

**GENESIS HEALTH'S REAL-TIME DECISION MAKING TO
MANAGE SUPPLY CHAIN ISSUES DURING THE COVID
PANDEMIC****AUTHORS**JIBAN KHUNTIA, RULON STACEY, AMIT PRADHAN, AND
LAUREN DUFF**ABOUT GENESIS HEALTH**

Genesis Health System is located in Davenport, Iowa. The health system operates and manages a total of six hospitals (See Table 1 about the facilities) in the Iowa and Illinois states of the United States. The Genesis Health Group is a regional network of physicians and primary care providers and is associated with Genesis Health System. Genesis Health Group is the region's largest multi-specialty group with more than 300 associated physicians and 40 offices.

The health system has 5200 employees and 1000 volunteers dedicated to a total of 665 beds in all facilities. It is a not for profit regional full-service health care system, with revenue of around 700 million U.S. Dollars. Genesis Health has a 150-year legacy, along with the recognition of operating a top-ranked community hospital, and being in the top one percent of healthcare providers in patient safety in the U.S. Genesis is a top 15 health system according to IBM Watson ranking¹. Besides, Genesis health systems and its affiliates provide a comprehensive list of primary, preventive, long term, and other services.

**GENESIS HEALTH SYSTEM'S KEY ACTIONS TO
MITIGATE SUPPLY CHAIN CHALLENGES DURING
COVID19 PANDEMIC**

- Purchase of \$1M of extra inventory in the vital PPE areas during the first week of the COVID-19 challenge (March 2020).
- Genesis Health joined 15 other systems that are a part of Premier to buy an ownership stake in Prestige Ameritech to guarantee the supply of PPE and help bring production back to the United States.
- Genesis Health worked with a local contractor to sew isolation gowns and to move gowns from disposable to the cloth. This way, they could reduce dependence on disposable gowns. They have their laundry system to manage them with the regular linen supply.

Interestingly enough, Genesis originally consisted of two hospitals that joined on May 24, 1994, to form the system. The two founding hospitals were Mercy Hospital and St. Luke's Hospital, both in Davenport, Iowa. The Sisters of Mercy founded Mercy hospital in response to an influenza outbreak in the area in 1869. The hospital has seen the Flu pandemic of 1918. Furthermore, the merged new hospital is facing the COVID pandemic—a tale-tell of a rich history of pandemics, indeed.

Genesis Health's contribution to the communities in the Quad Cities² region is noteworthy. The economy of this area relies on the manufacturing industry, with several large employers like John Deere (agricultural and construction equipment manufacturer, over 7500 employees), and Rock Island Arsenal (military equipment manufacturer, over 6500 employees) leading the manufacturing labor industry.

Genesis Health is also a significant employer in this area. Genesis health provides its healthcare services primarily in Davenport and Bettendorf (Iowa) and Rock Island, Moline, and East Moline (Illinois) that are part of the Quad City Metropolitan Statistical Area, a total population the combined statistical area is around 500,000.

As part of its commitment to the community service, it uses community assessment as a tool every year for various medical centers. It comes up with community health needs, implementation plans, and processes and priorities for Genesis Health Hospitals. Some notable contributions of Genesis to its community are (1) Genesis Flu-Free Quad Cities program, contribution to outdoor exercise equipment, (2) Health Education and scholarship programs (3) Camp Genesis for children with cancer, volunteer boards, Going Green, and (4) Komen Quad Cities Race (a program that supports free mammogram).

ONSET OF COVID

The first case of COVID at Iowa was recorded on March 08, 2020. Subsequently, Governor Kim Reynolds signed a Proclamation of Disaster Emergency on March 09, 2020. By March 29, the number of cases in Iowa reached 336 with four fatalities. As of July 05, 2020, the confirmed cases in Iowa stand at 31,061, and in Illinois stand at 147,293 with the Scott County reporting 778 cases and Rock Island County reporting 1043 cases.

Mar 2020 was unprecedented due to COVID and Genesis as well, and many healthcare providers in the U.S. came up with many guidelines and procedural modifications to address the situation caused by the pandemic. Genesis took three key steps, outlined below.

and Rock Island, Moline, and East Moline in northwestern Illinois. The formal name is Davenport–Moline–Rock Island metropolitan area.

