COVID-19 Outpatient Case Management Home Monitoring Program- Stretching COVID Management Beyond the Hospital Walls

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JPS Health Network

- JPS Health Network is home to over 7,200 team members with more than 573 acute care beds, 40 primary, specialty and school based health centers.
- JPS is Tarrant County's only Level 1 Trauma Center providing emergency services, urgent care, intensive care for adults and infants, emergency and inpatient psychiatric care. JPS Health Network is geographically located in the zip code with the lowest life expectancy in the state of Texas; and the only public hospital in Tarrant County, serving a largely indigent population.

Background

- In mid-March 2020, the emergence of coronavirus-2 (SARS-CoV-2) across the United States and the state of Texas initiated multidisciplinary operational planning to prepare for the flood of patients impacted by the novel virus.
- Although strategies to manage inpatient floor bed and intensive care units are important during a pandemic, the need for innovative strategies to increase bed capacity are vital. (Aziz et al., 2020)
- From operational planning a strategy was birthed that would conserve bed capacity while also allowing patients to continue being monitored and cared for in their homes. This strategy used oxygen saturation instead of respiratory rate as seen in another study to monitor patients remotely. (Massaroni et al., 2020)
- The development of the Outpatient Case Management (OPCM) COVID Home Monitoring Program was premised on tailoring services to meet the individual monitoring of patients in their respective home environments.

Introduction

- Though the initial strategy was around increasing bed capacity, the system was quickly able to expand the program to include patients diagnosed with coronavirus-2 (SARS-CoV-2) in the ambulatory setting and not requiring hospitalization, allowing care to these patients to be stretched beyond the walls of the hospital.
- Targeted efforts were made to eliminate the need for Emergency Department visits and hospitalizations for ambulatory diagnosed patients. In collaboration with physician leadership, escalation protocols were created to address at-risk patients with potential adverse outcomes.
- Registered nurse case managers and Social Workers following the OPCM COVID Home Monitoring Program protocol utilized a virtual platform to serve as the point of contact for enrolled patients, complete broad assessments, brokered resources, coordinate and provide routine support related to symptom management, including initiation of physician-approved oxygen therapy and titration protocols. The role of RN CMs and Social Workers have been critical to the success of this program, especially during the time of a pandemic. (Tahan, 2020)

Objectives

- Describe how patients qualify or are identified for the COVID Home Monitoring Program.
- Describe how the COVID Home Monitoring Program works to help increase bed capacity through early discharges or by preventing admissions of patients with a diagnosis of coronavirus-2 (SARS-CoV-2)
- Describe how co management between the RN Case Manager and the Social Worker leads to an exciting and innovative way to the improve the practice of case management while also improving health outcomes.

Patient Criterion for the Program

- Inpatients with a positive COVID-19 test discharging home. We excluded patients discharging to SNFs and LTACHs as they were already receiving around the clock care.
- Patients in the ambulatory setting to include clinic visits, urgent care visits and ED visits with a COVID-19 positive test and not needing inpatient hospital care.

Enrolling in the Program

- Patients are referred to the OPCM COVID Home Monitoring Program via EMR referral by their treating provider.
- Patients that are in-house are given an enrollment/welcome letter to the program that explains why they are being referred to the program and what they can expect. Patients that are referred after completing a telehealth visit are sent the enrollment letter via the JPS patient portal.
- Before discharging home patients receive from inpatient case manager/ social worker a pulse oximeter. Portable e tanks are given to the patient on oxygen at the time of discharge for them to travel home with until the DME agency can deliver the concentrator to the home.

Welcome Letter

Welcome to the COVID-19 Care Management Program at JPS Health Network. Together, you, your provider and I, the care manager will work closely together to monitor your progress at home with the goal of improving your health.

Licensed health care professionals, Registered Nurses and Social Workers, trained in case management will be calling you 2 times per day each day at 8:00 AM and 7:00PM while you are at home on home oxygen and/or intermittent pulse oximetry. If you are not using oxygen, you will be called once daily at 1:00PM to discuss your symptoms.

