

## Background

- Chronic obstructive pulmonary disease (COPD) is the 4th leading cause of death in the US
- A national survey of 784 primary care physicians in 2007 demonstrated the need for additional COPD education. In this sample of primary care physicians, only 25% of primary care physicians use COPD guidelines in making treatment decisions. Physicians who use COPD guidelines are more likely to:
  - Order spirometry for subtle respiratory symptoms
  - Initiate therapy for mild symptoms
  - Choose long-acting bronchodilators for persistent dyspnea<sup>1</sup>
- Primary care physicians provide care for the majority of patients with mild-to-moderate chronic obstructive pulmonary disease (COPD).

<sup>1</sup>Foster JA et al. Enhancing COPD management in primary care settings. Medscape General Medicine 2007; 9(3):24.

## Purpose

- The purpose of this study was to assess the patient health impact of a series of online CME COPD activities designed for physicians. Specifically, to examine the differences in COPD attitudes and health status for patients of physicians who participated in the online CME activities compared to patients of similar physicians who did not participate.

## Study Design

- A controlled trial using a design where patients are nested with their physicians was conducted to determine the patient impact of physician participation in online COPD activities.
- U.S. primary care physicians who participated in 3 online COPD activities were recruited to participate in a follow-up evaluation study. A representative control group was also recruited.
