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REMOTE ADVANCE CARE PLANNING IN THE EMERGENCY DEPARTMENT DURING COVID-19 DISASTER: PROGRAM DEVELOPMENT AND INITIAL EVALUATION



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Contribution to Emergency Nursing Practice

- The current literature on innovative delivery of health care indicates a growing need for remote and telehealth options, particularly in the context of the novel coronavirus disease.
- This article contributes an innovative method for utilization of telehealth and remote nursing to engage in goals of care conversations for patients presenting to the emergency department.
- Key implications for emergency nursing practice found in this article are the utilization of remote nurses to engage in goals of care conversations with families of patients presenting to the emergency department. Due to infection-control restrictions, these families were prevented from accompanying patients to the hospital. Further implications include the reassignment of nurses who could not provide in-person patient care due to coronavirus health restrictions.

Abstract

Background: The coronavirus disease 2019 pandemic caused an unprecedented surge of patients presenting to emergency departments and forced hospitals to adapt to provide care to patients safely and effectively. The purpose here was to disseminate a novel program developed under disaster conditions to address advance care planning communications.

Methods: A program development and initial evaluation was conducted for the Remote Goals of Care program, which was created for families to communicate patient goals of care and reduce responsibilities of those in the emergency department.

Results: This program facilitated 64 remote goals of care conversation, with 72% of conversations taking place remotely with families of patients who were unable to participate. These conversations included discussions of patient preferences for care, including code status, presence of caregivers or surrogates, understanding of diagnosis and prognosis, and hospice care. Initially, this program was available 24 hours per day,

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7 days per week, with gradual reduction in hours as needs shifted. Seven nurses who were unable to work in corona-positive environments but were able to continue working remotely were utilized. Lessons learned include the need for speed and agility of response and the benefit of established relationships between traditionally siloed specialties. Additional considerations include available technology for patients and families and expanding the documentation abilities for remote nurses. A logic model was developed to support potential program replication at other sites.

Discussion: Upon initial evaluation, Remote Goals of Care Program was well received and demonstrated promise in decanting the responsibility of goals of care discussions from the emergency department to a calmer, remote setting. In future iterations, additional services and technology adjustments can be made to make this program more accessible to more patients and families. Other facilities may wish to replicate our Remote Goals of Care Program described here.

Key words: COVID-19; Advance care planning; Goals of care; Telehealth; Emergency department

Introduction

PROBLEM DESCRIPTION

In late 2019, first reports of human transmission and circulation of the severe acute respiratory syndrome coronavirus 2 coronavirus disease 2019 (COVID-19) in Wuhan, China, began to make global headlines.¹ By March 1, 2020, New York City reported its first confirmed case of COVID-19 and quickly became an international hot spot.² Throughout the spring of 2020, health care systems across New York were forced to adapt usual operations to accommodate a surge of patients with COVID-19 who required hospitalization and, often, critical care services. These adaptations, including reassignment of clinical providers to areas outside their expertise, resulted in the use of traditionally nonclinical spaces for clinical care and, with limitations on supplies, often placed additional stress on providers in addition to the surge.

Those with pre-existing comorbidities, particularly hypertension, cardiovascular disease, diabetes, and chronic obstructive pulmonary disease, are at increased risk for morbidity and mortality from COVID-19.^{3,4} In addition to presence of comorbidities, older age has been identified as a significant risk factor for severe disease and mortality.⁵ During the COVID-19 surge in New York, many of the patients presenting to the emergency department were older

adults and those with chronic comorbidities. It became imperative during the peak of the pandemic to speak with patients and families and clarify goals of care (GOC) as an early intervention to help avoid unwanted use of scarce resources.

