





Perspectives

Opening Up during Lockdown: Launching a New Rehabilitation Hospital in the Midst of the COVID-19 Pandemic

Michael Appeadu, MD , Minh Quan Le, MD, Richard Rosales, MD, Robert Irwin, MD, Lauren Shapiro, MD, MPH 

Introduction

Opening a new rehabilitation facility is a challenging endeavor in the best of times. We opened our new rehabilitation facility in March 2020, during the global severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus 2019 [COVID-19]) pandemic. New facilities often come with an increase in the number of beds and an upgrade in technology. In addition, the unfamiliarity of working in a new environment can create challenges among all involved. We characterize some unanticipated challenges that were brought on by the COVID-19 pandemic when we opened a new rehabilitation hospital during the public health emergency. We discuss the problems faced during our transition to a new building and how that transition was amplified by the emerging COVID-19 pandemic.

Problem

A hospital's response to a health crisis, especially one of an infectious variety as virulent as SARS-CoV-2 (causing COVID-19), will have a major impact on the outcome of its patients. Furthermore, it will have lasting effects on the hospital's reputation in the community as an institution that can be trusted with the care of loved ones, even during the worst of times. This issue is compounded when the hospital organization is also transitioning into a new, much larger building and rebranding itself. Deducing the most ideal ways in which a new inpatient rehabilitation facility (IRF) can best serve the community during a public health emergency requires an understanding of systemic health care effects caused by the virus.

During the initial phases of the COVID-19 pandemic, rehabilitation facilities have played a vital role in

enhancing overall hospital capacity to care for acutely ill patients. As is discussed, a relaxing of administrative constraints on IRFs has facilitated acceptance of new patients without as much concern for having met specific criteria for admission under the Centers for Medicare & Medicaid Services (CMS) 60% compliance threshold. This has allowed IRFs to off-load patients more readily from the acute hospital setting.

This pandemic, however, has created a multitude of difficulties for health care facilities; most notable was the need for bed availability to prepare for the anticipated surge of infected individuals requiring hospital care. IRFs have faced pressures to off-load acute care hospitals to better enable them to care for the most critically ill.¹ In the midst of the pandemic, CMS issued a number of waiver programs granting IRFs flexibility in their admission criteria.² This, along with fewer patients requiring postoperative rehabilitation care following elective surgeries that were postponed during the public health emergency, enabled IRFs to play vital roles in enhancing hospital capacity.³ The need for intensive inpatient rehabilitation for survivors of severe COVID-19 infections was and continues to be immense.⁴ At the same time, other post-acute care settings, such as skilled nursing facilities, were particularly hard hit by the pandemic, with many reporting outbreaks among their staff and patients.⁵

To accommodate the surge in COVID-19 cases, some IRFs, particularly in the hardest hit cities, transitioned to medical wards.⁶ A rise in cases in the region necessitated the accelerated opening of a new rehabilitation hospital to enable our hospital system to repurpose the hospital-based rehabilitation units as COVID-19 care units. Opening the new rehabilitation center during the public health emergency came with unique challenges,

including treating critically ill patients during a rapid increase in rehabilitation hospital capacity, organizing appropriate and effective lines of communication, adhering to stringent infection control measures in a new environment, supporting patients facing pandemic-induced socioeconomic hurdles, and adjusting to necessary changes among teams of health care workers.

Discussion

Transition

Prior to moving to a larger innovative building, our rehabilitation facility was an acute inpatient rehabilitation center with a maximum daily capacity of 50 patients. The previous rehabilitation center had two separate floors in different locations of the hospital, each with their own inpatient gymnasiums. Patients and staff began the move to the new rehabilitation facility on March 14th, 2020. The transition from the prior facility was hastened in an effort to make beds available and provide care for an increasing number of patients who had tested positive for the virus SARS-CoV-2.⁷ The move played an integral role in off-loading the burden of patients who were testing positive from community skilled nursing facilities (SNFs) in an effort to reduce transmission among residents.⁸ Initially only half of the patients and staff were moved to the new rehabilitation building to minimize the impact of any unforeseen issues. The remainder of patients and staff moved within the following 2 weeks. The new hospital building was designed as a 72-bed hospital; however, only 24 beds were opened initially. Over the next 2 weeks, the hospital capacity gradually grew to the full 72 beds as new staff were on-boarded.

