# May Is Clean Air Month: Spread the Word About Air Pollution and Health

Summary: Clean Air Month in May is a nationwide campaign to encourage people to preserve the environment and make the world a more sustainable, healthy planet.



ir pollution has evolved into a global threat that is impossible to evade. The World Health Organization (WHO) defines air pollution as the "contamination of the indoor or outdoor environment by any chemical, physical, or biological agent that modifies the natural characteristics of the atmosphere." Ninety-nine percent of the global population breathes in polluted air daily, according to the World Economic Forum (WEF). The United States Environmental Protection Agency (USEPA) notes that the U.S. emitted a staggering 67 million tons of pollution into the air in 2021. As sustained exposure to unhealthy air is linked to chronic respiratory

# 5 Reasons to Worry about Air Pollution and Health

Air pollution is affecting human health and the<br/>planet in many ways and the future is at stake<br/>unless we act on it now.ical production, vehicle emissions, by-products of<br/>manufacturing and power generation, and natural<br/>gas to heat homes are common sources of air pol-<br/>lution.

Here are the key reasons why we should care about air pollution:

- Air pollution has been identified as the fourth-largest threat to human health, after high blood pressure, dietary risks, and smoking (WEF).
- Breathing polluted air increases the risk of many health conditions such as respiratory infections, cardiovascular diseases, stroke, chronic lung disease, and lung cancer.
- Every year, air pollution accounts for around 7 million premature deaths—a staggering 800 people every hour or 13 every minute, according to WHO.
- 4. 600,000 children die prematurely every year from polluted air.
- The economic and health costs of air pollution due to fossil fuels cost the U.S. \$2.9 trillion in 2018 (Center for Research on Energy and Clean Air).

# Factors Impacting Outdoor and Indoor Air Quality

The main source of air pollution is energy use and production. Fossil fuel burning, fumes from chem-

diseases such as asthma, chronic obstructive pulmonary disease (COPD), and lung cancer, air pollution is called a silent killer.

With toxic contaminants being released into the air all the time, clean air has become a rare commodity. May is observed as Clean Air Month in the United States to encourage people to preserve our environment, and make the world a more sustainable, livable, and healthy planet for future generations. Taking proactive steps to fight air pollution outdoors, at home, in school, and at work is critical to prevent or reduce risk of various respiratory conditions, especially in children and older adults.

> Indoor air quality in homes is affected by factors such as excess moisture, building materials, furnishings, and products like air fresheners, malfunctioning appliances, smoking, cleaning, poor ventilation, etc. Factors that compromise indoor air quality in workplaces include improper or inadequately maintained heating and ventilation systems, contamination by construction materials, glues, fiberglass, particle boards, silica and wood dust, paints, vehicle spray paints, welding fumes, chemicals, etc. These elements release solid and liquid particles and certain gases that remain suspended in the air. Common air pollutants include carbon monoxide, lead, nitrogen oxides, ozone, particulate matter, and sulfur dioxide.

The effects of air pollution on human health will vary depending on the exposure type, (type of pollutant), and level and length of exposure. It will also depend on a person's specific health risks and the combined impacts of multiple pollutants or stressors. For instance, people with breathing issues can experience a sudden onset of symptoms when exposed to higher pollution on busy roads and from factories, power plants, and waste incinerators.

# Asthma and COPD – Two Common Air Pollution-Related Respiratory Diseases

Clean air is essential for healthy lungs. Most air pollutants cause the muscles in airways to contract, narrowing the airway (airway hyperreactivity). Asthma and COPD are two common chronic respiratory diseases caused by exposure to elevated levels of air pollution. These conditions can trigger cough, breathing difficulties, and other symptoms. Lung disease caused by breathing in polluted air increases the risk of heart and blood vessel disorders and lung cancer.

Neither asthma nor chronic obstructive pulmonary disease can be cured, but treatment can reduce symptoms, prevent deterioration of health, and improve quality of life.

# Treatment for these air-pollution-related illnesses focuses on:

- Relieving the symptoms
- Improving breathing function
- Avoiding triggers

# Asthma

Millions of Americans have asthma, a chronic condition that often starts during childhood. This chronic condition causes inflammation and swelling in the lungs, which narrows the airways and restricts air supply. Severe cases of asthma can result in "airway remodeling," which is permanent changes to the walls of the airways, which in turn, can result in scarring of the lungs (www.healthcentral.com).

The common symptoms of asthma are shortness of breath, chest tightness or pain, and wheezing and coughing attacks triggered by exposure to specific environmental factors. Causes of asthma include inherited genes, viral respiratory tract infections, chronic inflammation of the tissues in the sinuses, smoking tobacco, obesity, and occupational exposures.

