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Embedded Palliative Care Provider in Pulmonary Practice; Discussion of the Structure, Process, and Outcomes

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Abstract

Patients with severe Chronic Obstructive Pulmonary Disease (COPD) have a poor quality of life and limited life expectancy. Palliative Care (PC) providers are well versed to provide care for these chronically ill patients with COPD. The objective of this paper is to describe the process taken by a health system inpatient palliative care team and pulmonary providers to embed palliative services within a specialty office-based practice. We considered the impact of integrating PC services on the structure, process, and outcomes of patients, health system, and office practice. Specific attention was placed on the effect of an embedded PC provider on workload of the office practice. Six months after initiating the PC provider into the pulmonary practice, we reviewed the impact on the patients and practice. A total of 63 patient visits were completed during 112 hours of embedded PC services. Twenty-three patients enrolled with hospice, between their first and third appointments with PC provider. We found a reduction in Emergency Department (ED) visits and hospitalization, 52% and 33% respectively. We also noted a reduction in pulmonary office appointments and incoming triage calls, 77% and 43%, respectively. Finding from the inquiry of the impact of an embedded PC clinic did not demonstrate increased workload, rather a decreased demand on the health system and pulmonary office staff.

Keywords: Embedded Palliative Care; Palliative Care; Pulmonary Practice

Introduction

Over 12.8 million Americans have a diagnosis of Chronic Obstructive Pulmonary Disease (COPD) representing 5.3% of the US population [1]. Patients with COPD have a poor quality of life and limited life expectancy. These patients are commonly neglected by society as well as the medical community. The World Health Organization (WHO) defines COPD as "A lung disease characterized by chronic obstruction of lung airflow that interferes with normal breathing and is not fully reversible."[2]. The objective of this paper is to describe the process taken by Bon Secours St. Francis Health System (BSHSI) and Palmetto Pulmonary & Critical Care Associates to embed a Palliative Care(PC) provider within a specialty office-based practice. We believed that embedding PC within a pulmonary setting would allow the pulmonary team to see first-hand the value of PC interventions for management of symptoms and goals of care when traditional therapies had been exhausted. We considered the impact of integrating PC services on the current office support staff, with focus on the possible increased workload. To the best of our knowledge, the steps taken for embedding a PC provider in a pulmonary office-based practice has not been previously described.

The treatment protocols for COPD include bronchodilators (both Short and Long-Acting), inhaled corticosteroids, oral PDE4 inhibitors (such as Cilomilast and Roflumilast), and oxygen therapy for those with severe resting hypoxemia [3]. However, these interventions may only partially relieve symptoms and many patients experience a heavy symptom burden with substantial decline [4]. Patients are plagued with disabling dyspnea and increasingly frequent hospitalizations reflective of deteriorating lung function.

As the disease progresses, the symptoms and family or caregiver distress increases. The goals of care usually change over time. Thus, the issues confronted by the patient, family, caregivers, and clinicians shift as well.

Most providers agree that this group of patients experience poor quality of life and heavy symptom burden [5]. Palliative care providers are well versed to provide care for these chronically ill patients with COPD [6]. Palliative care is not synonymous with terminal care; rather the focus is on symptom management and helping to maintain a reasonable quality of life. While inpatient PC programs have proliferated, community-based and embedded palliative care programs are less prevalent and do not exist in some regions of the US. Embedding PC providers within specialty practices can have a definitive impact on the patients by addressing the symptom burden, assisting with redefining the goals, and initiating end of life discussions.

Structure of Embedded Palliative Care

Bon Secours St. Francis Health System, Inc. (BSSF) is a system of caregivers committed to bringing help to people and communities and offers services for inpatient, outpatient, and community based needs. The mission of the health system includes bringing compassion and Good Help to Those in Need®, especially those who are poor and dying. The hospital is a 245-bed healthcare facility located in Upstate South Carolina. The facility offers a comprehensive suite of surgical and diagnostic services, including open-heart surgeries, neurosurgery, bone marrow transplantation, orthopedics and a 24-hour ED. The inpatient palliative care team is composed of a full time medical director, 3 full times Nurse Practitioners (NP), a part-time NP, and a practice manager. The providers are boarded certified in Hospice and Palliative Care. The part time NP had heightened interest in working collaboratively with the pulmonary providers and support staff on the initiative, thus becoming the lead PC provider for launching the program.