Communication

One of the most pressing matters for a health care facility during a pandemic is having thorough lines of communication. This includes between: (1) patients and health care workers, (2) the various administrative levels and teams of health care providers, and (3) perhaps most important, the hospital leadership and the frontline workforce. The importance of regular prompt updates on strategy management cannot be overstated. One previously identified strategy is to identify individuals who will answer questions and facilitate internal communication in regards to infection control.⁹ Our hospital instituted a protocol in which daily relevant updates regarding COVID-19 were communicated to all hospital personnel via e-mail. Hospital clinical leadership held separate meetings and relayed all pertinent information downstream, whereas forums were held to answer pressing questions. Communication and proper protocol to escalate care were implemented early to account for any delays in treatment for patients, as delays can cause complications or long-term sequelae.¹⁰

Infection Control

Acute IRFs faced unique challenges with respect to infection control during the coronavirus pandemic, partially as a result of the initial time to get test results. The high numbers of health care personnel involved, the proximity required for rehabilitation, and the large volumes of patients screened for admissions necessitate a firm, widespread protocol to support the safety of patients, family members, and health care workers. The following measures have been reinforced consistently: Physical distancing, patient symptom screening, disinfecting, masking, isolating patients suspected or confirmed to have COVID-19, and limiting visitors.

Given the high transmissibility of the virus, patients and staff are at great risk for exposure and transmission. Person-to-person transmission through droplets, aerosols, and direct contact are the most likely source of infection.¹¹ As such, personal protective equipment (PPE) is of vital importance due to the high number of staff interactions.¹² Given the national shortage in PPE, our rehabilitation administrators anticipated the urgent demand and made efforts to provide adequate amounts of masks, gloves, and gowns, so although there were initial shortages, by week 3 all staff had adequate PPE available to them at all times.

At our hospital, our transplant team performs the largest number of organ transplantations in the United States. As a result, our rehabilitation services often treat debilitated transplant recipients who are on strong immunosuppressive therapy. Extreme caution must be taken to limit our transplant patients' risk of exposure; this is also true for immunocompromised patients undergoing cancer rehabilitation and those with autoimmune conditions. Taken together, these factors ensured that infection control had to be a primary focus.

Environmental service is often underrecognized as an important agent in infection control. Many IRFs already have individualized protocols to mitigate risk, including private gym sessions or in-room therapy. Care was taken to minimize the number of patients training in the main gym at once. To accomplish this, therapists utilized the outpatient and small satellite gyms located on two of the three inpatient floors. Frequent cleaning measures were employed, and appropriate supplies were made available in commonly used areas in the hospital. Small surfaces can be disinfected with 70% ethanol, whereas a dilution of 1:100 of 5% sodium hypochlorite bleach can be applied to other surfaces.¹³ As we learn more about the COVID-19 virus, we will be better able to use environmental service to implement infection control.

Unlike protocols from acute care, family visitations are permitted in IRFs, even in the face of COVID-19. Visitation is restricted to one individual per patient for family support and training. Prior to visitation, family members are screened with questionnaires for symptoms. Family members and caretakers may take turns visiting patients one

person at a time provided that appropriate physical distancing is maintained. In shared spaces, staff and patients adhere to physical distancing rules of 6 feet and must have a mask on at all times. Any changes in protocol are relayed to patients by nurses and physicians in order to avoid confusion and maintain standardized hospital policy.

Socioeconomics

Amid the COVID-19 pandemic, patients in our new rehabilitation hospital are faced with new socioeconomic challenges. In general, patients who have lost function may require supervision, emotional support, and/or actual physical assistance when they are in the hospital and at home post-discharge. For family, friends, and neighbors who are able to provide assistance, providing this support can be difficult with the recommended COVID-19 family visitation restrictions in place. Generally, family training is crucial to inpatient rehabilitation, as family members are educated on ways to care for their loved ones post-discharge. For uninsured patients who do not have access to home health services for management of percutaneous endoscopic gastrostomy (PEG) tubes or dressing changes, receiving help from their family is often crucial. As city-wide public transportation has been reduced due to the pandemic, families may have difficulty traveling to the hospital. These factors can increase caregiver burden and prolong inpatient rehabilitation stays to ensure a safe discharge for patients.

Health Care Workers

Transitioning to a new hospital facility requires an adjustment phase for health care workers. Some of the challenges include orienting to a new environment, establishing a new culture, learning new technology, and assisting in training new staff members. These challenges were likely exacerbated by the anxiety of our staff regarding their perceived heightened risk for infection following the deaths from COVID-19 of a radiology technician and intensive care nurse who worked on our medical campus. Specific protocols had been put in place for health care workers who tested positive and had to stay home. Given school closures, health care workers with children were presented with child care options, with full-day programming sponsored by community partners of the hospital. Informational sessions on mindfulness and managing anxiety were made available for health care workers weekly, given the potential and seemingly inevitable adverse mental health impacts caused by the pandemic.

