

# Impact OF Covid-19 on Several Industries in Context with the Dialysis Industry

Ashish Gujrathi \*

Allied Market Research, Viman Nagar Pune Sainik Nagar, Somnath Nagar, Wadgaon Sheri, Pune, Maharashtra, India.

\* **Corresponding Author:** Ashish Gujrathi, Allied Market Research, Viman Nagar Pune Sainik Nagar, Somnath Nagar, Wadgaon Sheri, Pune, Maharashtra, India.

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## Overview

Coronavirus (COVID-19) was recognized in late December in Hubei province of Wuhan city in China. This highly contagious disease, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is transmitted from humans to humans. After the first case in Wuhan, the disease rapidly spread to other parts of the globe. On March 11, 2020, the World Health Organization (WHO) made an assessment that COVID-19 can be characterized as a pandemic. Thus, social-distancing became an important measure to stop the spread of this disease. Various countries across the world adopted nationwide lockdowns. This led to a completely new scenario for the world, where every business in each industry faced new challenges and witnessed new opportunities. Similarly, the medical personal protective industry, a vital part of the healthcare sector, also witnessed new growth opportunities.

At present, the pandemic has had a major global impact on the dialysis industry. As COVID-19 emerged, these procedures were temporarily stopped to mitigate the risk of virus transmission; to preserve personal protective equipment (PPE), hospital bed capacity, and key equipment (e.g., ventilators); and to allow shifts in health care staffing patterns. The COVID-19 pandemic has affected the dialysis center, owing to shutdowns in various COVID-19 affected countries and rise in number of healthcare workers falling ill in the pandemic, which is why people were unable to come to dialysis center and treatment and patients undergoing treatment lost access to services and decline in dialysis procedures had happened because of the lockdown in various countries. So, the outbreak of COVID-19 has disrupted from both supply side and demand side. The disease has forced a number of industries to shut their doors temporarily and led the dialysis centers to drastically limit their activities, including several sub-domains of health care, and thus, there has been an increase in mortality among dialysis patients during COVID-19. On February, 2021, according to a Canadian study published in *Canadian Medical Association Journal (CMAJ)*, patients on long-term dialysis were more than five times likely to be infected with COVID-19 and almost four times more likely to die than the general population. In addition, the concern for the transmission of infectious disease during dialysis procedure in

hospitals affected the hospital outpatient center for dialysis and thus negatively impacted the dialysis market growth. According to Center for Infectious Disease Research and Policy, 74% who receive dialysis in hospital outpatient centers usually undergo three treatments each week, increasing their exposure to the virus, compared with the 26% who do home dialysis and are able to isolate. The survey was conducted in 19 major hospitals in India (8 in the public and 11 in the private sector) to determine the effect of lockdown on the care of patients with kidney disease, including those on dialysis after the first 3 weeks of lockdown. So, according to this survey, the number of dialysis patients at these centers decreased from 2,517 to 2,404 from 2019 to 2020. Out of 2,517 patients, around 710 patients (28%) missed one or more dialysis sessions, 69 (3%) needed emergency dialysis, 104 (4%) stopped reporting, and 9 (0.36%) died. In addition, according to article published in *Indiaspend*, COVID-19 disrupted India's routine health services such as missing **dialysis treatments** by patients during the pandemic, which affected negatively on dialysis treatment. According to an article published in the *Deccan Herald*, the number of hemodialysis procedures conduction have experienced a decline by 6% in India. Thus, owing to such factors, the dialysis market is anticipated to experience a decline in the growth rate during the pandemic.

## Impact OF Covid-19 on Several Industries in Context with the Dialysis Industry

Dialysis is used to remove waste products from the blood, such as urea and creatinine that are generated when the kidneys do not function properly. People with chronic renal disease will benefit from the procedure. The procedure is most commonly used to treat end-stage renal failure and kidney transplantation. This process purifies the blood, removes excess fluids & contaminants, and restores electrolyte balance in the body. Hemodialysis and peritoneal dialysis are the two types of dialysis available. Waste items such as urea are extracted extracorporeally from a person's blood in the hemodialysis process while the peritoneum in the abdomen is used for dialysis in the peritoneal dialysis process.

However, the COVID-19 pandemic has affected dialysis equipment production and import & export of raw materials and finished goods in various COVID-19-affected countries. This lockdown has resulted in a shortage of equipment as well as supply chain disruption, which has hindered consumer demand to some degree and also impacted the availability of peritoneal dialysis, hemodialysis, and critical drugs, resulting in a decrease in dialysis procedures conducted in many dialysis centers. The overall effect of a COVID-19 pandemic on the market is estimated to be significant due to such negative scenarios. The current COVID-19 pandemic has resulted into surge in home dialysis demand around the world. In comparison to healthy people, patients with diabetes and ESRD are more likely to develop COVID-19 complications. In the midst of the crisis, each country is taking steps to ensure patient safety. To ensure the safety of hemodialysis patients, the CDC has released guidelines and Interim Additional Guidance for Infection Prevention and Control (IPC) Recommendations for patients with suspected or confirmed COVID-19 in outpatient hemodialysis facilities.