Palmetto Pulmonary & Critical Care Associates is a group practice with one location in the outpatient building adjunct to BSSF. The medical team specializes in pulmonary medicine, critical care, and sleep medicine. The practice is composed of 8 physicians, 5 NPs, and one physician assistant. Two of the pulmonary physicians had previously completed the board certification for Hospice & Palliative care prior to embedding the PC provider. The providers and support staff are well known in the community for their compassion, caring, and support to patients. Two Registered Nurses (RN) receive incoming patient and family calls, both RNs have excellent communication skills. One of the RNs had several years of prior hospice, experience significantly enhancing the integration of PC services for COPD patients, caregivers, and other office staff.

The relationship between the BSSF Inpatient PC team and Palmetto Pulmonary & Critical Care has been ongoing for more than 10 years. Hospitalized pulmonary patients has access to the broad-based expertise of the PC consultant group. However, patients did experience a gap in care upon discharge if they were not hospice eligible. Embedding a PC NP in pulmonary office practice would enable continuum of access to PC services. The pulmonary practice was positioned to embrace the process of embedding PC services into the practice due to high readmission rates and Emergency Department (ED) utilization by their patients. A multiphased implementation approach for embedding PC was used to allow the providers and support staff an opportunity to view the clinical benefits of PC within the high-volume, fast-paced, pulmonary environment. We began the process by introducing the concept of palliative care to the pulmonary staff through meetings, face-to-face conversations, and printed literature. The meetings included the PC & pulmonary providers, clinical, technical, and administrative staff. In addition to enhanced understanding of the services to be provided, there were also important discussions about role of the PC services and their distinction from the pulmonary services. We coordinated with the medical team to identify those patients at greatest need for symptom management. Measured integration was important to ensure an easily process for patients, families, and providers. Preprogram rollout began with discussions related to the structure, process, and outcomes with the inpatient PC and pulmonary teams (Table 1).

Structure	Process	Outcome
Embedded Palliative care	Referral Process	Inpatient team
Utilize current pulmonary staff for patient care.	Continue discussing goals of care post-hospitalized patients. Initiate symptom management strategies.	Heightened interest in symptom management for pulmonary diseases.
Electronic Health Record Inbox for communicating referrals from inpatient members.	Delineate referral source.	Improved coordination of care for inpatient palliative care patients.
Patient appointment allocation set at 40 minutes.	Coordinate with pulmonary transition of care team to discuss patients identified as high-risk for readmission.	Office Practice

Adding Palliative Care (PC) NP to pulmonary practice.	**Staff Education**	
Back up PC provider to assist in practice.		Awareness of the role of PC for pulmonary patients.
Considerate separate triage nursing telephone number for patients under care of PC.	Clarification around follow up requests by patients related to PC needs.	Distinguishing between the role of PC versus hospice services.
Limited office space in pulmonary for PC providers.	Extra training for pulmonary NPs related to palliative care.	Workload impact of an embedded PC provider.
Day of the week for PC appointments.	Focused re-education of PC providers on the standards of treatment for pulmonary diseases.	**Patients**
	Enhanced discussions by PC providers and pulmonary triage RNs on communicating with patients enrolled in palliative care.	
	Other: Skilled Nursing Facilities, Home Health & Hospice	Improved quality of life with PC management of symptom burden.
		Heightened awareness of symptom management needs with pulmonary diseases.
	Collaborate with rehabilitation and skilled nursing facilities on role of PC.	Avenue for family members to discuss caregiver burden and other issues.
	Continue referrals to home care & hospice services.	
	Expand relationships with external providers for home based palliative care services.	
	Consider palliative care telemedicine pilot to enhance provider input for symptom management.	
	Overlap Patients with multiple comorbidities have multiple providers. Deliberate efforts to communicate plans of care via office notes, phone calls, and face-to-face encounters during hospital rounds.	

