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**FOR RELEASE**

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**FOR MORE INFORMATION, CONTACT:**

Dacia Morris

dmorris@thoracic.org

ATS Office: 212-315-8620 (until May 11)

Cell Phone: 917-561-6545

Session: A23 Understanding and Reducing COPD Rehospitalizations

Sunday, May 15, 2016, 9 a.m.

Location: Room 3024 (West Building, Level 3), MOSCONE CENTER

**Motivational Interviewing May Reduce COPD Readmissions:**

Seminal study addresses the knowledge gap on interventions that decrease short-term re-hospitalizations and is translatable to other chronic diseases

ATS 2016, SAN FRANCISCO — Motivational interviewing, a goal-oriented, client-centered counseling style for eliciting behavior change used in health coaching, is a feasible intervention that may reduce short-term readmissions for COPD patients. The study, which was presented at the ATS 2016 International Conference, is the first available randomized study to demonstrate the feasibility and effectiveness of the intervention.

The 215 study participants were randomized to either treatment-as-usual (control) or health coaching, which consisted of at least one session in the hospital and one session post-discharge followed by weekly sessions over the phone for three months and monthly thereafter. The total length of follow-up was one year.

“We tested an intervention that primarily aimed to promote patient activation and mindful communication, two critical and perhaps underrated aspects of care that we firmly believe are at the heart of practicing the art of medicine,” said lead author Roberto Benzo, MD, MS, of the Mayo Clinic in Rochester, Minnesota. “This coaching style emphasizes autonomy and choice in what the patient wanted to work on. It is a process that happens *with* a patient; it is not something the coach does to a patient.”

There was a significant reduction in COPD-related readmission among patients who received health coaching. Readmission was reduced by 7.5 percent (absolute risk reduction) in the first month and by 11 percent at 3 and 6 months post-discharge, the level at which reduction rates peaked. Though the researchers are unable to account for the exact reason for the drop-off after

six months, Dr. Benzo noted that there may be some advantage to additional sessions of health coaching to enhance patients' motivation and self-management.

An additional outcome of the research was increased participation in pulmonary rehab in both groups. The increase was higher than had been previously reported - perhaps a result of the level of attention patients received in the study. "Only individuals in the intervention group showed decreased hospitalization suggesting that the mindful attention – not *any* attention – like that received in health coaching may matter; health coaching may motivate people to behaviors like attending pulmonary rehab that translate into the improvement of "hard" outcomes like hospitalizations," Dr. Benzo added.

While still larger studies are needed to further test implementation of health coaching among COPD patients, "this is a seminal study that addresses the knowledge gap on interventions that decrease short-term re-hospitalizations and is translatable to other chronic diseases," Dr. Benzo concluded.

**Contact for study:** R. Benzo, MD, MSc, [benzo.roberto@mayo.edu](mailto:benzo.roberto@mayo.edu)

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## Abstract 10972

### Health Coaching and COPD Re-Hospitalization: A Randomized Study

R. Benzo<sup>1</sup>, K. Vickers Douglas<sup>1</sup>, P.J. Novotny<sup>1</sup>, S. Tucker<sup>2</sup>, J. Hoult<sup>1</sup>, P. Neuenfeldt<sup>3</sup>, J.E. Connett<sup>4</sup>, K. Lorig<sup>5</sup>, C. McEvoy<sup>3</sup>

<sup>1</sup>Mayo Clinic - Rochester, MN/US, <sup>2</sup>University of Iowa Hospitals & Clinics - Iowa City, IA/US,

<sup>3</sup>HealthPartners Institute for Education and Research - St. Paul, MN/US, <sup>4</sup>University of Minnesota - Minneapolis, MN/US, <sup>5</sup>Stanford Patient Education Research Center - Palo Alto, CA/US

#### Abstract Body

**Rationale:** Hospital readmission in Chronic Obstructive Pulmonary Disease (COPD) has attracted substantial attention due to the burden to patients and the Health Care system. There is a knowledge gap on approaches to reduce readmissions among patients with COPD. **Objective:** Determine the effect of comprehensive Health Coaching, on the rate of COPD readmissions.

**Methods:** Randomized, parallel-group study conducted from September 2009-August 2014.

**Intervention** Motivational Interviewing based Health Coaching plus a written action plan for exacerbations and a brief exercise advice versus usual care. **Main Outcomes and Measures** Rate of COPD related re-hospitalization in 12 months and the composite outcome of death or a COPD related hospitalization.