Diagnosing asthma usually involves a physical exam, medical history, lung function tests including spirometry (pulmonary function testing), peak expiratory flow (PEF) tests, fractional exhaled nitric oxide (FeNO) tests, and allergy skin or blood tests.

#### **Treatments for Asthma**

- Inhaled medications Inhalers work fast to open the airways, and long-term control medications taken daily help relieve symptoms and prevent narrowing of the airways.
- Immunotherapy Administration of relevant allergens

improve the control of asthma, as well as other allergic diseases complicated by asthma.

- **Bronchial thermoplasty** A bronchoscopic procedure for severe asthma involves delivering radiofrequency-generated thermal energy to open the airways.
- Supplemental oxygen and mechanical ventilation Treatments given for life-threatening asthma.

Asthma treatment also includes strategies to avoid triggers that can aggravate the condition.

Though there is no way to prevent or cure asthma, the condition can be effectively controlled with inhaled medications so that people with asthma can lead a normal life.

# Chronic Obstructive Pulmonary Disease (COPD)

Like asthma, COPD causes breathing problems and affects millions of Americans, especially older people. This common lung disease is a leading cause of serious long-term disability and death in the U.S.

COPD causes inflammation and thickening of the airways in the lungs, destroys the tissue where oxygen is exchanged, and reduces airflow into and from the lungs. The body tissues become deprived of oxygen and carbon dioxide is harder to remove.

The common symptoms of COPD are cough, sputum production, wheezing, and shortness of breath (dyspnea). Airway obstruction is less reversible in people with COPD than in those with asthma. As the disease progresses, shortness of breath makes it difficult to stay active.

#### The two main types of COPD are:

- Chronic bronchitis a long-term cough with mucus
- Emphysema damage to the lungs over time

#### Most people with COPD have both of these conditions.

While up to 85% to 90% of COPD cases are linked to cigarette smoking, long-term exposure to air pollution is a significant cause. Work-related COPD is the result of exposure to dust, fumes, and chemicals, and exposure to heavy amounts of second-hand smoke and pollution.

# Treatments for COPD

COPD is preventable and treatable. COPD-induced lung airway inflammation is less responsive to steroids.

# Treatment options include:

- **Bronchodilators** Based on the severity of the condition, short-acting and long-acting bronchodilators are prescribed to alleviate bronchial obstruction.
- **Pulmonary rehabilitation** Includes using special breathing techniques, exercise training, education, support, and behavioral intervention.
- **Oxygen therapy** Improves breathing through the delivery of extra oxygen to the lungs.
- Lung volume reduction surgery Removal of small wedges of damaged lung tissue to allow the remaining tissue to function better.
- Bullectomy Surgery to remove enlarged, damaged lung air sacs (bullae).
- Implantation of endobronchial valves A minimally-invasive procedure to treat severe emphysema, where tiny valves are implanted in the airways to block off diseased parts of the lung and improve lung function.
- **Lung transplantation** Replace a diseased lung with a healthy one from a donor.

# CPT and ICD-10 Codes for Asthma and COPD

As they treat patients with asthma and lung disease, pulmonary and allergy/immunology specialists need to stay up to date on how to bill and code diagnoses and treatments.

# Here is a list of relevant CPT codes for respiratory disease treatments/procedures:

# Allergen Immunotherapy

- 95115 Professional services for allergen immunotherapy not including provision of allergenic extracts; single injection
- 95117 Professional services for allergen immunotherapy not including provision of allergenic extracts; 2 or more injections
- 95165 Professional services for the supervision of preparation and provision of antigens for allergen immunotherapy; single or multiple antigens (specify number of doses)
- **95199** Unlisted allergy/clinical immunologic service or procedure

# Spirometry

• **94010** - Spirometry complete, includes graphic record total and timed vital capacity, expiratory flow rate measure-ment(s) with or without maximal voluntary ventilation

- **94060** Bronchodilation Responsiveness, spirometry as in 94010, pre- and post-bronchodilator or exercise
- **94070** Bronchospasm Provocation Evaluation, multiple spirometric determinations as in 94010, with administered agents (e.g., antigen(s), cold air, methacholine)
- **94200** Lung Function Test (MBC/MVV) Maximum Voluntary Ventilation
- **94016** Review Patient Spirometry, 30-day period of time; physician review and interpretation only
- 94375 Respiratory Flow Volume Loop
- **95070** Inhalation Bronchial Challenge Testing (not including necessary pulmonary function tests), with histamine, methacholine, or similar compounds
- **95071** Inhalation Bronchial Challenge Testing (not including necessary pulmonary function tests), with specified antigens or gases
- 94640 Airway inhalation treatment
- **94664** Bronchodilator administration, demonstration and/ or evaluation of patient utilization of an aerosol generator, nebulizer, meter dose inhaler, or IPPB device

# Lung Volume Determination

- 94013 To measure lung volume through 2 yrs.
- **94726** Plethysmography to measure lung volumes and capacities
- 94727 Pulmonary function tests by gas
- 94728 To measure airway resistance by oscillometry

# **Diffusion Capacity**

CPT codes for diffusion capacity include 94729 (usually an addon code commonly used in conjunction with codes 94726 and 94010).

