



Reliant  
Medical Group

Atrius Health

**Best Practices in  
Managing Patients With  
Chronic Obstructive  
Pulmonary Disease  
(COPD)**

# Reliant Medical Group Case Study

## Profile

Reliant Medical Group (formerly Fallon Clinic) was founded in 1929 by John Fallon, MD, and was the first group medical practice established in central Massachusetts. The name of the organization was changed to Reliant Medical Group in October 2011. Reliant Medical Group is part of Atrius Health, an alliance of 6 nonprofit, community-based physician groups that include Harvard Vanguard Medical Associates, Granite Medical Group, Dedham Medical Associates, Southboro Medical Group, and South Shore Medical Center.

Headquartered in Worcester, MA and with 20 locations, Reliant Medical Group has approximately 300 physicians who provide a full range of services in primary care and more than 30 specialties, from podiatry to vascular surgery. Patient services include bone density testing, MRI exams, urgent care, diabetes, nutrition counseling, and many more.

Currently, the number of active patients served is 229,622. Approximately 75% of the group's revenue comes from capitated plans, including Medicare, Medicaid, and commercial insurers and will exceed 80% in 2014.

## Program Summary

Reliant's COPD management program evolved over more than a decade to its current form, a hybrid model that combines face-to-face interactions with patients and outbound calling. The program, staffed by 2 nurse care managers, 5 pulmonologists, and a nurse practitioner, emphasizes patient education, close monitoring, and 24-hour availability of medical attention. The overall goal of Reliant is to improve quality of life while reducing costs.

## Program Goals and Success Measures

Several factors influenced the creation of the COPD management program. Because a large percentage of its revenues are derived from prepaid capitation, Reliant had a strong incentive to control costs. In addition, its patient population is skewed toward the elderly, a segment of the population with a higher incidence of COPD. The change in age-adjusted death rates for COPD in the United States from 1970 to 2002 showed an increase of 103%. This was the only leading cause of death that had a significant increase in mortality for the entire time period.<sup>1</sup> In conjunction with increasing mortality rates, utilization rates for inpatient care among patients with COPD were very high.<sup>2,3</sup> These trends prompted Reliant to create a formal disease management program in conjunction with its primary insurance partner, Fallon Community Health Plan, in 1998.

## Goals and objectives

The overall vision for the program is to provide disease management services from the local clinical site. With this approach, the provider knows the patient and his or her resources and challenges, and can build trust that drives compliance. Reliant believes that the fewer layers of care, the more effective and cost-efficient the program can be.

Specific goals are to

- Improve quality of life for patients with symptomatic COPD by improving compliance with medical therapy, increasing exercise tolerance, promoting adherence to balanced nutrition, and addressing psychosocial issues and concerns

- Improve both patient and physician satisfaction with the care process
- Reduce avoidable resource utilization by managing risk factors and decreasing frequency and severity of exacerbations

### Clinical standards

Reliant follows the guidelines of the Global Initiative for Chronic Obstructive Lung Disease (GOLD), which was updated in 2013.<sup>4</sup> The nurse managers use this tool extensively. In addition, Reliant uses National Committee for Quality Assurance (NCQA) standards for documentation of spirometry of patients with suspected COPD.<sup>5</sup>

### Data collection and measurement

Reliant uses Epic for its electronic medical record (EMR) system to collect data in the following categories (data below are from 2012):

- Patients with documented spirometry (99.5%)
- Patients who are not using tobacco products (85.5%)
- Patients who have been administered pneumococcal and flu vaccines (97.2% and 88.5%, respectively)
- Patients with advance directives (76.1%)

### Population Identification

Initial attempts to use claims data to identify patients with COPD demonstrated that patients were often misdiagnosed or were not stratified according to illness severity. Therefore, Reliant uses provider referral as the avenue for program enrollment. Providers include employed hospitalists, pulmonologists, adult primary care providers (PCPs), care managers, and staff at the organization's urgent care centers. Patients are enrolled after verification of COPD and classification of severity level.