Table 1: Preprogram Meeting Input: Structure, Process, & Outcome.

Palliative Care Embedded Clinic

The embedded PC clinic began with 4 hours per week by a PC board-certified NP. The collaborating pulmonary physician, double boarded in Hospice & Palliative Care as well as Pulmonary Medicine, served as a mentor for the PC NP to ease integration. The PC NP reviewed evidence based practice symptom management tools in preparation for integration into the care management strategies. The pulmonary staff placed palliative care pamphlets and various literatures in the office waiting room. The pulmonary provider would see a patient, review the disease progression, and introduce the role of PC. The pulmonary providers would use the surprise 'question: "Would you be surprised if this patient died within the next year?" as a rapid guide for assisting in decision making strategy for PC referral [7]. The provider would then explain the role of PC, emphasizing how PC would assist with symptom burden and efforts to improve quality of life. By allowing the pulmonary providers to introduce and support the utilization of PC, the patient and family were more trusting of PC services. Many of these patients were well established with 20+ years of care provided by the pulmonary providers. The patient would be given a packet of information that included a PC pamphlet, reading materials specific to pulmonary disease prognostication, state-specific Health Care Power of Attorney, and Living Will documents. The follow up office PC appointment was scheduled between 2 weeks to 3 months, depending on the degree of symptom burden and availability of the PC provider. The majority of the patients experiencing significant symptom burden preferred sooner than later appointments.

When the patient returned and registered for the PC appointment, they were asked by the reception staff to complete, by hand, a paper copy of a validated symptom-screening tool – Condensed Memorial Symptom Assessment Scale (CMSA) [8]. Completion

of the tool was voluntary and the information was transferred into the patient's Electronic Health Record (EHR). The CMSAS served as a tool for the PC provider to review symptom burden, with particular attention to scores on the dyspnea and anxiety questions. With every PC appointment, the provider would review the EHR, noting the frequency of ED and primary care visits, recent hospitalizations, previous encounters with the inpatient PC providers, and status of the pulmonary and cardiac diseases. Ongoing dialogue and conversations between the pulmonary team and the embedded PC NP ensured quality care for the patients as well as assisting with role delineation. Approximately six months after initiation of service, a review was completed to evaluate the impact of the embedded PC provider on outcomes for the patients and pulmonary office workflow.

Six Month Impact

A total number of 63 visits were completed during 112 hours of PC embedded NP services over a 6-month period. Of those visits, 57 were index appointments (First Time PC Encounters). Seven patients missed the index appointment with PC; four were no shows and did not reschedule, one was admitted to the hospital, and another patient enrolled with hospice prior to the PC appointment.

The age range of the patients was 24 to 97 years with an average of 73. There was a proportionally higher volume of male patients (43) than female (20). The primary purpose for referral to the embedded PC provider was for symptom burden and discussions related to goals of care (Table 2). Referrals to the embedded PC provider came from the inpatient PC team and the pulmonary providers (35% and 65%, respectively).

Goals of Care	26
Symptom Burden Management	31
Disease Progression	4
Advanced Care Planning	1
Coordination of Care	1

Table 2: Reasons for Referral to Embedded Palliative Care.

Of the 57 patients under the care of the PC NP, 6 patients visited the ED within 6 months after the index appointment. Four of these patients were seen for COPD exacerbation, one for treatment secondary to oncological intervention, and the other failure to comply with dialysis treatment plan. Twenty-three patients enrolled with hospice, between their first and third encounter with the PC NP; one patient revoked hospice services after enrollment.

