In January 2020, the first clinical illness caused by the SAR-CoV-2 coronavirus (COVID-19) appeared in the United States. By the end of the month, multi-country cases caused the World Health Organization (WHO) to declare a global health emergency. By February, the virus had spread to the New York City area and the first death had occurred.

The State of New Jersey responded quickly and early to this potential public health threat, instituting early quarantine precautions at Newark Liberty International Airport by early February.

Holy Name Medical Center (HNMC) is a 361-bed comprehensive acute-care hospital and training center, in Teaneck, NJ, located near Newark Airport and Hudson River Stateline with New York. It has nearly 4,000 employees and admits 30,000 patients annually. It serves a densely populated, highly diverse New York City commuter population.

Before the March surge in cases, the hospital leadership responded quickly to the potential threat, establishing a task force to address screening, diagnosis, clinical care, increasing patient load, employee protection and training, protective equipment, supplies, public health, and media relations. Their rapid response in an uncertain situation was critical, as by March the medical center was central to managing New Jersey’s COVID-19 outbreak. One of the many concerns confronting hospital leadership and the medical staff was managing the rapidly increasing patient load, both inpatient and outpatient, while maintaining staff safety.

Prior to the outbreak, Holy Name was active in utilizing telemedicine, using telephone and video calls. RPM experience was limited to a new 60-patient program for chronic cardiac home care patients. They were actively involved in Home Health Care. Rapidly expanding both telehealth and telemonitoring...
offered a potential means to care for an outpatient population requiring self-quarantine and close monitoring for signs of evolving serious infection. Home Health Care services became an important means of fulfilling that goal.

While reviewing options, HNMC consulted Medline Industries, one of its major suppliers for medical products and services. Medline, a key partner with VitalTech Affiliates (VTA), introduced HNMC to VTA and its virtual care platform, VitalCare, which supports HIPAA-compliance.

VitalTech Affiliates is a Dallas-based company working to transform healthcare through digital health. It integrates medical devices and software platforms with advanced analytics to provide disease-agnostic actionable data to patients, families, and medical caregivers. VitalTech Affiliates' platforms and products have transformed connected health, while lowering overall costs and improving outcomes in diverse patient populations.

VitalCare is an iOS and Android-compatible application built as a series of modules. These modules offer physicians and other caregivers a variety of tools, including RPM vital signs, food intake and nutrition, medication tracking and alerts, and activities of daily living (toileting, step count, refrigerator use). The platform connects patients and caregivers via telemedicine video chat or direct messaging. Surveys and health questionnaires are also available via the app, one of which includes COVID-19 symptom review and guidance.

The VitalCare Vitals module was of highest interest to the HNMC team. It links a professionally developed medical device monitoring kit with the platform that records self-reported blood pressure, heart rate, temperature, pulse oximetry, and weight. This clinical data can be displayed as part of the video-based interview and examination.

VTA representatives met with the HNMC Task Force in March 2020. COVID-19 was on the rise, and the leadership needed a fast-tracked RPM solution built on easy scalability, a flexible easy-to-use platform, rapid Electronic Medical Record integration, and flexible contracting. A receptive, responsive company was essential as the medical center had never operated under such conditions.

VitalTech was very helpful during the entire process. They really stepped up their game for us.”

_Sai Kandamangalam, Executive Vice President, Chief Information Officer, Holy Name Medical Center_
demanding circumstances. The VitalCare platform was selected for these reasons. The software platform was supplied at no cost, and 500 kits were purchased by HNMC. Both parties accelerated their working relationship under increasing patient load and clinical demand. Sai Kandamangalam, Executive Vice President, Chief Information Officer at HNMC commented, “VitalTech was very helpful during the entire process. They really stepped up their game for us.”

**Working Together Under Pressure**

Implementing the VTA RPM technology occurred in two distinct stages: Monitoring patients who had been sent home without hospitalization, then monitoring those discharged to home after hospitalization. To accommodate the first group, a rapidly evolving process gave telemedicine nurses who were contacting home-confined patients regularly the ability to request an RPM kit. Clinical concern more than specific parameters often guided this decision.