### Demographics

- Enrolled patients n=744
- Gender 53.6% female; 46.4% male
- Percentage >65 years 77.4%

### COPD registry

All enrolled patients are part of a registry that is embedded in the EMR. The registry is linked to a database that tracks the use of important clinical services such as skilled nursing facilities, inpatient rehabilitation, and emergency department (ED) and acute hospital services. The Epic EMR allows the PCP to easily verify if a patient is enrolled in the program.

### Disease severity

- Mild: FEV<sub>1</sub> >80% of predicted 3.7%
- Moderate: FEV<sub>1</sub> 50% to 80% 34.6%
- Severe: FEV<sub>1</sub> 30% to 49% 41.1%
- Very severe: FEV<sub>1</sub> <30% 20.6%

FEV<sub>1</sub>=forced expiratory volume in 1 second.

## Intervention

### Background

The core COPD program team is composed of 2 nurse managers, 5 pulmonologists, and a nurse practitioner working together to ensure a quick response to patients' needs. The nurses see patients in an outpatient provider's office, usually in conjunction with physician visits, and also provide care management on a regular basis via outbound phone calls. During those calls, the medication regimen is reviewed and re-enforced, as well as oxygen use, physical activity, food intake, social issues, and living conditions. Signs and symptoms of an exacerbation and measures to be taken when symptoms appear are also discussed.

In addition, because the pulmonary department is located at Reliant's flagship hospital, the nurse managers visit the patients who are hospitalized. These visits serve as patient education opportunities and provide additional face-to-face interactions with the patient and his or her family. The COPD nurse managers provide counseling and support for patients and families at the end of life as well. Patients are encouraged to fill out their healthcare proxies and discuss their code status on enrollment. Every patient contact is documented in the EMR.

Patients receive a personalized pulmonary action plan created by the pulmonologist and the nurse managers in conjunction with the patient. The action plan is printed for the patient to use at home. This care plan includes a current medication list and instructions for the optimal use of each medication. Instructions include advice regarding initiation of medications for treatment of exacerbations and early reporting of exacerbation symptoms. The COPD nurse managers are available to take incoming calls, and patients are strongly encouraged to call with any signs and symptoms of an exacerbation, questions regarding medications, equipment, side effects, financial or family difficulties, and medication refills.

Nurse managers can refer patients to pulmonary rehabilitation to improve muscle strength and exercise tolerance and to smoking cessation programs at Reliant's primary care sites. The nurse managers work closely with the Visiting Nurse Association (VNA) to provide home care and with durable medical equipment providers. Patients with family or financial difficulties are referred to social workers who assist them with applications for subsidized state coverage through Commonwealth Care. End-of-life issues are proactively addressed with patients and their families, and advance directives are documented in the registry and EMR. At the end stage, patients are often referred for hospice services.

A treatment room located at the pulmonary clinic provides a venue for evaluation and management of patients with exacerbations. Patients are seen by the physicians, nurse practitioners, and nurse managers who have been providing outpatient care for their COPD. Intravenous steroids, antibiotics, and diuretics, as well as nebulized bronchodilators, can be administered. Patients can be monitored for up to 8 hours, and subsequent visits can be arranged. Use of treatment room services helps to minimize hospitalizations and avoid trips to the ED.

An important aspect of the program is a quarterly newsletter, *A Breath of Fresh Air*. Medical professionals provide up-to-date information about COPD and other related healthcare issues, such as health insurance. Patients are encouraged to share their thoughts and experiences with others via the newsletter. Regular meetings are held between the physician champion and the care managers to monitor and modify the program.

### Program modifications

In 2008, Reliant launched an initiative to increase the frequency of spirometry testing for patients newly diagnosed with COPD, targeting the Healthcare Effectiveness Data and Information Set specification cohort. This effort revealed that a number of patients were inappropriately diagnosed

as having COPD. This finding helped explain the difficulties Reliant experienced with using claims data as a source for program referrals. The results were shared with the PCPs and an ongoing effort is being made to encourage PCPs to order a spirometry test for every patient suspected of having COPD. Between May 5, 2011, and May 31, 2013, 71% of patients who had a diagnosis of COPD clinic-wide had a pulmonary function test.