The team trended patient-specific data related to ED visits and hospitalizations after the index appointment with the PC NP. Data was gathered for each patient by reviewing the frequency of ED visits and hospitalizations 12 months prior to the index appointment and 6 months following the index appointment with PC. Twenty-five ED visits were completed by patients prior to the index appointment with PC. Interestingly, only six ED visits were completed in the 6 months following the index appointment with PC. Extrapolating to equivalent 12-month comparison, a 52% reduction in ED visits would be expected for the patients under the care of the PC NP. Eighteen hospital admissions occurred in patients prior to the index appointment with PC, whereas the number of hospital admissions dropped to 3 following the index appointment with PC. Again, extrapolating to equivalent 12-month comparison, a 33% reduction in hospital admissions would have been expected for the patients under the care of the PC NP.

The impact of embedding a PC NP on the pulmonary practice was explored. We reviewed the number of follow up appointments to the pulmonologists after index encounter with PC as well as the number of incoming calls to the triage nurses. Sixty-nine office visits (Pulmonary) were completed by the 57 PC patients six months prior to the index appointment with PC. The number of office visits to the pulmonary provider dropped to 16 following the index appointment to PC. Extrapolating to equivalent 12-month comparison, a 77% reduction in pulmonary office visits would be expected for the patients under the care of the PC NP. One hundred and twenty triage calls were logged by the patients and/or family members six months prior to the index appointment to PC. The number of triage calls dropped to 68 following the index appointment to PC. Again, extrapolating to equivalent 12-month comparison, a 43% reduction in triage calls would have been expected for the patients under the care of the PC NP (Table 3).

Category	Prior to Index Appt (12 months)	Subsequent to Index (6 months)	Conclusion
Health System			
ED visits	25	6	52% reduction in ED visits
Hospital admissions	18	3	33% reduction in admissions
Office			
Pulmonary appts	69	16	77% reduction in appts.
Triage phone calls	120	16	43% reduction in triage calls

Table 3: Health System & Office Impact by Embedded PC Provider.

Discussion

To our knowledge, this is the first study to describe the process, structure, and outcomes of an embedded PC clinic within a pulmonary practice for COPD patients. Additionally, this is the first study to consider the impact of the embedded clinic of the workload of the office providers and staff. In this review, the most

requested need by the PC NP for the pulmonary patients was symptom management, which is problematic for all chronic, debilitating illnesses. The patients referred to the PC NP were typically more clinically complex than patients who are not referred. As PC shifts care management emphasis from end-of-life to further upstream in the trajectory of the chronic diseases, embedding PC providers within specialty practices will improve the quality of life. Finding from the inquiry of the impact of an embedded PC NP did not demonstrate increased workload, rather a decrease on the demands of health system as well as the office staff, such as decreased ED visits and readmissions. Palliative care providers may need to enhance their knowledge of a specific chronic disease, such as COPD, to become more comfortable with basic management.

Symptom management for the COPD patient was the primary reason for referral to the PC providers. Additionally, many other issues were addressed during the visit, such as counselling on appropriate and consistent use of pulmonary inhalers, spouse and family communication, and discussions on end of life wishes. The pulmonary providers encouraged their patients to seek the assistance of the PC team which paved the way for the PC services to be provided. The dialogue between the pulmonary providers and the patients prior to PC appointment helped reduce misconceptions. Once enrolled with the PC provider, the patient received holistic care by addressing the numerous physical and psychological symptoms associated with chronic health conditions.

This review of the embedded PC in a pulmonary practice has limitations. We were only able to review data from one clinic and one health system, and had a small sample size. The population referred to the PC provider had a referral bias; most of the patients were complex cases. We did not include input from the patient, family nor office staff on their perspective of utilizing PC for their symptom burden. We did not have consistent information about other to external providers. However, we were able to provide some details on embedding a PC provider into a specialty practice and discuss the positive outcomes for the health system and pulmonary office. We were able to provide frequency data of the impact of the PC provider on patients and the office practice. This inquiry makes an important contribution to the literature in this area. In summary, embedding a PC provider within a specialty practice offers a positive approach for patients, providers, and the health system. Further models of integration of palliative care into specialty practices, financial impact, and detailed outcomes between PC providers and specialty practices should be explored.

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