Before the onset of the COVID-19 pandemic, GOC and Advance Care Planning (ACP) discussions, often including family and loved ones, were standard of care for patients presenting to the hospital with multiple comorbidities, advanced illness, or advanced age.^{6,7} The addition of the COVID-19 pandemic magnified the need for GOC and ACP discussions as ensuring goal-concordant care and avoiding unwanted intervention became a pressing concern for most health care systems.⁸ Traditionally, GOC and ACP discussions can be an iterative process involving multiple discussions and a significant time investment for clinicians, patients, and families. The COVID-19 pandemic placed additional time and resource pressure on the health care providers who would usually be involved in these conversations because of the increasing volume of high acuity patients presenting to the emergency department. This led to some clinicians being utilized in roles where they did not have specialty training, including GOC conversations. In addition to the limited providers available, most patients in the emergency department were not able to have family accompany them to admission because of a no visitation rule that was put in place to protect patients, families, and staff.

AIMS

The implications of this new clinical reality required attempts to find alternative routes to conduct these conversations in an innovative manner. Building upon previous strong relationships between the Division of Geriatrics and Palliative Medicine and the Emergency Medicine Service Line, a Remote GOC Program was established to have these vital conversations and facilitate communication with families during the height of the COVID-19 pandemic.^{9,10} The goal of this program was to provide a resource for ACP and GOC conversations for patients who may have been unable to have these conversations and who could not have loved ones present to identify their wishes.

Methods

DESIGN

A program development and retrospective evaluation design were used. The health system Institutional Review Board approved this study and waived the need for informed

TABLE 1
Logic model of Remote GOC Program

Planned work		Intended results		
Inputs	Activities	Outputs	Outcomes	Impact
<ul style="list-style-type: none"> • ED and geriatric and palliative medicine partnership • Registered nurses who could not work onsite • Laptops, HIPAA compliant communication platform • Patient baseline code status* 	<ul style="list-style-type: none"> • Online training in GOC and end-of-life conversations for remote nurses • Introductory discussions with referring ED providers • Discussions surrounding existing resources (surrogates, caregivers, health care proxies) • Discussions surrounding patient wishes (DNR/DNI, MOLST, chaplaincy, hospice) • Discussions surrounding patient care (diagnosis, prognosis, treatment) 	<ul style="list-style-type: none"> • GOC and end-of-life conversations with patient families • Completed GOC notes in EMR • Number of referrals into the program • Changes in code status* 	<ul style="list-style-type: none"> • Increased recognition of the need for GOC conversations • Increased referrals to remote nurses • Discharge to appropriate level of care from the emergency department (hospice, home) • Discharge to appropriate level of care after admission (hospice, SNF, home) 	<ul style="list-style-type: none"> • Long term increase in GOC and end-of-life conversations • Increase in goal-concordant care

Outcomes and impact were not yet measured for program implementation. ED, emergency department; GOC, Goals of Care; EMR, electronic medical record; DNR, Do-Not-Resuscitate; DNI, Do-Not-Intubate; MOLST, Medical Orders for Life Sustaining Treatment; SNF, skilled-nursing facility; HIPAA, Health Insurance Portability and Accountability Act.

* Not measured owing to disaster context of implementation.

consent. Informed consent waiver was approved by the Institutional Review Board because collection and review of patient data was performed via retrospective chart review.

SETTING

This work was conducted in the emergency departments across a large health system in the New York metropolitan area. Because of the remote nature of the program, 12 emergency departments were able to participate simultaneously. Typically, these emergency departments serve approximately 650 000 patients per year combined.

PARTICIPANTS

Participants were included by consult referral at the clinical judgment and discretion of the clinician team providing care in the emergency department between April and June of

2020. Of the patients hospitalized with COVID-19 in this health system, at least half were age 63 years or older, 57% had history of hypertension, and 34% had history of diabetes.¹¹

REMOTE GOC PROGRAM

In response to this potential communication barrier introduced by the increasingly busy ED environment, redeployed clinicians, and limited family accompaniment, the Remote GOC Program was developed to continue communication with families of patients in the emergency department to understand the goals and needs of the patients. As a pragmatic choice, this program utilized nurses who were unable to work in COVID-positive environments but could continue working remotely via telehealth to supplement the clinical resources within the emergency departments (Table 1). Initially, the program included 7 remote