¹ <https://fortune.com/2020/06/30/top-health-systems-2020-ibm-watson-health/>

² The Quad Cities is a conglomeration of five cities in the Iowa and Illinois that includes Davenport and Bettendorf in southeastern Iowa,

First, Genesis discontinued all the elective procedures for several reasons: (1) to keep patients and families at home and limiting their exposure to potentially infected people, (2) to protect healthcare workers, who must remain healthy to ensure that hospitals continue to function. These cancellations enabled the conservation of resources, as many elective procedures and surgeries are resource-intensive involving surgeons, anesthesiologists, nurses, transport teams, medical beds, and equipment such as ventilators. Suspending elective surgeries freed up those doctors, other medical personnel, and rooms and equipment to be available for the COVID patients.

Second, Genesis came up with a revised visitor policy on March 06, 2020, at all inpatient locations to ensure that everyone is as safe and healthy as possible. On March 13, 2020, a group representing Quad Cities health, business, government, and emergency management officials decided to assess the regional situation due to pandemic and provide recommendations to minimize the spread of COVID in the community.

Third, on March 16, 2020, Genesis implemented changes to minimize staff exposure, residents, and patients as well as align the operational procedures to CDC guidelines and also realigned staff at convenient care locations to meet the community needs. Visitor restrictions were increased effective from March 18 along with a mobile collection sample site. Effective March 18, 2020, also, all non-essential surgeries and procedures were postponed. Starting March 20, 2020, the E.D. visitor policy was revised as well. On March 23, 2020, both the governors of Iowa and Illinois outlined restrictions to curb the transmission of the virus.

Fourth, on March 24, 2020, Genesis opened a second mobile collection sample site at Moline. As health care facilities face the shortage of supplies to protect healthcare workers from exposure to COVID-19, Quad-Cities area businesses, groups and individuals came out with support for the hospital and community. Genesis received assistance through donations of various items such as personal protective equipment (PPE), N95 masks, and hand-sewn surgical masks. Genesis Medical Center, Davenport expanded emergency services starting March 25, 2020

CHALLENGES AND MITIGATING ACTIONS

COVID onset brought with it unprecedented challenges. The first three weeks in March 2020 was utterly chaotic for Genesis.

During the interview, Doug Cropper, CEO of Genesis Health, outlined five key challenges that he faced to tackle the COVID situation: (1) issues related to testing for COVID patients, (2) shortage of inventories and possible alternatives, (3) the challenge of the cost of supplies, (4) relying on information and analysis, and (5) keeping up to date

information. We discuss the challenges and adapted solutions further.

TESTING OF COVID PATIENTS

The need to test the COVID patients was of paramount significance, and it needed to be accurate and quick. As per Doug Cropper, the State lab and LabCorp were only external two sites available initially with whom Genesis partnered for testing. The original turnaround time for test results was 5-6 days. This delay caused Patients under Investigation (PUIs) to stack up and posed a significant problem. There were three types of patients – pre-procedure patient, asymptomatic, and rule-out. Also, with more testing comes the possibility of contact-tracing with positive results.

To mitigate the above issues. Genesis leadership worked on an integrated strategy to collaborate with Labcorp to provide more testing facilities. Along with sending the tests to be done at the LabCorp site, a test machine was installed in-house to get testing done immediately. The availability of an in-house machine made the testing turnaround time reduced significantly to around 3 hours from 5-6 days.

SHORTAGE OF PPE SUPPLIES

Consumption of critical inventory items such as surgical masks went up. N95 masks demand went up to 10 million in 2020 compared to from 100,000 last year.

The executive leadership involvement stepped up to address this challenge. New protocols, rules, and procedures were put into place, and optimization of scarce resources was made by addressing the prioritization of the PPEs, i.e., who needs it most and should get it first.

The CEO put in place two daily calls that lasted for around 2 hours each day. The first call with all 250 leaders and the meeting went through 21 data points that are key to operations along with the status of PPEs. The second call was with most senior leaders focusing on critical decisions about the elective procedures and surgeries shutdown and solving the problem of PPE.

Additionally, the focus of Genesis has shifted from getting supplies from China to looking at local manufacturing companies or nearby countries (such as Mexico) to get PPEs. Genesis, with 15 other systems, purchased stakes in Prestige Ameritech to bring production of supplies back to the United States. Prestige Ameritech, is a well-recognized manufacturer of face masks, including N95 respirators and surgical masks. “The investment represents a long-term strategy to ensure that a greater proportion of healthcare products are insulated from shortages and are available in times of need”—as reported by Genesis Health System on May 26, 2020.

The leadership team also took additional steps to mitigate the risk of PPEs shortage. Notable among them are:

(1) purchase of additional inventory worth \$1M in the first week of March 2020 to ensure that Genesis does not run out of supplies, (2) Genesis took steps to bring the production of PPEs back to the USA and guarantee the supply of PPEs by joining the cohort of 15 other health systems that are part of Premier to buy ownership stake at Prestige Ameritech (3) Genesis partnered with a local contractor to sew isolation gowns and moved from disposable gown products to cloth gowns.

