Understanding Chronic Obstructive Pulmonary Disease (COPD): Part II

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Chronic obstructive pulmonary disease (COPD) is one of the most complex chronic illnesses in the world and one of the most undertreated. It has one of the lowest levels of patient knowledge of all chronic diseases.

According to a study performed by the National Institutes of Health in 2009 polling 1,003 COPD patients, only 10% of those patients knew their forced expiratory volume (FEV1), but 79% knew their blood pressure reading. FEV1 is the maximal amount of air a person can forcefully exhale in one second and is as important to a COPD patient as blood pressure is for a hypertensive patient.

Only one in four COPD patients believes they were well informed about their disease and treatment options. COPD is the only major fatal illness in which the age-adjusted mortality rate is increasing, growing by 283% between 1979 and 2007, compared with coronary heart disease and stroke, which have decreased by 70% and 73% respectively.

To make managing COPD even more complicated, a large number of patients also have comorbidities. The most prevalent comorbid diagnoses are hypertension (55%), heart disease (52%), depression (37%) and diabetes (25%). Often, patients with COPD have multiple physicians caring for them, making it difficult to coordinate care.

In 2000, the Committee on Manpower for Pulmonary and Critical Care Societies first identified a shortage of pulmonary and critical care specialists. Their projections showed that by 2020, the critical care and pulmonary medicine workforce would fall short of the nation’s needs by 22% and 35%, respectively. Due to this shortage of pulmonary/critical care physicians, management of the COPD population often rests with general practitioners. More than 60% of physicians admittedly fail to provide their patients with basic disease education, nutritional guidance and home service coordination.

COPD Treatments

Treatment for COPD can come in the form of medication, equipment, breathing techniques, nutritional guidance and pulmonary rehabilitation, among others. None of these options reverses the disease but rather reverses or reduces the symptoms associated with the disease. Without proper education and implementation, the success rate of any type of treatment for COPD is low.

Medications and Vaccinations

Inhaled bronchodilators have been shown to alleviate symptoms, decrease exacerbations, and, for a period of time, improve health status. Short-acting bronchodilators such as Albuterol or Xopenex, also known as “rescue inhalers,” are recommended on an as-needed basis for acute symptoms. As the disease progresses and symptoms become more persistent, long-acting bronchodilators, or “maintenance inhalers,” such as Spiriva or Symbicort, may be required. Choosing between long-acting and short-acting

What is a Bronchodilator?

A bronchodilator is a common medication used in the treatment of COPD. It works by relaxing and expanding the airways making it easier to breathe.

Bronchodilators are the preferred method of treatment for relief of acute symptoms of COPD and also help to prevent spasms of the lungs due to exercise.

Bronchodilators help to relieve bronchospasms and reduce airway obstruction. In doing so, more oxygen is distributed throughout the lungs and more of the waste product, CO2, is removed, making it easier to breathe.

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bronchodilators may depend on individual response. Using a combination of bronchodilators, rather than increasing the dose of a single bronchodilator, can improve their therapeutic effectiveness and decrease the risk of side effects.

Annual influenza vaccines can reduce the risk of serious illness, exacerbation and death in patients diagnosed with COPD and are recommended for elderly COPD patients. A pneumococcal vaccine is also recommended in order to prevent pneumonia.

**Oxygen & Medical Devices**

COPD patients (Stage 3 and/or 4) are commonly treated with long-term oxygen therapy. It is used when patients have low levels of oxygen in their blood (hypoxia) and is given both in the hospital and at home. Several studies show that using oxygen at home for more than 15 hours a day increases quality of life and helps people live longer.

The use of noninvasive ventilation (NIV) for Stage 3 and 4 COPD patients continues to command a breadth of promising research. A number of studies have demonstrated NIV’s ability to increase one-year survival rates by 25%, two-year survival rates by 42% and to improve patient mobility and physical stamina. Furthermore, when combined with long-term oxygen therapy, the use of NIV in the home has demonstrated cost-savings upwards of 35% due to reduced hospitalizations and reduced length of stay.