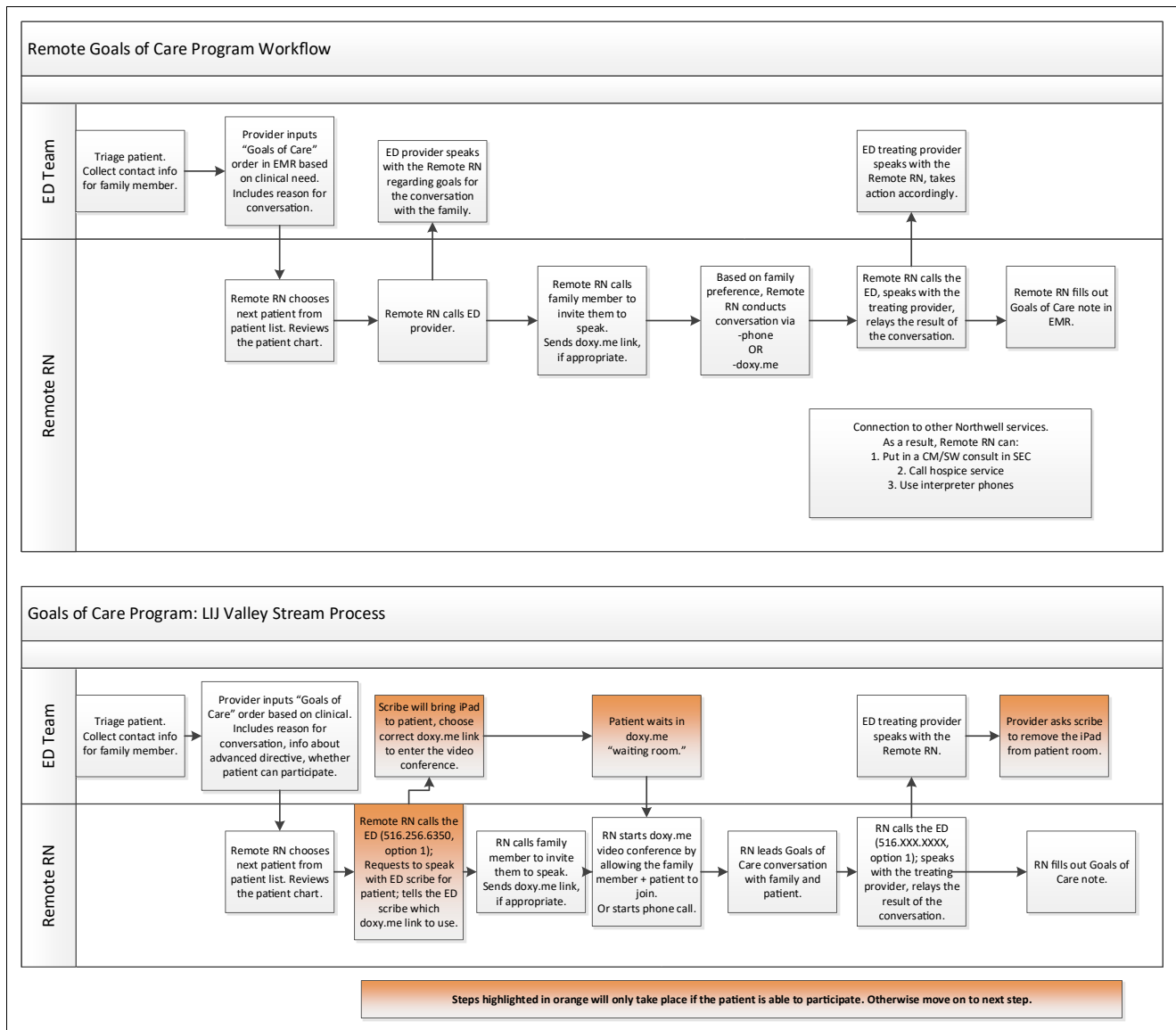


FIGURE 1
 Flow diagram of remote Goals of Care Program communication. ED, emergency department; EMR, electronic medical record; RN, registered nurse; CM, case manager; SW, social worker; SEC, sunrise emergency care.

