

Telehealth After COPD Hospitalization (TEACH) Abstract

Submission:

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LEARNING OBJECTIVES:

1. Correct identification and timely enrollment of patients with Chronic Obstructive Pulmonary Disease (COPD) is dependent upon the daily review of numerous hospital census reports along with confirmatory Spirometry results for COPD without reliance on ICD-10 codes.
2. Proper translation of instructions into Spanish as well as the personalized education of the use of Telehealth devices in Spanish is a critical component to the successful implementation of protocols in an elderly Latino Medicare Advantage population.
3. Appropriate selection of Telehealth devices and integration of data points via an interface with Care Management (CM) and Electronic Health Records (EHR) platforms are critical to facilitate timely interventional care through a well-designed and adequately staffed CM team.

TITLE: The impact of the Telehealth After COPD Hospitalization (TEACH) Program on the 30-day readmission rate for Medicare Advantage patients with COPD in South Florida.

OBJECTIVE: To evaluate the impact on the 30-day readmission rate for Medicare Advantage patients with COPD by utilizing a combination of daily Telehealth monitoring with alternating days of Home Visits (HV) by a Medical Assistant (MA) who would implement clinically relevant CM protocols.

METHOD:

1. Identify and enroll first 20 patients who carried the diagnosis of COPD (ICD-10, J44.9), into the *TEACH Program* within 72 hours of discharge from the hospital. The patient had to belong to one of Cano Health's (CH) Medicare Advantage programs.
2. After informed consent, the patient was assigned a CH medical staff, a MA, to provide a HV for the patient every other day until 30 days after the date of discharge. The HVs were assigned to either Visit A: Mon, Wed, and Fri or Visit B: Tue, Th, and Sat.
3. The initial 2 hr HV included orientation, instructions on the "How to" of the ForaCare Telehealth devices, and a baseline COPD Assessment Test (CAT) questionnaire.
4. Technology: ForaCare Telehealth devices were provided by Health Monitoring Optimum Services (HMOS) and included; Blood pressure, glucose, pulse oximetry

and weight scale along with paired Bluetooth Gateway device. This data was interfaced onto the MDFlow CM platform as well as CH's proprietary Population Health and CM Systems.

5. HV:

- A confirmatory pre-home visit phone call, text or email
- Initial 2 hr orientation HV to introduce and train patient in the use of Telehealth devices, f/u visits were scheduled for 1 hr.
- Progress notes in EHR and visit logs were kept to document vital signs, medication reconciliation, CAT survey, compliance, and medication availability as well as any implemented CM protocols.
- Missing medications were relayed to CM then to the healthcare provider. Prescriptions were sent to an affiliated Cano pharmacy who delivered the medications to the patient's home within 24 hours.
- Daily Telehealth data was transmitted in real time from HMOS/ForaCare network to the MDFlow Care Management System for case manager's review and implementation of interventional protocols.

DEMOGRAPHICS: Mean age 78, mean FEV1/FVC = 0.591, Mean Gold Classification* = 2.4

RESULTS

Eight patients (40%) experienced exacerbations which were managed with 1-3 different supportive measures per CM protocols. None of the eight patients who received treatment for exacerbations were admitted. One readmission occurred on day 14 for acute angina and one sudden death occurred at home on day 24. The *TEACH Program* resulted in a 30-day readmission rate of 5%.

CONCLUSION: Telehealth devices provide valuable actionable data points when interfaced with CM and EHR platforms. The interfaced data allowed CM teams to institute interventional changes in clinical management by MAs during HVs. The use of ForaCare Telehealth devices along with alternating days of HVs by a MA who followed prespecified CM protocols, resulted in a 30-day readmission rate of 5%. The 30-day national average readmission rate for Medicare Advantage patients is 13-20%.

Table 1. *TEACH Program* Index admission diagnosis, participation dates, interventions and results.

Patient #	Reason for Index Admission	Date Enrolled	Date Disenrolled	Age	FEV1/FVC	GOLD COPD Classification*	Exacerbations	Type of Exacerbation Support ‡	Readmit
1	Left Knee Replacement	6/8/18	7/8/18	74	0.44	2	No	None	0
2	Syncope	6/9/18	7/9/18	82	0.56	2	No	None	0
3	COPD AE	6/13/18	7/13/18	82	0.65	2	Yes	ABC	0
4	COPD AE	6/21/18	7/21/18	75	0.47	4	Yes	AC	0
5	COPD AE	7/12/18	8/12/18	83	0.72	3	Yes	A	0
6	Aortic Valve	7/19/18	8/18/18	82	0.67	3	No	None	0

	Replacement								
7	COPD AE	7/20/18	8/19/18	82	0.48	3	No	None	0
8	COPD AE	7/31/18	8/13/18	71	0.68	2	No	None	1
9	CHF/COPD	8/13/18	9/12/18	71	0.63	2	No	None	0
10	COPD AE	8/22/18	9/21/18	79	0.50	3	No	None	0
11	COPD AE	9/18/18	10/18/18	79	0.70	2	No	None	0
12	Carotid Angioplasty	9/27/18	10/26/18	82	0.52	2	Yes	AB	0
13	COPD AE	10/3/18	10/27/18	82	0.44	3	Yes	ABC	0
14	COPD AE	10/4/18	11/4/18	82	0.58	2	No	None	0
15	Deep Vein Thrombosis	10/11/18	11/10/18	77	0.65	2	No	None	0
16	Acute Coronary Syndrome	10/29/18	11/28/18	71	0.68	2	Yes	A	0
17	COPD AE	11/7/18	12/6/18	79	0.50	3	Yes	ABC	0
18	COPD AE	11/28/18	12/23/18	66	0.69	2	Yes	A	0
19	Gastroenteritis	12/6/18	1/7/19	85	0.64	2	No	None	0
20	Cough Fever	1/7/19	2/6/19	73	0.64	1	No	None	0

AE: Acute Exacerbation

#8-Readmission for angina pectoris, #13 Expired at home, sudden death

***GOLD Classification:** FEV1 > 80% Predicted = 1 (Mild), 50% ≤ FEV1 < 80% Predicted = 2 (Moderate), 30% ≤ FEV1 < 50% Predicted = 3 (Severe), FEV1 < 30% Predicted = 4 (Very Severe)

‡Type of Exacerbation Support: A=β-agonist treatment, B=Antibiotics, C=Corticosteroids