

# Underreported Weakness of the Healthcare System Highlighted by COVID-19

Jason D. Stacy '05, MD

## Introduction

The pandemic of which we all have been a part since early 2020 has highlighted some weaknesses and the strengths of the US healthcare system. First, a common myth perpetuated in the popular media needs to be dispelled: the federal government does not have the constitutional authority to instruct the Department of Health and Human Services (HHS) or any agency to engage in federal rulemaking or to direct a detailed and coordinated response to issues affecting the health and safety of US citizens. The 10th amendment explicitly reserves unenumerated powers for the states, and the police powers over the welfare, health, and safety of citizens have been upheld as near exclusively reserved by the states, though these police powers are moderated by 14th amendment to protect citizens from state rulemaking overreach. The federal government should have acted to facilitate a high level strategy for a pandemic and should facilitate interstate activities such that transmission of data, equipment, vaccines, etc. were coordinated amongst states seamlessly. Given the later failing of the federal government in 2020, many citizens wrongly attribute this failure as being a failure in the US healthcare system.

The pandemic did highlight many fissures in the US healthcare system, though. Some weaknesses—such as healthcare disparities, funding of the healthcare system—are apparent and should be the focus of a separate article. From a physician's point of view, I would like to highlight a few significant issues that did not receive as much national attention.

## Medical Supplies

Though there was significant coverage over medical supplies and personal protective equipment (PPE), there was precious little discussion about the root cause of the problem. The fact remains that the US did not then and does not still have any comprehensive policy on the security of the supply chain for medical supplies/PPE like we do for oil or defense systems. Nearly all of our PPE is made in Asia (mostly from China), and much of the PPE "made" in the US is shipped across the border to Mexico for assembly (as is the case for surgical masks). Unlike oil or national security, PPE has a finite and relatively short shelf life. For this reason, the national stockpile of medical supplies was essentially useless since gloves, gowns, and masks had deteriorated to the point of being unusable. This leaves individual hospitals or healthcare systems competing on the free market to import PPE in times where supply is unstable and demand is *essentially*

infinite. There are no nationally mandated products that are essential to the healthcare system, and there are no baseline requirements of such products to be produced in the USA. Prior to the pandemic, there was only one large manufacturer of masks in the US (Prestige Ameritech in Fort Worth, TX). Furthermore, the raw material to make most PPE (spunbond polypropylene) is procured largely from Asia or the Arabian peninsula. Some of this material is produced here primarily for furniture purposes, but at the start of the pandemic, there wasn't enough supply to even make a dent in the need for PPE—and that's assuming that it could be produced here (which it cannot). This lack of strategic planning and over-reliance on imports for PPE not only cripples our ability to deal with a national health emergency, but also limits our ability to make war if such supplies were unavailable due to a direct conflict with China—the major producer of both raw materials and finished PPE products.

Locally, we were relying on furniture and garment manufacturers to put together gowns and other PPE supplies just to have some level of protection, though these products were relatively untested as to their efficacy. N95 masks, originally intended as single use products, were reused for weeks or months with regular aerosolized peroxide sterilization, a method that was untested as to its efficacy or its negative effects on N95 performance.

## Bed Supply

Although much attention was directed at total bed supply, the more granular story about what that meant on the general health of the population was missed. As Covid-19 numbers surged, the fact that there was a bed supply was a misnomer. The issue was *staffed* beds. Many of the Covid-19 patients required ICU level of care for a significant amount of time—14-21 in many cases. The number of ICU beds needed at nearly all hospitals outstripped the number of trained ICU nurses to staff those beds. Anyone who has a family member in nursing knows that a nurse isn't just a nurse; they have specific training, functionalities, and competencies. The advanced life support systems used in the ICU can't be safely operated by any nurse. As this demand increased, many travel nursing companies began to pay exorbitant amounts for ICU nurses to travel to covid hot spots. This immediate increase in demand for travel nursing exacerbated the issue exponentially.

In addition to travel nursing issues, most hospital systems had 20-30% of their nursing staff out at any one time due to Covid-19. Remember that for months there was no rapid testing and there were not enough lab-based tests, so staff had to stay off for 14 days if they were exposed and for 21 days if they were positive, as in many cases. In our system of approximately 900 nurses, we were operating with >200 nurses off at any one time, and most of the exposures and infections were—ironically—traced to non-hospital inoculation. In fact, the hospital ended up being one of the places with the lowest transmission rate throughout the country.

Lastly, non-medical people who quarantined and stayed home for months on end had the idea that all hospital beds could be reallocated to Covid-19 patients to fix this shortage, but they could not be. Not all ICU capable nurses could be reallocated to the Covid-ICU. Heart attacks, strokes, car accidents, emphysema/asthma exacerbations, sepsis, etc. still occur at a certain baseline levels, the pandemic notwithstanding. Additionally, people in quarantine took that time to hunt, ride ATVs, go boating, etc. Even though these activities were 'socially distant,' they still lead to severe traumatic events; thus, we still had to operate medical and ICU beds for non-covid patients. Patients with non-covid related illnesses were severely impacted with quality of care given this shortage. Most medium to larger hospitals with advanced services would be on diversion around the clock. As soon as a bed opened, it was filled. Patients of all types would have to wait for 2-3 days in the ER or would have to be transferred as far as 6 hours away by ambulance to hospitals with both an available bed *and* available medical services the patient needed. Only within the last 2-3 weeks have we begun to have a few days where we were not on diversion.