**Education**

Patient education has demonstrated the greatest area of opportunity toward effective COPD management. Health education for COPD patients includes knowledge about the disease, medication use/compliance, recognition and treatment of exacerbations and complications, and strategies for minimizing breathlessness. The greatest improvements in patient care and cost containment stem from effective education initiatives.

For the most part, COPD tends to be treated like an acute problem in what is often referred to as “the failed cycle of care.” Patients have an exacerbation or flare up, go to the emergency room, get treated with breathing treatments, steroids, sometimes BiPAP, or, in severe cases, mechanical ventilation via intubation or tracheotomy. Once the exacerbation has diminished, they return home ill-prepared for the next exacerbation.

Research and innovations have developed that identify a variety of therapies and treatments proven to improve quality of life, reduce disability, lower mortality and drive down cost. However, a complex but fractured health care system has failed to adopt and implement many of these evidence-based solutions. In 2001, the Institute of Medicine released a report concluding that the time frame from the point of research to the widespread diffusion and adoption of the results is at least 17 years, a timeframe deemed by many to be unacceptable.

Like other chronic conditions the solution starts with widespread knowledge and understanding of the disease and treatment options. The next step
is to engage the patients and ensure there is mutual accountability. Simply put, all parties involved in the care and well-being of the patient, including the patient, must take responsibility and must be held accountable for his or her action. Unfortunately, there is no cure for COPD, but it is a very manageable disease with patient involvement.

According to Aristotle, “The whole is greater than the sum of its parts.” Likewise, traditional treatments for COPD are fragmented. By combining all of the treatment options into an integrated disease management program, studies show outcomes improve greatly.

- 57% reduction in hospital emergency admissions
- 59% reduction in hospital admissions
- 39% reduction in unscheduled general practitioner visits
- 73% reduction in general practitioner visits
- 20% increased medication adherence
- 10% improved pulmonary gas exchange

The biggest challenge with integrated disease management programs is re-imbursement; there is no standardized reimbursement for disease management in homecare. Because of this, the burden has been largely placed on the insurance companies to adopt programs for their members. One of many problems with this is lack of standardization.

Comprehensive Respiratory Outcomes Management

Comprehensive Respiratory Outcomes Management (CROM) is Alana HealthCare’s proprietary disease management program for respiratory patients, designed to break the cycle of failed care by rehabilitating recently hospitalized patients and preventing readmissions and, where possible, preventing hospitalizations altogether.

CROM is comprised of two major components — Outcomes Management and Respiratory Therapy Management — both integrated using education, patient engagement and high-touch clinical care through which new technology creates a health care system that is more comprehensive, better coordinated, and empowers patients to take control of their own health status.

CROM utilizes experienced respiratory therapists to work with patients and their providers in creating a new culture of patient care through therapy management, education and outcomes. Each respiratory therapist manages a small number of patients and spends a minimum of 12 hours in the patient’s home over several visits during the first month alone. During this time the therapist and patient build a foundation for education, shared responsibility and therapy adherence.

Following the first month of participation, respiratory therapists continue to stay in close contact with the patient with frequent scheduled visits. In addition to planned in-home visits, patients have 24/7 access to respiratory therapists. Additionally, because CROM is designed to work with patients in their homes, the program is highly mobile and not restricted by geographic limitations.

Education, coordination, collaboration and quality care: None of these terms seems too complicated, but implementing such seemingly easy tasks in the care of COPD has proven to be difficult. In recent years the first signs of reimbursement for quality and proactive care, instead of quantity and reactive care, have surfaced. One can only hope adoption and widespread diffusion of COPD disease management does not take the average 17 years.

Resources:
Budweiser et al. (2007, September). Center for Pneumology, Hospital Donaustauf, Germany. Internal Journal of Clinical Practice, 61(9), 1516-1522.