- Power calculations determined that a sample of at least 50 participating physicians and 8 each or 400 of their patients, as well as 50 nonparticipating physicians and 8 each or 400 of their patients would be needed to detect significant differences between the two groups.
- A patient survey was developed to assess patient perceptions of symptom control, adherence to the prescribed medical regimen and knowledge of COPD and its treatment.
- Physicians were asked to identify at least 8 patients diagnosed with COPD and ask them to complete the survey and return it by mail.

## Physician Educational Intervention

- Three online CME activities were developed to address gaps in physician performance related to the diagnosis and treatment of COPD. These activities included:

- An update on the diagnosis of COPD and asthma
- Long-term management of COPD
- Which COPD treatment is right for my patient?

## Study Endpoints and Analyses

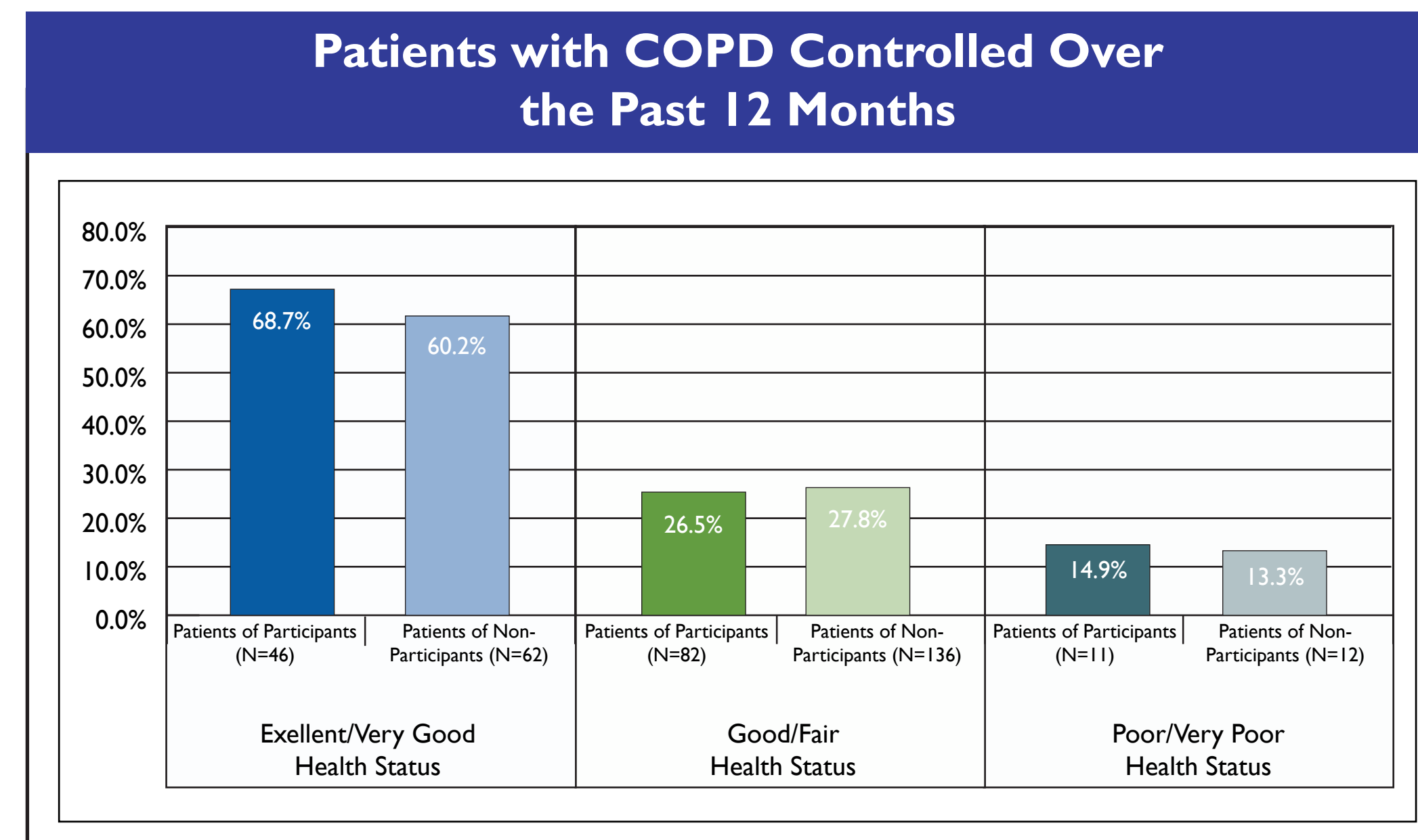
- The primary study endpoint was defined as
  - Patient perceptions that COPD was completely controlled
- Other measures included:
  - Patient perceptions that they followed their physicians' advice, and they were well informed about COPD and COPD treatment
- Chi square tests and probalistic cluster analysis were used to test for differences between the patient groups nested with participant physicians and non-participant physicians.