### **Chronic Personnel Shortage**

Hospital occupancy rates have fluctuated greatly over the last 35 years, but the numbers are misleading. Since 1975, hospital occupancy rates have fluctuated roughly between 65% and 75%, but larger hospitals (>500 beds) have fluctuated between 73% and 80% occupancy rates. One can only see how this affects staffing if he looks at profit margins. 80% of admissions to US hospitals are to non-profit hospitals, and those hospitals average between 1.5 and 2.5% profit margin on any given year. I point out these criteria (non-profit and >500 beds) for two reasons: (1) my own hospital falls into this category, leading to a ground-level understanding of the problem, and (2) these are the larger tertiary-care

hospitals where most people go to for complicated care and that were more disproportionately burdened by Covid. These hospitals bear the brunt of the burden in the US healthcare system; they are crucial for its survival. Yet to make sure they can keep their doors open, they have to staff to very limited margins. These percentages are averages over the year, but in healthcare, numbers fluctuate wildly on any given day or month. These numbers also did not stratify various levels of care (ICU, step-down, or floor beds). Like nearly every other industry, the largest driver of cost for hospitals is their personnel, yet given the much slimmer margins on which hospitals operate compared to other industries, staffing has to be precise. Staffing for hospitals varies based on the day. Many staff are paid call pay so that they consume less resources waiting to be called in if they are not needed rather than being paid a full hourly wage being idle at work. What most people do not see clearly is that most staffing is calculated around these average numbers, which includes vacation time, PTO, sick leave, etc. Pools of nurses are created to staff this leave time. When hospital capacity increases to 80-90%, patients get lesser care because there is not extra staff to go around. Nurses still take sick leave, PTO, and vacation time. The float pool nurses that are staffed to cover this time off under normal operational circumstances can not cover the overage when numbers flex up for more than a limited time; thus, ICU patients may have to go from a 1:2 to a 1:3 nurse-to-patient ratio. Floor patients may have to go from a 1:6 to a 1:8 ratio. Now, imagine what happens when the largest hospitals are asked to operate at 105-110% capacity like most of 2020. This causes the travel nursing field to explode as described above, but it also exacerbates the problem since for profit hospitals (around 8% profit margins) can afford to shore up needs for paid short term nurses. Most non-profits cannot, and this is the point where the problem should be clear, since 80% of hospital admissions for medical issues occur at non-profit institutions.

As 2020 slogged on, burnout at our institution was noticeable since nurses worked more shifts with less time off, often putting in more than their average time. Many were quarantined for 14-21 days if they were exposed to and/or contracted Covid-19. As a result, PTO and vacation time were suspended for much of the year. Staff burnout was compounded by the psychological stress that they experienced given the higher death rate of patients during this time. They brokered virtual conversations between families and the dying, yet the nurses were often the only humans the dying Covid-19 patients had interaction with in

their last hours. These tragic circumstances led to some short and long-term loss of staff who left healthcare temporarily or permanently.

Under ideal times, the large, shining stars of the US healthcare system were woefully understaffed, yet there was and is no way around it. Increasing rates of federal healthcare (traditionally lowest margins on care) and increasing rates of costly care (high burn through rate of PPE and disposables plus new technology) are putting pressure on institutions such that they have to make choices, and razor thin staffing margins are often the choice that they have to make.

### **Conclusions**

None of the issues herein discussed are novel, yet the novel coronavirus has brought them to the forefront. In times of challenge, weaknesses are highlighted as much as strengths, likely more so. More tragic than the weaknesses that the coronavirus uncovered are the weaknesses that we allow to persist, especially now that we understand the weaknesses perhaps better than ever before. Every citizen needs to really try to grapple with the issue of healthcare as much as they are able. We all need to resist the all too easy call from either the Left or the Right for a single payer system or a completely decentralized system, respectively, for I am quite sure that the answer for a robust system that is the envy of the world lies in neither of those positions. Whatever the answer is, I am sure it lies in perhaps the greatest strength of the US healthcare system (both historically and during Covid-19)—the spirit of innovation that allows us to adapt very quickly with technology and medicines. Our system has long been the height of research, product development, and expertise in medical subspecialty physicians and residency training. Neither the overly suffocating political structure of socialized healthcare/medicare for all/single payer systems nor the chaotic, inefficient nature of a completely decentralized systems will allow for American innovation to flourish, but we need not only product or medical innovation to find the best solution. Above all, we need political innovation, and this need demands that we all look for more effective and novel solutions than those currently trumpeted the loudest.

### **REFERENCES**

- [1] Hospitals, Beds, and Occupancy Rates, by Type of Ownership and Size of Hospital: United States, Selected Years 1975–2015. CD Hospitals, Beds, and Occupancy Rates, by Type of Ownership and Size of Hospital: United States, Selected Years 1975–2015. CDC.
- [2] “Hospital Occupancy Rate U.S. 1975–2017.” *Statista*, 2018, [www.statista.com/statistics/185904/hospital-occupancy-rate-in-the-us-since-2001/](http://www.statista.com/statistics/185904/hospital-occupancy-rate-in-the-us-since-2001/).
- [3] Belk, David. “Hospital Financial Analysis.” *True Cost of Healthcare*, [truecostofhealthcare.org/hospital\\_financial\\_analysis/](http://truecostofhealthcare.org/hospital_financial_analysis/).
- [4] Kacik, Alex. “Operating Margins Stabilize, but Not-For-Profit Hospitals Still Vulnerable.” *Modern Healthcare*, Crain Communications, 26 Apr. 2019, [www.modernhealthcare.com/providers/operating-margins-stabilize-not-profit-hospitals-still-vulnerable](http://www.modernhealthcare.com/providers/operating-margins-stabilize-not-profit-hospitals-still-vulnerable).