What you can expect at each call:

- ✓ Review of your Oxygen Saturation
- ✓ Review of your Symptoms
- ✓ Assessment of your needs
- ✓ Answers to your questions
- ✓ Connection to Community Resources if Needed

At the end of each call we will discuss next steps, which include actions you will take and actions the care team will take. If you have questions or concerns before the next schedule call please feel free to reach out to you your care manager. We look forward to partnering with you. For any questions or concerns regarding the program, please call 817-702-7325.

Respectfully,

Your JPS Care Management Team

Protocol

Hospital/ED Discharge
- Hemodynamically Stable
- SaO2 95% or less on room air at rest (or below baseline level if documented in outpatient well visit records)
- No distress with oxygen via NC
- Requiring no more than 3L continuous supplemental oxygen to maintain SaO2 of 92% or greater (or baseline level of oxygenation if on oxygen at baseline)
- Exclude: Chest tightness, Dehydration, Confusion/AMS, Hemodynamic instability

Healthcare Worker
- COVID +
- Pulse ox only

Outpatient
- COVID +
- Pulse ox depending on symptoms (SOB)
- Daily check-in call for 10 days, as long as patient does not go to inpatient and is not started on oxygen as an outpatient

COVID CM/RN Check
- How are you feeling today? Better or worse than yesterday? ***
- Temperature, if taken ***
- What is your pulse ox reading? ***
- If sent with Oxygen, what is your oxygen set to? ***
- Is the patient currently being weaned off O2? Yes Or No
- If Diabetic: What was your sugar today? ***
- If Wheezing/asthma/emphysema: Did you need to use your rescue inhaler? ***
- Are you remaining hydrated? How much did you drink yesterday? What did you drink? ***

Program Overview *Cont.*

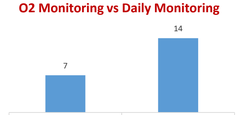
Registered Nurse Case Managers: Follow defined protocols:
- Once the patient is home, Registered Nurse Case Managers begin telephonic outreach to the patient on day 1 of the patient on day 1 of the referral being placed; utilizing a virtual platform and serve as the point of contact for enrolled patients.
- Patients enrolled in the program receive target phone calls from RN CMs daily or twice daily depending on if they are on oxygen or daily monitoring phone calls only.
- Physician approved oxygen therapy and titration protocols are used for patients that are on oxygen with the goal of weaning them off oxygen completely or back to their baseline O2 rate if they were already on home oxygen. If patient symptoms and/or oxygen saturation are outside of protocol normal parameters, the RN CM will contact the attending physician on call for the program for escalation and potential patient management orders and instructions.
- If a patient in their home setting develops a need for home oxygen, the RN CM works with the SW to arrange for home oxygen to be arranged with a DME agency and delivered the patient's home within 1-2 hours Sunday-Saturday.
- The on call attending physician, RN CMs and SWs are available 7 days per week so there is aggressive care coordination and continuity of care.

Program Overview

Licensed Social Workers: Perform a detailed psychosocial assessment
- Each patient receives a phone call or series of phone calls depending on the individual needs of the patient from a Licensed Masters Social Worker to complete a psychosocial assessment. The SW assesses the patient for any gaps in the social determinants of health which contribute to the social and physical environments that promote health.
- JPS Health Network, treats a largely vulnerable and indigent population. Many patients lack some of the basic everyday necessities such as housing, food and transportation. Disruptions in these domains can wreak havoc on one's health. The pandemic has heightened these disruptions. The team has been tasked with providing psychosocial support to COVID-19 positive patients and brokering resources for these patients to keep them focused on safely recovering at home while still meeting the basic needs of themselves and their families.
- SWs connect patients to resources such as food delivery services, food pantries, city and county housing and rental/utility assistance, transportation assistance, clothing, prescription assistance, mental health services, chaplain services for patients experiencing grief and loss.
- Connect patients to primary care for those who do not have a primary care medical home in an effort to promote health and well being.