nurses from various specialties, including pain management, medical/surgical, emergency, and operating room nursing. As staffing needs changed in the hospitals, the size of the Remote GOC Program was reduced to accommodate the same. The program began in April 2020 and provided remote GOC support 24 hours per day, 7 days per week, using 7 nurses covering 4.5 full-time equivalent positions. As the first wave of the pandemic began to lessen by June, the

remote GOC support was reduced to 16 hours per day, 7 days per week. This phase of the Remote GOC Program utilized 4 nurses to cover 3 full-time equivalents.

To support the providers, the registered nurses were given laptops and communication software to remotely guide conversations with patients’ families. The majority of the nurses were not previously trained in end-of-life or GOC conversations, so they were provided training via a

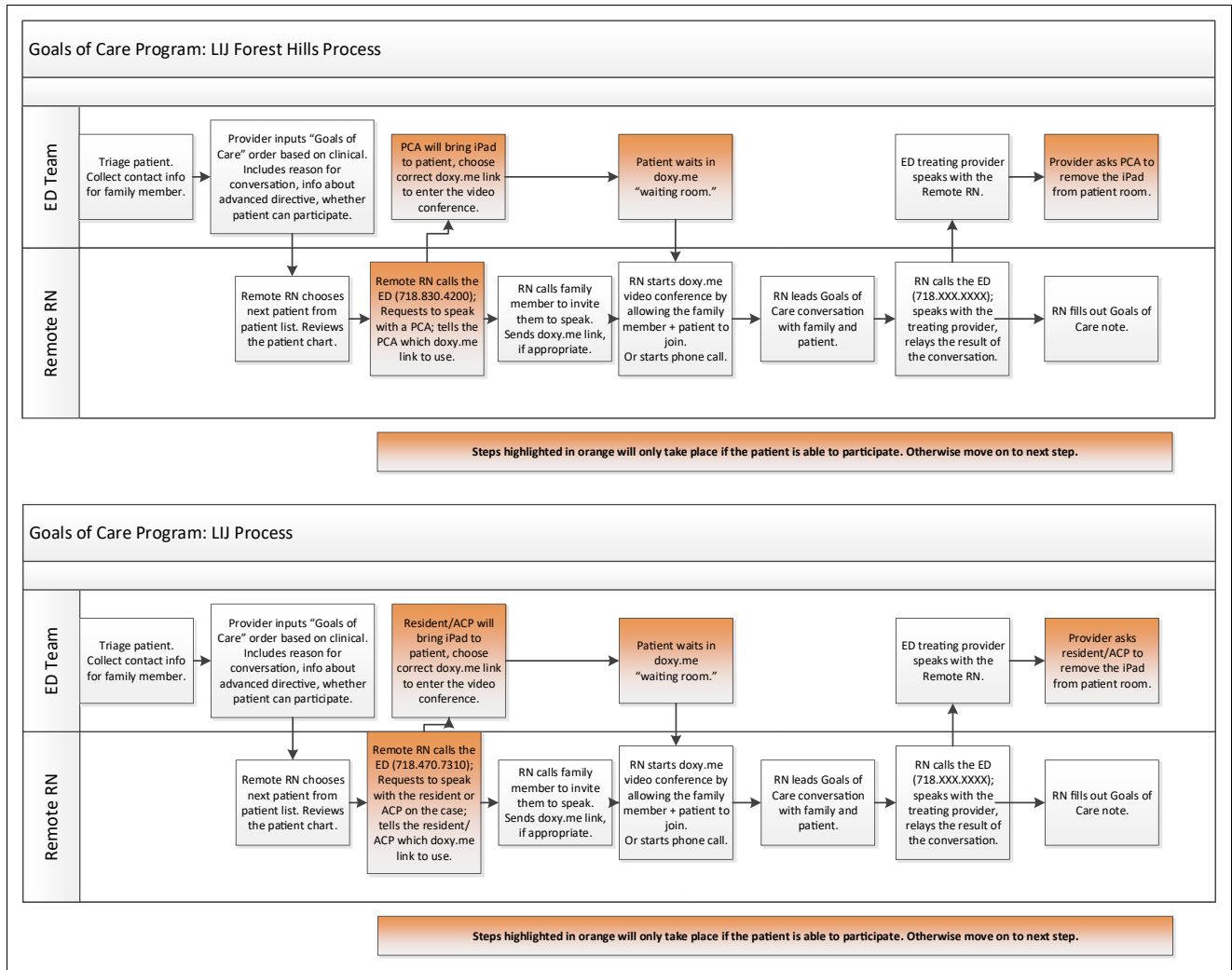


FIGURE 1
Continued.

prerecorded online course created by the system Geriatrics and Palliative Medicine team. These courses focused on how to have GOC conversations, how to have discussions on end-of-life care and bereavement support, and the importance of advanced directives and health care proxies, particularly in the midst of the COVID-19 pandemic. The materials provided to the remote nurses included context for the workflow within the emergency department, instructions on how to use the secure technology and how to educate families on its use, on-site contact information, and additional resources for ACP support. Owing to the nature of the pandemic surge, the educational materials and

workflow were streamlined to allow for quick initiation of the program.

Upon referral for a patient requiring a GOC discussion, the ED team would enter a "Goals of Care" order in the patient's electronic medical record (EMR), including the reason for the conversation (Figure 1). As previously described, patients were identified on the basis of the medical judgment of the ED team and their anticipated ACP need. The remote GOC nurses would receive notification of the GOC order and contact the ordering provider to further discuss the purpose of the GOC conversation. Where possible, patients would be involved in the GOC

TABLE 2
Demographic characteristics

Demographic category	N	%
Sex		
Female	40	63
Male	24	38
Age category (y)		
<65	10	16
65-74	10	16
75-84	11	17
85-94	23	36
≥95	10	16
Race		
Caucasian/White	39	62