**Results:** 215 hospitalized for a COPD exacerbation were randomized (planned 214). The mean age was –mean (SD)- 68(9) years; 46% were male. At baseline, the forced expiratory volume in

the first second %predicted was 40(17), Dyspnea by the Medical Research Council scale was 2.5(1) -scale 0-4-, 35% used permanent oxygen, 55% had at least one hospitalization in the past year and their daily steps were 2618(2500).

The primary outcome, as funded, rate of COPD related re-hospitalization was reduced (absolute risk reduction ARR) in the health coaching by 7.5% p=0.01, 11.0% p=0.02, 11.6% p=0.03, 11.4% p=0.05 and 5.4% 0.24 at 1, 3, 6, 9,and 12 months compared to the control group (table 1). The composite outcome of death or a COPD related hospitalization was reduced in the health coaching by 5.7% p=0.09, 10.8% p=0.03, 12.0% p=0.03, 10.2% p=0.08 and 5.0% p=0.27 at 1, 3, 6, 9,and 12 months compared to the control group (absolute reduction ARR).

The missing value rate for the primary outcome was 0.4% (1 patient). Disease specific quality of life improved significantly at 6 and 12 months: Chronic Respiratory Questionnaire (CRQ) Emotional  $\Delta$ 6Month-baseline: 0.10 (1.0) control, 0.33(0.9) intervention p=0.004. CRQ Physical  $\Delta$ 6Month-baseline: -0.01 (1.0) control, 0.50(1.0) intervention p=0.03. CRQ Emotional  $\Delta$ 12Month-baseline: 0.15 (1.0) control, 0.43(1.0) intervention p=0.05. CRQ Physical  $\Delta$ 12Month-baseline: -0.04 (1.0) control, 0.27(1.0) intervention p=0.01. There were no differences in the physical activity measured at any time points between groups. The intervention promoted a higher attendance to Pulmonary Rehabilitation after the hospitalization compared to the control group (table1)

**Conclusions:** Comprehensive Health Coaching represents a feasible and effective intervention to reduce COPD re hospitalizations. This is the first effective report of an effective intervention to decrease 30-day and 3month readmissions tested in a large randomized study.

Primary and Secondary outcomes					
Characteristic	Control (n=107)	Intervention (n=108)	ARR %	NNT	P Value
<i>Primary Outcomes (%)</i>					
Confirmed* COPD related Hospitalization					
1 month After Discharge (AD)	9.4	1.9	7.5	13	0.0174
3 months AD	20.4	9.4	11.0	9	0.0280
6 months AD	27.7	15.4	11.6	8	0.0315
9 months AD	32.7	20.6	11.4		0.0514
12 months AD	36.0	28.4	5.2		0.2496
Death or COPD related Hospitalization					
1 month AD	9.4	3.7	5.7		0.0901
3 months AD	21.7	11.1	10.8		0.0363
6 months AD	31.1	18.5	12.0		0.0326
9 months AD	35.8	25.0	10.2		0.0844
12 months AD	39.6	34.2	5.0		0.2715

<i>Secondary Outcomes, n (%)</i>					
Died in First 12 Months	12 (11.3%)	10 (9.3%)			0.620
All Cause Hospitalization					
Within 1 Month	12 (11.3%)	5 (4.6%)			0.070
Within 3 Months	27 (25.5%)	15 (13.9%)	12	8	0.033
Within 6 Months	40 (37.7%)	28 (25.9%)			0.064
Within 9 Months	47 (44.3%)	38 (35.2%)			0.171
Within 12 Months	53 (50.0%)	44 (40.7%)			0.174
Attending PR in first 3 month after discharge	29 (33%)	46 (50%)			0.017
Attending PR anytime in first 12 months after discharge	40 (43%)	53 (57%)			0.056
Patient reported Prednisone/Antibiotic Use					
Baseline to Month 3	40 (46.5%)	51 (56.7%)			0.178
Month 3 to Month 6	37 (44.0%)	46 (51.1%)			0.351
Month 6 to Month 9	35 (43.2%)	49 (57.6%)			0.063
Month 9 to Month12	34 (43.0%)	54 (65.9%)			0.004
Any Use in First 12 Months	64 (68.8%)	83 (87.4%)			0.002