## Preliminary Results

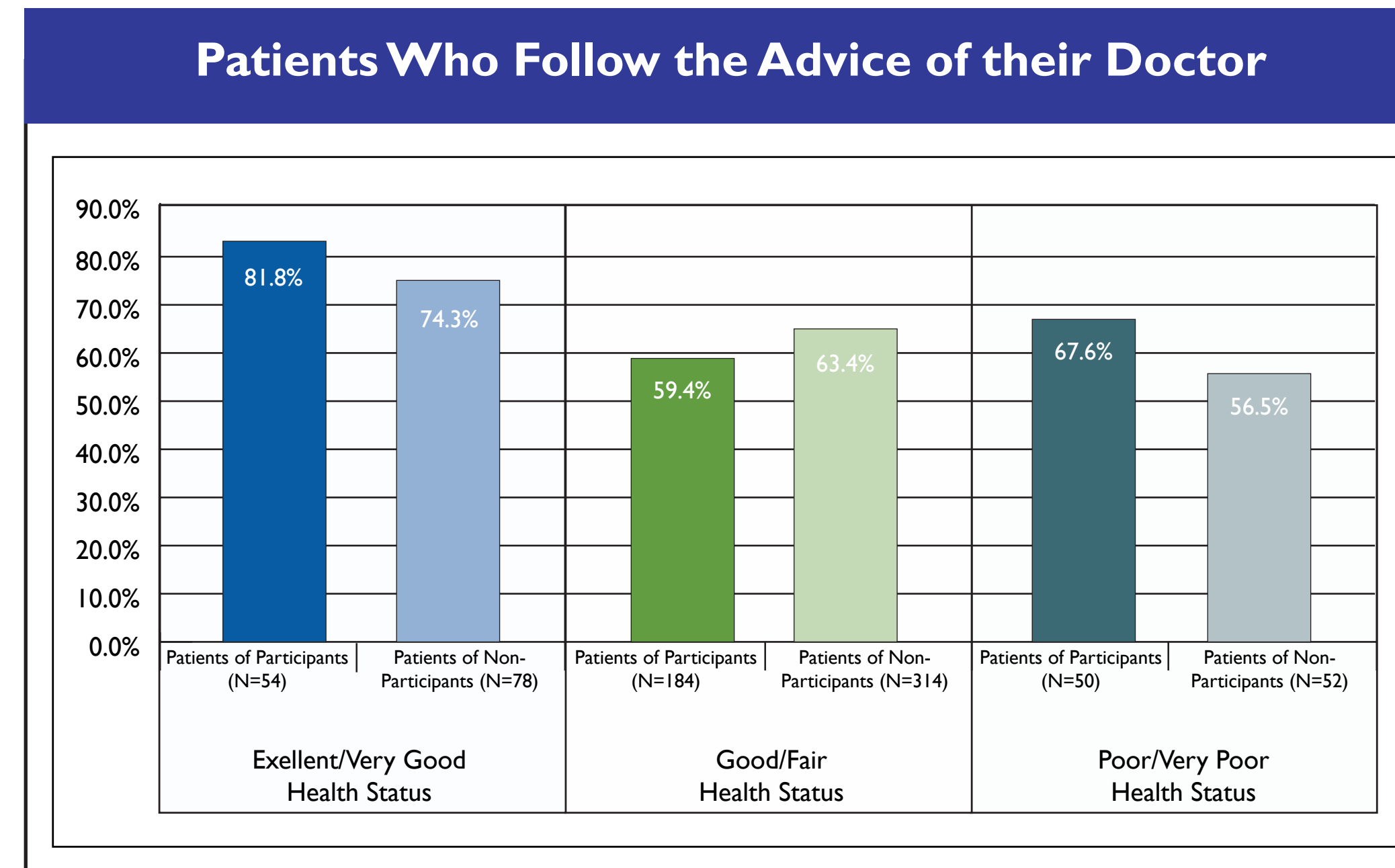
- Physicians
  - 67 physicians participating in the online education were recruited; patients from 57 of their offices returned surveys
  - 462 of their patients returned surveys
  - 108 physicians who did not participate in online education were recruited; patients from 86 of their offices returned surveys
  - 739 of their patients returned surveys
- Three of four enrolled physicians were general internists; the remainder were family practitioners; they averaged 16 years in practice. They saw an average of 20 COPD patients each week; 70% had spirometry available in their office.

Patient Demographics		
	Patients of Physicians Participating in Online CME	Patients of Non-Participating Physicians
	N=462	N=739
Age (mean)	65.1	67.0
% Female	55%	58.7%
% Smoker	45.2%	42.8%
Years with COPD (mean)	8.07	9.13
% Mild	25.8%	24.2%
% Completely Controlled	30.7%	30.6%

