

The economic impact of coronavirus pandemic on the healthcare system in the United States

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Abstract

The current pandemic by the Severe Acute Respiratory Syndrome - Coronavirus 2 (SARS-CoV-2) virus has led to significant economic burden on the healthcare in the United States. The economic impact on healthcare has been multifaceted, including need for more infrastructure and personal protective equipment, decline in elective procedures and surgeries, infections in the healthcare workers, and loss of medical insurance. Several measures have been taken by the government to offset some of this economic burden, however, given the magnitude of the impact, these measures have been inadequate. In this short summary, we highlight the multifaceted economic impact that the pandemic has had on the healthcare system in the United States.

Commentary

In December 2019, a cluster of cases of respiratory infection caused by a novel coronavirus - Severe Acute Respiratory Syndrome - Coronavirus 2 (SARS-CoV-2) were reported in China. The first case of coronavirus disease 2019 (COVID-19) infection was diagnosed in the United States on January 20, 2020 [1]. Since then, the virus has spread rapidly across the globe including all the states and territories of the United States. World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020, and as of July 14, 2020, there were 3,286,063 cases and 134,704 deaths in the United States due to COVID-19 infection as per the WHO situation report [2,3]. To mitigate the spread of the infection, several guidelines were issued by the Centers for Disease Control (CDC) including isolation, social distancing, and other mitigation procedures [4]. A major impact of the infection, as well as the procedures to mitigate the spread of the infection has been on the country's economy, including but not limited to the closure of schools, the reduced workforce in the manufacturing industry, and increased unemployment. The health care sector has been particularly hit hard during this pandemic, bearing the financial brunt on all sides including a shortage and rising cost of equipment, loss of revenue, and a struggle to maintain staffing needs.

In order to continue providing care for those sick with COVID-19, several hospitals added additional general and intensive care (ICU) beds. COVID-19 isolation units have been created to treat the disease and to keep health care workers safe. While an increase in infrastructure was of paramount importance to continue caring for the increasing number of patients requiring hospitalization due to COVID-19, the protection of the workforce in the healthcare including nurses and physicians from the infection could not be undermined. The CDC laid out guidance for healthcare workers to prevent and control the infection, and guidance for appropriate use of personal protective equipment (PPE) including face masks, eye protection, gowns, surgical masks and N95 respirator masks [4]. However, with the rapid spread of the COVID-19, the demand for PPE soared leading to a critical nation-wide shortage. In

order to secure federal supply, hospitals had to compete against each other to secure adequate PPE to protect hospital staff. Further, limited supply and increased competition have caused a significant rise in the cost of PPE. Based on a report, there is a staggering 1064% increase in the cost of PPE since the virus started its rampage across the United States [5].

On March 18, 2020, the Center for Medicare & Medicaid Services (CMS) recommended to cancel or delay elective surgeries and non-essential medical, surgical, and dental procedures [6]. This effort was a necessity to protect patients and healthcare workers from exposure to COVID-19, as well as to conserve the PPE and hospital beds for patients with COVID-19, especially in areas hit hard by the infection initially including New York. A sharp decline in elective procedures was noted as several patients with chronic health conditions had to forgo medical and dental care. As a result of the decline in elective surgeries, procedures and clinic visits, hospitals and health care facilities suffered severe financial losses. This resulted in pay cuts and furloughs for the healthcare workers, especially those working in these elective and non-essential sectors [7].

Hospitals in hotspots such as New York in March/April 2020 and Florida, Arizona, and Texas in July 2020 are being overwhelmed with the COVID-19 and are struggling to keep up with the staffing and equipment needs to meet the increased surge of the patients. Being at the frontline, healthcare workers are at the highest risk of contracting COVID-19, and as of July 14, 2020, more than 98,851 workers in the healthcare have been infected with COVID-19, and 531 have died

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from COVID-19 while providing care to the infected patients [8]. Once infected with COVID-19, healthcare workers are required to self-quarantine for 2 weeks, or until they are infection-free, which further adds to a shortage of healthcare staff. A surge in infected patients and increasing infections in the healthcare workers has adversely impacted the hospitals on both fronts and several hospitals have had to take measures such as paying overtime, hiring locums, and asking retired and out-of-state physicians and nurses for help meet the demand.

The unemployment rate has risen sharply during a pandemic and in June 2020, the number of unemployed persons was 17.8 million with the unemployment rate being 11.1 percent [7]. Employment significantly increased in education and health services in June 2020 but is still 1.8 million below the February 2020 level. Loss of employment can lead to loss of insurance for the employee and their families. Further, many uninsured adults including drivers, restaurant servers, cooks, receptionists, cashiers, etc. work in the service-oriented sector. These jobs are considered essential, but cannot be performed as telework, requiring regular public contact, hence increasing the risk of exposure and acquiring COVID-19. Increased rates of uninsured people in the long term can lead to reduced compensations to hospitals and loss in revenue.

According to the American Health Association, Estimated financial losses could be around \$202.6 billion over a four-month period from March to June 2020 [9]. Several measures were taken by the government to help offset some of these losses. In order to promote telemedicine to continue to provide care for the patients, the CMS approved reimbursements for telehealth visits such as video and telephone visits [10]. Financial aid has been provided at the state and federal level to those who lost their jobs due to the pandemic, as well as the hospitals and physicians who endured financial losses due to the decline in elective procedures [11,12]. However, as the virus continues its spread across the country, we are likely to see further adverse economic impacts with sharp increases in the COVID-19 cases, and these measures may not be sufficient. With no definitely effective treatment available to date, and several months until a safe and effective vaccine is available, the best course of action is to continue trying to mitigate the spread of the virus in the community by measures such as social distancing, hand washing and wearing masks.

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Author contributions

All authors have made significant contribution to the study including writing initial manuscript, reviewing literature and revising manuscript. All authors have read and approved the final version of the manuscript, which is being submitted by the corresponding author on behalf of authors.

Ethics approval

The Mayo Clinic institutional review board (IRB) acknowledges that based on the responses submitted for this new activity through the Mayo Clinic IRBe Human Subjects Research Wizard Tool, and in accordance with the Code of Federal Regulations, 45 CFR 46.102, the above noted activity does not require IRB review.

Data sharing statement

There are no data in this work.

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