandemics. Organizations should recognize that disasters such as pandemics may

be long-lasting in nature, and multiple disasters may occur simultaneously.

It is vitally important that healthcare organizations develop an emergency management program to support the development and maintenance of critical emergency operations components such as the emergency operations plan, training and exercises and collaborative relationships. Healthcare organizations must monitor and update their emergency operations plans on an ongoing basis, maintaining a constant state of preparedness to ensure appropriate response and recovery within the shortest possible time frames. Such plans should be developed to include long-term disasters. Without proper planning, an incident involving the organization may result in either a temporary or permanent failure, thus disabling a crucial community resource. The emergency operations plan also should be fully integrated with that of other organizations and appropriate agencies at the local, state, regional and national levels. This is particularly important in situations such as a pandemic that may simultaneously impact large geographic areas for several months and disrupt national and international supply chains.

The American College of Healthcare Executives believes healthcare executives should actively participate in disaster planning and preparedness activities, striving to ensure that their emergency operations plan fits within overall community plans and represents a responsible approach to the risks an organization might face. CEOs should lead efforts to ensure that the plan is comprehensive, including establishing board policy that delineates the organization's responsibilities and procedures to be followed. Healthcare executives also have a unique opportunity to help educate the community about infectious disease prevention and control efforts that may mitigate large-scale death during events such as a pandemic.

In developing a comprehensive emergency operations plan, ACHE encourages healthcare executives to pursue the following actions on an ongoing basis:

- Healthcare executives should also participate in training and educational programs to stay abreast of evolving disaster management systems. Organizations must keep up to date with local, state and federal regulations, including those dictated by the Centers for Medicare and Medicaid Services. During and after the disaster, organizations should debrief and prepare a list of "lessons learned" that can then be incorporated into the plan for future disasters or as a current disaster develops.
- Address the Safety of Staff/Patients/Families: Develop policies and processes to ensure that all reasonable efforts are made to protect employees, patients and families, as well as facilities, while maintaining quality patient care to the best of the organization's ability during a crisis. Include plans to mitigate the impact on staffing of likely scenarios such as schools closing, public transportation closing, roads closing, damage to bridges, tunnels and other access points, and patients presenting with contagious/potentially lethal illnesses. Ensure that staff members receive education that allows them to make informed decisions and to understand what the organization is doing to protect them and their families. Organizations should maintain an adequate inventory/stockpile of personal protective equipment that includes some surge capacity for staff and patients. Some types of emergencies can be traumatizing for patients, their families and staff; incorporate disaster mental health services in the planning process to address needs that emerge during response and over prolonged recovery periods.
- Focus the Plan to Address the Most Likely Scenarios: Adopt an all-hazards framework to analyze the operational issues that would arise in relevant emergency situations to cover applicable responses to a natural disaster as well as potential CBRNE (chemical, biological, radiological, nuclear and explosive) emergencies and sustained events such as a pandemic influenza.
- Develop an Incident Command System: Adopt an incident command system and support the integration of a nationwide standardized approach to incident management and response (e.g., the National Incident Management System). Ensure frequent and consistent training and drilling on the activation and implementation of the incident command system. Secure telephones should be part of standard preparedness equipment.
- Assess Resource Availability: Coordinate and integrate organizational resources to address a full spectrum of actions (mitigation, preparedness, response and recovery), and ensure that the organization has the appropriate programs, trained and credentialed staff, staff personal protective equipment, and other supplies and equipment in place to quickly respond to events that their organization might face, as identified by the organization's all-hazards analysis. Include a determination of the impact on hospital services of a scenario that requires maximum surge capacity.
- Plan for Continuity of Operations: Ensure that the hospital can be self-sustaining for at least 96 hours and that plans are in place for obtaining critical resources such as medications, oxygen, food, water, electricity, fuel for electric generators, and just-in-time supplies that may not be available due to the emergency. Maintain an updated roster of a multidisciplinary team available to stay at the facility for the first 72 hours of the emergency. Plan for long-term resources and staffing support if needed, including planning for supply-chain disruptions or potential competition with other organizations for resources. Review suppliers' capacity and vulnerability of their own supply chain to ensure their reliability during a disaster. Communicate in advance with local utilities, telecommunications, transportation companies and other essential vendors to plan for uninterrupted or redundant services to support continuity.
- Develop Protocols to Ensure Appropriate Resource Allocation: Ensure that services are provided equitably and impartially, consistent

with ethical and legal standards relevant in a mass casualty event and based on the vulnerability and needs of the individuals and communities affected by a disaster. To mitigate or manage surge to hospital emergency departments, include in the pre-planning process any providers or agencies with expertise serving vulnerable populations in the community, particularly individuals with disabilities, serious chronic conditions and needs (e.g., dialysis or ventilator-dependent, seriously mentally ill), low-English proficiency, or access and functional needs. Work with other community and regional hospitals to build healthcare coalitions to deal with mass casualty incidents and other community disasters, and to reduce the duplications of responses and resource competition.

- **Design Appropriate Communication and Coordination Protocols for Both Internal and External Audiences:** Forge and maintain strong relationships and ensure active involvement in interagency planning efforts with all relevant organizations. Develop an integrated communication plan and communitywide exercises and drills to assess effectiveness and implement improvements.

- **Enhance Disease Surveillance and Reporting:** Enhance clinician awareness of events, signs, symptoms or diseases that may require reporting or activation of an emergency operations plan.

As a critical component of a community's infrastructure, healthcare organizations should require proper planning for all-hazards events they may face. Healthcare executives should be active leaders in that planning and the creation of systems and processes to ensure that the emergency operations plan can be effectively and efficiently executed if ever needed.

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This book covers the fundamentals of healthcare management, including the planning, organizing, and controlling of healthcare

services. It also provides case studies for practical insights.

2. **"The Healthcare Handbook: A Clear and Concise Guide to the Healthcare System" by Elisabeth M. K. Finkel**

It gives a comprehensive overview of healthcare systems, policies, and management practices.

3. **"Introduction to Healthcare Management" by Sharon B. Buchbinder and Nancy H. Shanks**

This textbook provides an introduction to key principles and practices in healthcare management, including strategic planning, leadership, and healthcare law.

4. **"Health Care Management: Organization Design and Behavior" by Stephen M. Shortell and Arnold D. Kaluzny**

This book covers organizational structures, human resources, leadership, and financial management in healthcare organizations.

5. **Journal of Healthcare Management**
A leading peer-reviewed journal that publishes articles on the management and administration of healthcare systems, focusing on policy, operations, leadership, and more.

6. **"Health Care Management Review**
This journal publishes research on health care administration, management, and policy analysis.

7. **Journal of Health Administration Education**

Focuses on research and trends in healthcare administration education, with contributions from healthcare management professionals and academics.

8. **International Journal of Healthcare Management**

Provides insights into the global perspective on healthcare management, offering research articles and case studies.

9. **Institute for Healthcare Improvement (IHI) – www.ihl.org** IHI is a leading organization dedicated to improving healthcare worldwide. The site offers resources, guides, and tools for healthcare management professionals.

10. **American College of Healthcare Executives (ACHE) – www.ache.org** ACHE provides education, career development, and resources for healthcare management professionals.

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