African American/Black	11	17
Asian	4	6
Other/Multiracial/Unknown	9	14
Participants in conversation		
Family	46	72
Other	11	17
Patient	4	6
Patient and family	1	2
COVID-19 status at time of ED encounter		
Confirmed COVID-19 negative	31	48
Confirmed COVID-19 positive	26	41
Suspected COVID-19 positive	1	2
Unknown	5	8
Patient residence prior to ED present		
Community home	37	58
Skilled-nursing facility/Rehab	23	36
Assisted-living facility/Group home	4	6
Prior advance directive		
Yes	31	48
No	28	44

COVID-19, coronavirus disease 2019; ED, emergency department; Rehab, Rehabilitation.

conversations, but there was often limited ability to speak to patients directly, owing to the acuity of their illness and the technology available to patients in the emergency department. If patient communication was limited, nurses contacted family or surrogate decision makers remotely using a Health Insurance Portability and Accountability Act (HIPAA) secure platform or traditional landline phone calls, depending on the preferences and technology available to the families. During these conversations, the nurses

TABLE 3
Services/Resources discussed during remote GOC calls

Activity	N	%
Completed health care proxy	22	34
Have a surrogate	16	25
Have a caregiver	9	14
Discussion of:		
DNR	45	70
DNI	45	70
MOLST	42	66
Treatment	21	33
Diagnosis	20	31
Prognosis	15	23
Hospice	13	20
Chaplaincy	4	6
Remained full code	31	48

DNR, Do-Not-Resuscitate; DNI, Do-Not-Intubate; MOLST, Medical Orders for Life Sustaining Treatment.

discussed the patient’s current health and living situation with families, including whether the patient already had some form of advance directive or health care proxy and whether the patient had a caregiver or surrogate. Conversations also included discussion of the patient’s current treatment needs, prognosis, diagnosis, whether the family believe the patient would want to complete a Do-Not-Resuscitate (DNR), Do-Not-Intubate (DNI), or Medical Orders for Life Sustaining Treatment (MOLST) form, and whether the patient would be open to hospice services, if medically indicated. After the GOC conversation with patients’ families, the remote nurse would contact the ED treating provider to relay the details of the conversations. The remote nurse would also complete the GOC note in the EMR and enter any follow-up needs for the patient, including additional consults, such as social work, case management, palliative care, and hospice services.