During the initial wave of the global pandemic in 2020 many healthcare systems have canceled or delayed the dialysis procedures, thereby negatively impacting a wide range of dialysis equipment sales and decreasing their market values in 2020. The dialysis market was expected to recover in 2021 due to the steady rise in the volume of dialysis procedures in 2021, however, in the current scenario of second wave of COVID-19, reduction in number of hospitalizations for dialysis procedures has been observed. For instance, according to the results published in *Kidney International Reports*, an official journal of International Society of Nephrology, the number of dialysis patients at these centers decreased from 2,517 to 2,404 from 2019 to 2020. Approximately, 710 (28%) patients missed one or more dialysis sessions, 69 (3%) required emergency sessions, 104 (4%) stopped reporting, and 9 (0.36%) were confirmed to have died. Outpatient attendance was down by 92%, and in-patient care was down by 61%. Teleconsultation was started, but only a small number of patients used it.

	2019	2020	2021	2022	2023	2024	2025	2026	2027
Global Market	15,681.8	14,740.9	15,625.4	16,562.9	17,556.6	18,610.0	19,726.6	20,910.2	22,164.9

Source: Primary & Secondary Research and AMR Analysis

**Table 1.** Global Hemodialysis and Peritoneal Dialysis Market, 2020–2027 (\$Million).

### Expectations from the dialysis industry

The coronavirus (COVID-19) pandemic is a constantly-evolving condition that is affecting all communities across the globe. In addition, a combination of a large asymptomatic population and the presence of infectious variants of the virus is anticipated to impact the dialysis globally and is expected to hamper the dialysis industry during 2021.

Major key players operating in the global dialysis market include Fresenius Medical Care Ag & Co. KgaA, Baxter International, Inc., Davita Inc., Nipro Corporation, B. Braun Avitum Ag, Diaverum Deutschland GmbH., Nikkiso Co. Ltd., Nxstage Medical Inc., Cantel Medical Corporation (Medicators, Inc.), Asahi Kasei Corporation.

The expectation from the dialysis industry is to support governments to fight against the COVID-19 pandemic. The dialysis industry is expected to monitor all developments and adhere to recommendations from the Center of Disease Control (CDC) and World Health Organization (WHO), and local & state health agencies. The dialysis centers should prioritize the treatment of critically ill dialysis patients. The dialysis service provided by centers should become more efficient and as dialysis patients are unable to travel to dialysis centers due to the pandemic, home care dialysis treatment should be emphasized. The manufacturers are expected to implement all recommended safety precautions and take additional steps to avoid the spread of COVID-19 within their production area. The manufacturer should follow recommended guidelines for risk reduction such as social distancing, frequent disinfection to high touch items, availability of hand sanitizers in all common areas, and provision of training and updates to all employees on safety precautions. Moreover, the quality of the product should not be affected.

### Post COVID-19 Scenario

As nations are emerging out of strict lockdowns, economy is expected to take time to stabilize gradually. Players operating in the dialysis equipment industry are anticipated to face new challenges related to different aspects. For instance, product shortage is anticipated to lead to a negative impact on supply to various countries. However, the scenario is expected to change upon increasing the production of dialysis tools in the coming years. Similarly, decision making management of dialysis equipment companies is anticipated to face challenges such as improvement of liquidity, management of working capital, better management of expenditures, and redefined contracts with suppliers. Moreover, the COVID-19 vaccine immunization program at the global level is expected to fuel the growth of the market post the COVID-19 pandemic, as the immunization program is expected to help the industry to normalize post pandemic era, which is expected to further boost the production of dialysis equipment in the market. The dialysis procedures will also perform regularly in the hospitals after COVID-19. Therefore, the dialysis industry, which is at a crucial juncture during this pandemic, exhibits the potential for rapid growth with government support in the coming years.

### Recent news in the dialysis industry during the pandemic

The dialysis market key players around the globe are entering into product launch, collaboration, and investment as their key strategies to establish their foothold in the market.

In September 2020, Outset Medical/OM created an advanced kidney dialysis device called Tablo, a mobile haemodialysis equipment for home and institutional use.

In December 2020, Medtronic Plc launched the first and only pediatric and neonatal acute dialysis machine in the United States.

In October 2020, United States based privately held medical device company Diality, invested around USD 12.5 million in developing a portable haemodialysis system to address the unmet technology needs of the evolving dialysis industry.

In May 2020, HHS has deployed 50 Tablo portable kidney dialysis machines and supplies to New York City and Long Island ICUs caring for patients with COVID-19 who have also experienced acute kidney injury.



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