### **Workflow and staffing changes**

Funding for nurse managers is partly provided through a contractual arrangement with Reliant's major payer, Fallon Community Health Plan, with which the group shares risk via a global capitation contract. The program required hiring 2 nurse managers in addition to the regular staff at the pulmonary clinic. The program is integrated into primary care through the EMR.

### **Information technology**

Incorporating Epic enables superior on-time communication among providers within the network.

### **Leadership Involvement and Support**

Reliant's medical director for quality and patient safety has been the executive sponsor of the COPD program since its inception, and the pulmonary division chief has been the clinical champion. The pulmonary division chief participated in an initial proof of concept (PoC) study with a national provider of COPD management services; the PoC's success helped confirm the feasibility of the current program. In addition, the department chair for hospital medicine has become an important leader in the COPD program, and many referrals to the program come from Reliant's hospitalists, who manage all inpatients.

There is a hospital risk pool financial incentive for PCPs and pulmonologists. PCPs are accountable for inpatient services utilization by their call group as compared with risk-adjusted targets, and pulmonologists are accountable for their "bucket" of diagnosis-related groups, including COPD. In this way, both groups can be rewarded for more efficient resource utilization.

### **Results**

Since 2006, when EMR data became available for analysis through Epic, Reliant has achieved the following results for its population of patients with COPD:

- In a questionnaire completed by 18 PCPs and 4 pulmonologists in June 2013, 96% stated they would refer their patients to the program; 94% of the PCPs reported that the impact of the care manager on the quality of the patient's care was excellent, very good, or good
- In a questionnaire completed in June 2013 by 43% of the patients who were sent the survey, 94% indicated the program was excellent and needed no improvement. Via a questionnaire, 100% of pulmonologists indicated that the care manager's collaboration in integrating their treatment plan with the needs and concerns of the patient was excellent
- In 2012, the gradual decrease in ED visits continued, but a spike in hospitalizations was noted. The severe flu season in 2012 and poor efficacy of the flu vaccine may have led to increased hospitalizations
- Medication costs did not include Medicare Part D, which account for a large percentage of patients, and thus meaningful numbers are not available. The non-Medicare Part D medication costs, however, show a continued increase
- Total medical expenses are not available

## Lessons Learned

### Challenges

A large percentage of Reliant's patients with COPD are from low-income households and are unable to pay for medications or doctor visits. Others lack appropriate support from family or friends and, in some cases, have to support other family members. These stressors add to the challenge of coping with a progressive and debilitating disease. It has been well documented that COPD disproportionately affects the lower socioeconomic population.<sup>6</sup>

Smoking cessation is often a major challenge, and end-of-life issues are often difficult to address. The high unemployment rate and shrinking healthcare benefits make it difficult, if not impossible, for some patients to afford medications and tests.

### Lessons

A good program evolves over time. The program was started with outbound calls at regular intervals and evolved into what it is today. A program must be adapted to the population, local medical structure, and provider, hospital, and insurance company relationships. One size does not fit all. Patients learn to manage their disease properly, reduce risk factors, and call with any early warning symptoms with the assistance of frequent interactions with the care managers and the rest of the pulmonary team, and the use of resources (eg, pulmonary rehabilitation, social work services, VNA). This has led to significantly decreased hospitalizations, ED visits, and improved quality of life for patients.

### Next steps

Plans are in the works to decrease hospitalizations through collaboration with Reliant's flagship hospital. A protocol to assist reaching that goal is now in the process of development. The group has also started documenting referrals to hospice and patients' place of expiration to track that trend. The goal is to increase use of hospice care at end-of-life and decrease the incidence of patients expiring in the hospital.

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