DATA COLLECTION

Patient information was collected from Allscripts Sunrise Emergency Care, the EMR, in July 2020. Study data were collected and managed using REDCap electronic data capture tools.^{12,13} REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies, providing 1) an intuitive interface for validated data capture; 2) audit trails for tracking data manipulation and export procedures; 3)

TABLE 4

Outcomes

Disposition	N	%
ED disposition		
Admission to hospital	51	80
Expired	5	8
Inpatient hospice	5	8
Home	2	3
Home with hospice	1	2
Hospital disposition		
Expired	18	28
Assisted-living facility	4	6
Skilled-nursing facility/Rehab	14	22
Home	7	11
Inpatient hospice	7	11
Home with hospice	5	8

Rehab, Rehabilitation.

automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for data integration and interoperability with external sources.

Deidentified demographic data were collected from the medical record. Primary outcomes included details of early GOC discussion in emergency departments and disposition after GOC discussions. GOC were defined as Code Status, with options being DNR and/or DNI, and Full Code (cardiopulmonary resuscitation and intubation desired). Other potential topics of discussion during these conversations included appointment of a health care proxy, diagnosis, treatment, prognosis, chaplaincy, and hospice.

ANALYSIS AND EVALUATION

Owing to the disaster context in which this program was initiated and the retrospective nature of data collection, the study was not designed to provide analysis on statistically significant changes for patient outcomes. To provide context for the patients who were included in the program, demographic details and descriptive statistics are reported. As changes in health outcomes cannot be reported, this program was evaluated on the basis of the logic model provided in [Table 1](#).

Results

We included 64 patients for whom a health care professional was consulted to have a remote GOC conversation between April and June 2020. Across the health system, all 64 patient

records were reviewed and included for analysis. [Table 2](#) presents the demographic characteristics and patient information upon presentation to the emergency department. Sixty-three percent of patients who received remote GOC conversations were female, and almost 70% were aged 75 years or older. Just under half of patients (42%) presented from a communal living residence, including skilled-nursing or assisted-living facilities. About half of patients were confirmed or suspected COVID-19 positive, and although there were instances of patient involvement in the remote GOC conversations (8%), most conversations were with family (72%). Before presentation in the emergency department, 48% of patients already had some form of advance directive documentation. Of the patients residing in a skilled-nursing or assisted-living facility, 51% presented to the emergency department with advance directive documentation.

[Table 3](#) outlines the course and outcomes of the GOC conversations and the topics covered with patient families. Most GOC conversations involved discussion of DNR, DNI, and/or MOLST; fewer conversations involved discussion of the patient's diagnosis, treatment, and prognosis. After discussion of DNR/DNI and MOLST, 34% of patients completed a health care proxy, although a majority of these patients had a previous form of advance directive, and 48% of patients remained Full Code. Only 6% of discussions involved the offering of chaplaincy services, and 20% involved discussion of hospice.

[Table 4](#) presents the disposition outcomes for the patients who received remote GOC conversations upon presenting to the emergency department. Eighty percent of patients were admitted to the hospital, 8% died while in the emergency department, and 10% were discharged from the emergency department directly to inpatient or home hospice. Of the patients admitted to the hospital from the emergency department, 28% expired before discharge, 28% were discharged to a skilled-nursing or assisted-living facility, and 19% were discharged to inpatient or home hospice ([Figure 2](#)). Of the patients who died during hospitalization, 55% remained Full Code after the GOC conversation with the remote nurse. Of all patients who had remote GOC conversations, 28% were discharged to hospice either from the hospital or directly from the emergency department.

Discussion

The COVID-19 pandemic forced hospitals and health systems to create innovative solutions to provide high quality patient care while in the midst of an unprecedented crisis.