COST OF SUPPLIES

Several essential supplies, such as personal protection equipment (PPEs) and N95 masks that were so inexpensive before the onset of COVID, saw a surge in price. The managers and the authorized staff were not authorized to make decisions involving such huge costs. They were not equipped to deal with just-in-time supply and global supply chain the same way involving such high costs. To address this issue, Genesis spent 1-2 million dollars on additional PPE in the first three days. Also, the involvement of executive leadership stepped up.

Usually, the person in charge of the supply chain at Genesis would not be making decisions to buy a massive amount of PPE – that carries way more weight than it usually would. The standard levels of authority and structure do not make sense in a situation where everything is upended, and that needed a change at the crisis hours. The Genesis executive leadership well realized this change, and they had to be much more heavily involved in these decisions—almost at a war footing.

ACCURATE, QUICK ANALYTICAL INFORMATION

Accurate and analytical data were required for quick decision making by the leadership team during this surreal period of the pandemic. Data was presented in the form of dashboards based on analytics for quick decision making by the team.

KEEPING UP TO DATE INFORMATION

The availability of real-time data and information is an essential parameter for Genesis's several immediate and fast decisions during the COVID crisis. As per the CEO Doug Cropper, dashboards, and several other avenues that helped information sharing, analytics, along with the daily calls by the senior executives set the process and tone of the informed, quick decisions.

CONCLUSION

Genesis has tried to make decisions in real-time during this difficult time. The initial days were chaotic. However, the leadership team stepped up their involvement to address this crisis. Real-time, accurate, and analytics information helped the team to address this crisis along with daily meetings and collaboration between the various groups such

as scientists, clinicians, management, and leadership team. That helped them to re-organize themselves quickly as an organization.

During the interview with the Genesis executive, one key point that came up is the size of the organization. In the words of Doug Cropper, “I learned that we are kind of ideal size. Compared to 15- to 20-billion dollar systems, we are a 1 billion dollar system. We can move very quickly at our size, compared to our competitor, which is a 4 billion dollar system. Ability to know what is going on, can round on the hospital, talk to nurses, confidently make decisions in one day or a few hours.”

Genesis Health's leadership team is agile, transformative while being engaged across the whole organization's staff and employees. They drove decisions quickly, but at the same time, empowered different leadership and employee layers to make those decisions. Appropriate coordination was also a key element, as there were so many pieces of information and input to weigh in—the real-time and effective coordination process was an essential process for the leadership to sail through the COVID situation. Doug Cropper is enthusiastic and confident that “We might break even in 4 months. Some competitors, such as a nearby University Hospital, lose 120 million.” Doug confers: “size does matter to be agile—and that was the case in our case. We are not too big, not too small”.

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TABLE 1: GENESIS HEALTH SYSTEM FACILITIES

GENESIS MEDICAL CENTER, DAVENPORT

It has two campuses - East and West and they operate together. It has approximately 450 physicians, 3,100 staff, and 100 volunteers. Services include emergency care, physical therapy, and imaging for diagnosis.

GENESIS MEDICAL CENTER, SILVIS

It provides acute care services and includes 150 beds. It provides services to both inpatient and outpatient and has a trauma center and birthing unit.

GENESIS MEDICAL CENTER, DE WITT

This center provides both inpatient and outpatient services and is recognized as a hospital that provides the highest level of customer satisfaction.

GENESIS MEDICAL CENTER, ALEDO

It provides critical access service and has 22 beds. It is the only hospital in the county that provides inpatient and outpatient services besides emergency care

GENESIS HEALTH GROUP

This is a network of physicians and primary care providers in the locality and has over 160 physicians and 40 offices in the region.

HEALTHPLEX, MOLINE

This is a modern facility that provides many services, such as physician services, convenient care, and laboratory facilities. It has tied up with Tyson meat to provide occupational health services.

HEALTHPLEX, BETTENDORF 1

This is a modern facility that provides many services, such as physician services, Gynecological services, and laboratory facilities. They are affiliated to the University of Iowa Hospitals and Clinics related programs.

HEALTHPLEX, BETTENDORF 2

This is very similar to the Moline facility and includes Gynecological service and also related to services provided by the University of Iowa Hospitals and Clinics.

HEALTHPLEX, DAVENPORT

Genesis Health Group's Davenport HealthPlex in the Quad Cities provides multiple health care services and providers under one roof, including a convenient care walk-in clinic, lab services, x-ray, therapy, family medicine, and pediatrics facilities.