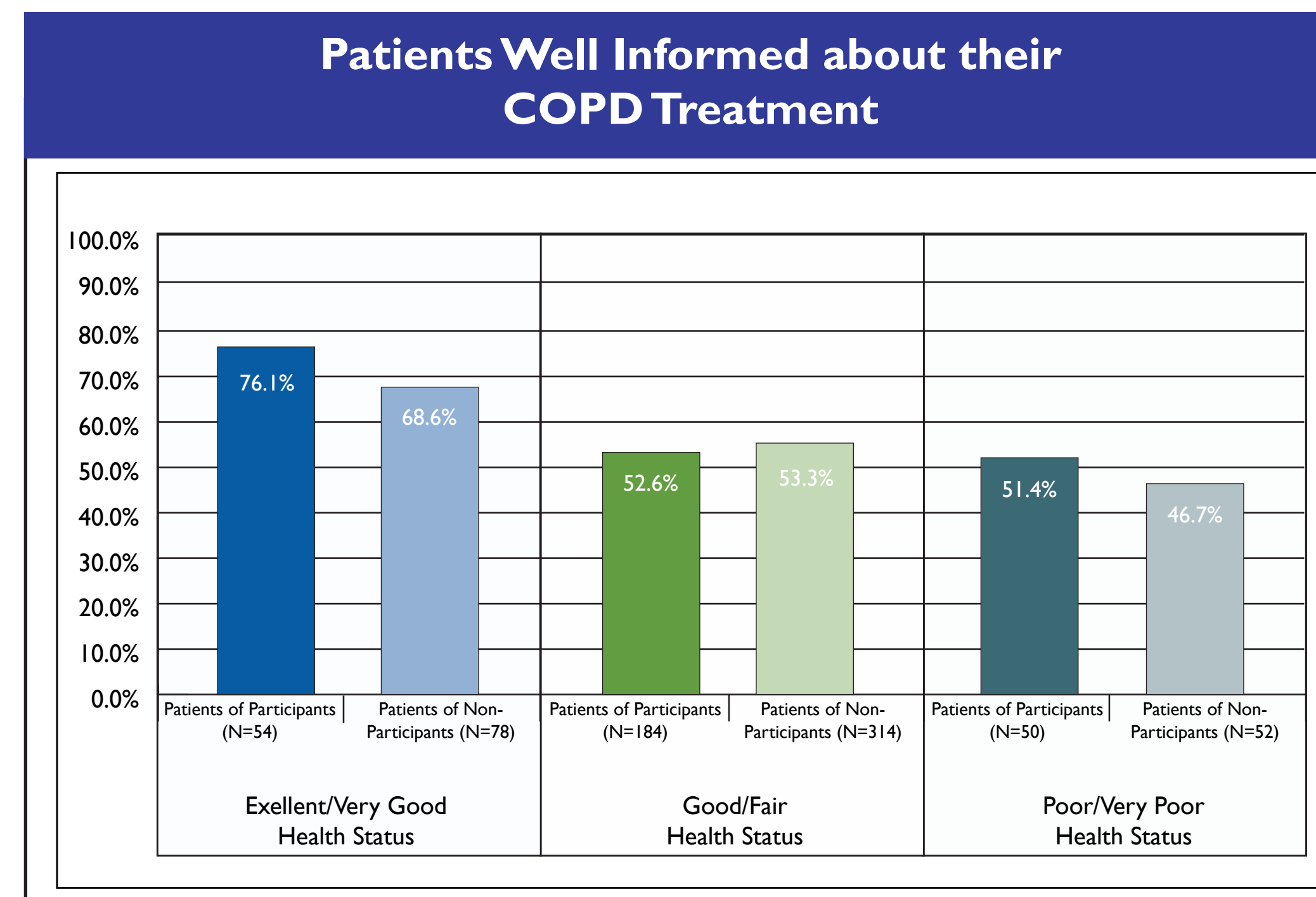
Physician Participant's Patients with better health status had better controlled COPD.



Patients seen by physicians in online CME were more likely to report that they follow the advice of their Doctor.



Patients seen by physicians participating in online CME were more likely to be well informed about their COPD treatment.



Patients seen by physicians who participated in online CME were more likely to be better informed and better controlled.

Cluster Analysis of Patients with COPD				
	COPD More Severe More Controlled N=211	COPD Less Severe More Controlled N=538	COPD More Severe Less Controlled N=138	COPD Less Severe Less Controlled N=221
Health Status (1-6) (mean)	2.5	4.1	2.7	3.6
Years of COPD (mean)	9.5	7.8	9.0	6.6
COPD Less Severe	13.8%	76.3%	8.8%	91.3%
COPD Controlled	58.0%	82.4%	22.5%	43.2%
Informed About COPD	96.3%	99.9%	45.9%	31.5%
Informed About COPD Treatment	94.8%	85.0%	9.4%	18.1%
Physician Participated in Online CME	43.2%	40.0%	39.1%	36.7%

## Discussion

- Preliminary results suggest physician participation in online CME is associated with improved:
  - Health Status
  - Control of COPD
  - Understanding of COPD
  - Understanding of COPD treatment recommendations
- Key characteristics of online CME including searchability, availability and credibility of medical information may contribute to differences in patient health between patients of online CME participants and patients of non-participating physicians.
- Development of additional physician-patient communication tools and direct to patient education efforts may lead to further improvements in COPD patients' health.

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For more information about this study please contact:  
 Marc DesLauriers, Ph.D.  
 Outcomes, Inc.  
 Email: marc\_deslauriers@ceoutcomes.com  
 Phone: 205.259.1500