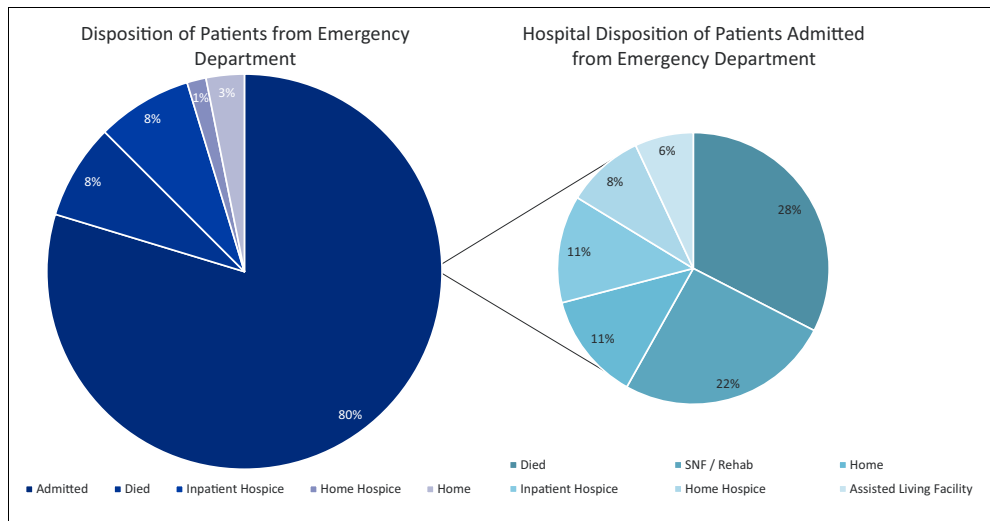


FIGURE 2
 Visual representation of patient disposition from both the emergency department and subsequent admission. SNF, Skilled-Nursing Facility.

The Remote GOC Program was created to continue vital GOC discussions for patients and families while restrictions on family visitation and provider time and resources were mounting. As the majority of patients were not able to participate in the GOC conversations owing to the acuity of their illness, fast and open communication with families was vitally important. This program relied heavily on the relationship between the Division of Geriatrics and Palliative Medicine and the Emergency Medicine Service Line that was created before the pandemic. This relationship was vital to creating and running the Remote GOC Program quickly, as there was well-established communication and trust between these traditionally siloed groups. Although this was a nursing-driven initiative, this program provided interdisciplinary benefit across nursing, social work, and ED providers. Although small, this initial, disaster-related program highlighted the strengths and opportunities involved in remote GOC conversations.

A major strength of the Remote GOC Program was the collaborative relationship that allowed for quick setup and decision making. This program required innovative use of personnel and technology that was easily accommodated through collaboration among health care teams. This program was effective in maximizing staffing ability by using nurses who were not able to safely remain in a patient-facing setting in a new capacity. As an estimated 104.2 per 100 000 nurses experience a work-related injury, this style of telenursing may also serve as a potential option for nurses requiring light-duty assignments.¹⁴ This utilization made the redeployed nurses feel valued, and the staff in

the emergency department appreciated the additional help during a busy time. This freed providers in the emergency department to perform procedures and attend to the immediate stabilization needs of the patients while the patient's further GOC were established. In addition, the Remote GOC Program was able to decant the time-intensive and delicate aspects of the GOC conversations from the busy ED environment. By allowing these conversations to occur in the nontraditional but much calmer environment of remote telehealth, they could be deeper and more meaningful toward providing goal-concordant care, as evidenced by the noteworthy proportion of discharges to hospice for these patients. Establishing and documentation of health care proxies were also vitally important for patients who were later admitted to the hospital, as this documentation clarified appropriate contacts at a time when families were unable to visit patients in the hospital.