Results

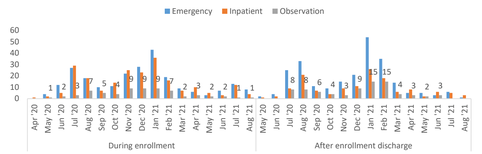
Average Days in Program: O2 Monitoring vs Daily Monitoring



Results *Cont.*

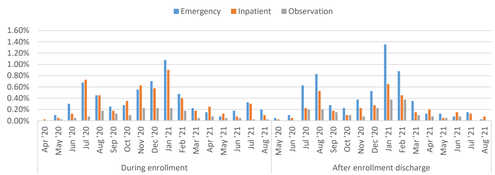
As the chart below illustrates, the majority of admissions for patients enrolled in the program occurred while patients were enrolled. The ratio of inpatient to ED admissions was higher during enrollment, and a significant proportion of admissions had a primary diagnosis of COVID-19, suggesting that these patients conditions worsened during enrollment and they required escalation to acute care.

Patients Requiring Admissions During Enrollment and Within 30 Days of Discharge from Program



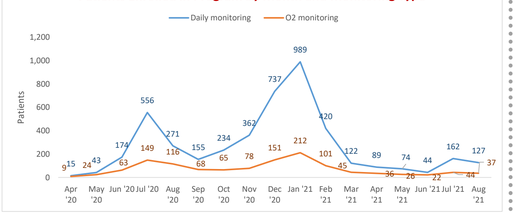
As the chart below illustrates, the overall percentage of patients admitted to either Inpatient, Observation or seen in the ED was very low. These findings suggest the program is broadly effective at preventing and reducing hospital care through monitoring during their enrollment.

Percentage of Monitored Patients Requiring Admissions to ED, Inpatient, and Observation



As the chart illustrates below, at the programs peak the team managed as many as 360 patients with more than 416 calls each day. June 2020, December 2020 and January 2021 were the highest patient enrollment numbers.

Patients Enrolled in Program by Month and Monitoring Type



As the chart illustrates below, the program yielded 11,328 Bed Days Saved from 781 patient enrolled in the program for COVID home oxygen monitoring. Without this program, high touch monitoring and care coordination these patients would likely have remained in the hospital.

Total Hospital Days Saved

Conclusions

- The OPCM COVID Home Monitoring program has been an indispensable initiative for our network and more than 3,600 patients. It will continue to be part of our organizations care and optimization of treatment for COVID-positive patients.
- The program not only increase bed capacity within the hospital, but also meet the needs of a wide variety of individuals; from as young as 13 days to 95 years old within their own home environment, stretching COVID care beyond the walls of the hospital.
- Patients with varying and unique comorbidities were able to be successfully managed at home after hospital discharge regardless of the severity of their hospital course. Of those that were initially hospitalized, it has allowed patients to be discharged safely earlier than they otherwise would have been and decreased the readmission rate. (Singh et al., 2020)
- The program was designed with escalation protocols that triggered patients to receive higher level of care when appropriate. The ability to initiate oxygen for patients in their home without an ED/Clinic visit has been invaluable. The ability to escalate at a rapid pace due to monitoring and protocols is likely responsible for saving numerous patient lives. The program greatly decreased our need for patient hospitalization post COVID diagnosis. (Shah et al., 2020)
- The outpatient case management team reports feeling like they are able to function more autonomously and at the top of their scope while feeling more fulfilled in their everyday work activities.
- The RN CM and SW collaboration yielded a robust holistic care management for the patient, truly meeting the medical and social needs of each individual patient and achieving the quadruple aim.
- Currently using the information learned from this program and the protocols built around it to help develop programs for chronic disease management.

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