VTA made sure the required equipment arrived in a timely manner. Couriers from Holy Name delivered and retrieved the telehealth kits for patients. The COVID-19 kit arrived in an easily portable and accessible backpack containing a computer tablet preloaded with the VitalCare platform and three medical devices, including a blood pressure cuff, pulse oximeter, and digital thermometer. Startup instruction ‘Quick Guides’ accompanied the contents and were commented upon favorably. A hospital-based formal education process for using was not in place initially. Infectivity concerns at a time of uncertainty tended to magnify the individual education problem. VTA stepped up through its customer support, but some patients (estimated 5%) refused kit use because of unfamiliarity and training issues.

RPM monitoring was principally provided by Nurse Practitioners from HNMC and Holy Name Medical Partners. Consultation with medical specialists was available at all times. RPM training was initiated. Because of the rapid set up and change in roles, issues of interpretation of data and comfortability with the new technology did arise. Again, both HNMC and VTA worked diligently to resolve the stress points as quickly as possible. Some technical issues appeared with the rapid deployment involving pairing of devices to the platform. VTA received high grades for its responsiveness and its ability to fix remote programming and hardware problems.

During the second stage, initiated primarily in May and June, COVID-19 hospitalized patients were discharged to home using three tiers of follow-up care: telemedicine alone, telemedicine inclusive of the VTA telemedicine/RPM kit, and telemedicine/kit plus home health care. Approximately 60% of patients were discharged using the telemedicine/kit combination, and 40% of patients added home health care. This entire process was better planned, including a formal onboarding process. In this group, nurse practitioners were the key decision-makers, and guidelines were in place to assist in clinical decision-making. It was a mutually improved, less pressured, more formalized rollout for all involved. Once established, the kits and platform were described as ‘easy to use’ by most users.
The technology and telemedicine contacts offered security and kept people from returning to the Emergency Department or hospital. Supported by regular nursing assessments via video call, it allowed early interventions and timely reassurance. By June, more than 300 kits were successfully distributed, 5,400 COVID-19 patients were cared for at home, and over 21,000 telehealth visits occurred.

One consistent message throughout this experience was that the adding of RPM and its sense of ‘connection’ decreased the anxiety and fears of the patients at home and their families. The statement, “Holy Name really cares for and about us,” was echoed by many RPM recipients during this crisis.

Post-Event Assessments

Pre-pandemic, telehealth was new and providers were undecided as to its value. The pandemic proved telehealth’s value for both patients and providers. Home care guided by telehealth protected patients and providers and reduced the risk of infection and spread. On several occasions, VitalTech’s real-time monitoring and alert capability allowed fast, sometimes lifesaving, responses.

Importantly, the cost to both patients and HNMC was substantially less than hospital-based care or provider office visits. Post-surge there has been a system-wide reorganization incorporating telemedicine as a significant new division.

The pandemic created an intense working and learning experience with VTA and HNMC. Both parties benefited. Most importantly, the relationship continues. VTA has received a site license to continue RPM expansion. Holy Name’s CEO and President, Michael Maron, co-hosted a webinar with VitalTech sponsored by the American Hospital Association on October 7, 2020. Mr. Maron has a personal perspective from this ordeal, as he notes “I contracted the virus and the VitalTech technology allowed me to stay at home instead of in the ICU.”

Today, Holy Name Medical Center’s website (holyname.org) begins with ‘We are open, We are clean, We are ready.’ VitalTech Affiliates’ site (vitaltech.com) states, ‘Transforming Healthcare through Digital Health.’ Both institutions gained knowledge and skills from an intense and ‘lives-on-the-line’ test of their abilities, flexibility, and creativity. It’s a successful case study describing how to work well together under the most difficult of medical circumstances.

Of all the companies we worked with, VitalTech was at the top. They were nimble, agile and we were very impressed.”

Michael Maron, 
CEO and President, 
Holy Name Medical Center