The interdisciplinary team approach is one of the pillars of rehabilitation medicine. In anticipation of the transition to the new facility, nurses were hired and trained for rehabilitation-specific coverage months before the move to meet the needs of an increased census. Similarly, physical therapy assistants (PTAs) and certified occupational therapy assistants (COTAs) were on-boarded to

accommodate an increased case load. Because outpatient therapy services were placed on hold, the speech therapists normally occupying these roles were reallocated to inpatient services. These adjustments were vital in ensuring that the rapid rise in number of beds in the new hospital was accounted for by an adequate number of appropriately trained interdisciplinary team staff.

For physical medicine and rehabilitation physicians in particular, transitioning into a new hospital environment, while dealing with a pandemic, involved engaging with several moving parts. Residents and attending physicians needing to self-quarantine following exposures or symptoms led to a staffing shortage during a critical point in time when the patient census was expanding. Furthermore, our plan to have hospitalists assist with weekend on-call coverage in the new building failed due to the need for their availability for the anticipated surge of critically ill COVID-19 cases. Fortunately, a number of rehabilitation physicians working in the outpatient setting were able to assist on the inpatient front due to widespread clinic cancellations, although there was a slight learning curve as they adapted to the different layout of the medical record system and daily workflow. Outpatient attending physicians needed to transition to telemedicine visits with their patients, either through video or solely audio. Some residents were able to perform telemedicine visits, allowing them to continue performing some outpatient; however, there were initial concerns over the residents' ability to meet their required number of procedures, such as electromyography (EMG) and injections, given the lack of opportunity to see patients face-to-face. These procedure requirements have fortunately been adjusted by the Accreditation Council for Graduate Medical Education (ACGME).

Eventually, residents were given the option of caring for COVID-19 patients on acute inpatient medicine floors. For residents on inpatient rehabilitation rotations, adhering to stringent distancing measures and wearing proper PPE became embedded in the daily workflow, and by this point, there was no shortage of PPE on either side of the hospital. The combination of new uniforms and extensive PPE presented some unforeseen challenges. For many, the visual identification of team members has become difficult, even when they are familiar. This has been compounded by the new larger rehabilitation gym, which although it allows for greater occupancy than the smaller physical therapy and occupational therapy-specific gyms located in the old building, creates an intermingling of therapists that can hamper recognition. Identification of staff members who were on-boarded during the transition can be particularly difficult, as in some cases, previous staff members have never seen new staff members unmasked.

Ethical Challenges

There are various ethical issues to consider in the inpatient rehabilitation setting during the COVID-19

pandemic. Primarily, given the elective nature of admission to an inpatient rehabilitation setting, are there benefits to potentially exposing patients to the virus instead of discharging home to self-quarantine? For medically complex patients with rehabilitation needs for which admission to the inpatient rehabilitation hospital may be appropriate, the determination of medical necessity remains a case-by-case decision. Testing for COVID-19 prior to admission has been implemented for patients displaying symptoms. Although the health care system has been financially burdened, patient care remains the all-important focus.

Another ethical dilemma that arises involves discharge to long-term care skilled nursing facilities (SNFs), where COVID-19 can quickly transmit among patients once introduced.⁵ The risks and benefits of SNF discharge are being weighed among the interdisciplinary team. Patients are discharged to SNFs where screening is mandatory regardless of symptoms. For a short time, there were challenges with bringing in new patients, as the hospital was at capacity and there were some discharges to SNFs or assisted living facilities that were held up for a few days as we awaited negative COVID screening. Initially tests results were available in about 4 days, whereas newer tests allowed for results within a day. Fortunately there has been ample time for decision-making, as the new hospital has not been stressed to the point where the discharge process has had to be rushed to free up beds, because many of the sickest patients requiring rehab would not be ready for admission until later in the course of pandemic (around mid-April).¹⁴

Conclusion

As the COVID-19 pandemic persists, there will continue to be considerable need for inpatient rehabilitation for survivors of severe infection who have been hospitalized for a number of weeks and had complications ranging from multi-organ failure to limb ischemia, pressure injuries, neuropathies, and many other comorbidities. Despite the various obstacles involved, the expedited opening of our IRF during the COVID-19 pandemic allowed the facility to play a vital role in meeting the community's health care needs. Challenges were magnified by the unanticipated impediments of the transition; however, rehabilitation medicine, as an interdisciplinary field, utilizes a fittingly multifaceted approach in adapting to and

overcoming complications. As such, protocols were implemented to optimize patient and staff safety based on emerging evidence while collaboration with clinicians and administrative staff helped overcome the hurdles of moving into a new facility.

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Disclosure

M.A., M.Q.L., R.R., R.I. and L.S. Department of Physical Medicine and Rehabilitation, University of Miami/Jackson Memorial Hospital, Miami, FL. Address correspondence to: M.A.; Department of Physical Medicine and Rehabilitation, University of Miami/Jackson Memorial Hospital, Miami, FL. e-mail: michael.appeadu@jhsnmi.org

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