As hospitals and emergency departments begin to transition back to prepandemic operations, this Remote GOC Program can continue to be useful for patients presenting to the emergency department who would benefit by GOC conversations before inpatient admission. Although these conversations can be lengthy, they are important for directing decision making and connection to appropriate resources directly from the emergency department. This style of remote care provision is also transferable to additional specialties and health care needs. Although telenursing has been utilized in rural communities for some years, the global pandemic has sparked innovations in telenursing and patient care in a way that is

more universal.¹⁵⁻¹⁸ This shift toward increased access to telehealth services is in line with previous programs that are able to provide robust patient care at home, including programs for dialysis and palliative medicine.^{19,20} This Remote GOC Program and other telehealth-based programs will continue to grow as a viable option for emergency departments as reimbursement for telemedicine evolves and expands.^{21,22}

This article provides an outline of a Remote GOC Program implemented in New York during the height of the first COVID-19 surge. This program was able to gather ACP information and provide GOC conversations with detail and nuance. This program was especially valuable during the time that families could not accompany patients to the ED setting to provide context for patient wishes. Although this program was pragmatically implemented and was not designed to show statistically significant changes, future studies should examine whether these conversations improved adherence to goal-concordant care. This program is valuable in that it is easily modifiable and transferable to many settings and specialties and utilizes the telehealth format that will likely continue to grow out of the COVID-19 pandemic.

LIMITATIONS

Although the Remote GOC Program was a valuable use of resources during the first surge of the COVID-19 pandemic, there were areas of the program that could be improved upon. First, the technology used was sometimes a significant barrier for patients and families. The communication software utilized by the remote nurses was sometimes difficult to navigate for families outside of the hospital, especially for those who did not have a stable internet connection or familiarity with remote communication software. Within the emergency department, having the remote nurse contact the patient was equally difficult. The hectic ED environment was not conducive to video conferencing, and the patients included in this program were mostly older, with less experience with the needed technology and no family to support them. In addition, patients who had sensory difficulties, including hearing loss, vision loss, or cognitive decline, in addition to their reason for presenting to the emergency department, were less able to participate in conversations. Even when the remote nurses were able to have GOC discussions with families, the staff within the emergency department was still required to contact the families to give status updates regarding the

patient during a particularly tense time. ED staff was also required to complete MOLST documentation within the emergency department, as these forms are still completed on paper and require the presence of the patient or family to complete. Although an electronic MOLST process is available in New York State, it is not currently utilized by the health system. Finally, this program description does not include a comparison group. In addition, chaplaincy services were limited because most of the chaplaincy personnel were not on-site during the initial COVID-19 surge. Only a small portion of patients requested chaplaincy services, and their needs were met through the reduced staffing model available. Future studies should assess the benefit and practicality of remote chaplaincy services for patients who are agreeable.

Although the intention of this program was not to determine the efficacy of an intervention, the lack of a comparison group limits the strength for the current work and the ability to utilize inferential statistics. Similarly, owing to the disaster context in which the program was utilized, we were not able to collect the number of patients and families approached who refused or could not participate. Further studies on program implementation can be structured to include comparison groups and population approached for statistical analysis but hopefully not within the context of a global pandemic.

Conclusion

Overall, the Remote GOC Program was well-received and will be utilized again, should the need arise. In future iterations, preparation of the program should be started as early as possible and can be expanded to other services, including Hospital Medicine and select consult services. The earlier start time and expansion of services will allow for an improvement in training on the technology used and documentation needs. Additional time and comfort with the technology will allow the remote nurses to assist patient families in troubleshooting common connection problems before the GOC conversation and be familiar with alternatives if the primary communication method is unavailable. Additional training on documentation and expansion of documentation access for remote nursing staff would also be helpful. GOC conversations can be very delicate and nuanced discussions that are heightened in the midst of an unexpected public health crisis. Detailed documentation of the GOC conversation will allow

providers in the hospital to build on these conversations with patients and families as the patient moves through their disease course. Through this program, remote nurse staff were able to identify additional resources through GOC conversations that may not have been easily accessible without this program, such as hospice care and specialized consults.

Author Disclosures

Conflicts of interest: none to report.

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