# **Pulse Oximetry**

- **94760** Noninvasive ear or pulse oximetry for oxygen saturation, single determination
- **94761** Noninvasive ear or pulse oximetry for oxygen saturation; multiple determinations (e.g., during exercise)

# **Bronchial Thermoplasty**

- **31660** Bronchoscopy, rigid or flexible, including fluoroscopic guidance, when performed; with bronchial thermoplasty, 1 lobe
- **31661** Bronchoscopy, rigid or flexible, including fluoroscopic guidance, when performed; with bronchial thermoplasty, 2

#### or more lobes

# COPD

- Pulmonary Rehabilitation
- 94625 Physician or other gualified healthcare professional services for outpatient pulmonary rehabilitation; without continuous oximetry monitoring (per session)
- 94626 Physician or other gualified healthcare professional services for outpatient pulmonary rehabilitation; with continuous oximetry monitoring (per session)

Codes 94625 and 94626 should not be reported in conjunction with 94760 and 94761 for noninvasive ear or pulse oximetry.

# Ventilator Management

94002-94005 - Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing

# Lung Removal

32491 - Removal of lung, other than pneumonectomy; with resection-plication of emphysematous lung(s) (bullous or non-bullous) for lung volume reduction, sternal split or transthoracic approach, includes any pleural procedure, when performed

# Lung Transplantation

32853 - Lung transplant, double (bilateral sequential or en bloc); without cardiopulmonary bypass

Claims must also include the appropriate ICD-10 codes to capture the anatomic site, etiology, comorbidities and complications, and illness severity.

#### **Chronic Bronchitis**

- J41.0 Simple chronic
- J41.1 Mucopurulent
- J41.2 Mixed simple and mucopurulent bronchitis
- J42 Unspecified chronic bronchitis

#### Emphysema

- J43.1 Panlobular
- J43.2 Centrilobular
- J43.8 Other
- J43.9 Unspecified

# • J44.0 - With (acute) lower respiratory infection

- J44.1 With (acute) exacerbation
- J44.9 Unspecified

# Asthma – Mild, Intermittent

- J45.20 Uncomplicated
- J45.21 With (acute) exacerbation
- J45.22 With status asthmaticus

# Asthma – Mild, Persistent

- J45.30 Uncomplicated
- J45.31 With (acute) exacerbation
- J45.32 With status asthmaticus

# Asthma - Moderate

- J45.40 Uncomplicated
- J45.41 With (acute) exacerbation
- J45.42 With status asthmaticus

# Asthma - Severe

- J45.50 Uncomplicated
- J45.51 With (acute) exacerbation
- J45.52 With status asthmaticus

# Asthma - Unspecified

- J45.901 With (acute) exacerbation
- J45.902 With status asthmaticus
- J45.909 Uncomplicated

#### Asthma - Other

- J45.990 Exercise induced bronchospasm
- J45.991 Cough variant asthma

To ensure proper care and receive appropriate reimbursement, providers should ensure accurate, complete documentation and coding that reflects the true nature of a patient's current health status at the highest level of specificity. Knowing the specific guidelines for reporting asthma and COPD is also important.

# Spread the Word - Become a Champion for Clean Air

Since May 1972, the American Lung Association has celebrated

Clean Air Month to educate people about the importance of clean air and how air pollution poses a serious threat to the nation's health.

Reports from the USEPA indicate that federal and state imple-Use less energy; choose efficient appliances and heating mentation of regulations has substantially reduced emissions systems and turn off devices when you are not using them. of the common air pollutants since 1980. However, the agency notes that despite considerable progress in air guality improve-Anyone can become a champion for clean air. Join the campaign ment, over 100 million people nationwide lived in counties with and celebrate Clean Air Month! pollution levels above the primary National Ambient Air Quality Standards (NAAQS) in 2021. A nationwide study from Harvard T.H. Chan School of Public Health suggested that counties with high-Natalie Tornese, CPC, is a Senior Group Manager responsible for er pollution levels had a higher death rate from COVID-19. Practice and Revenue Cycle Management at MOS. She brings 25

Healthcare providers, especially pulmonary physicians, can educate patients and their communities about the risks of indoor and outdoor air pollution and on strategies for reducing these risks.

# Simple steps at the individual level can make a big difference over time:

- Use public transport.
- Keep your car in good condition.



- Avoid an idling engine; turn it off.
- Do not burn your garbage; arrange for trash hauling.
- Limit and control backyard fires.
- Plant and nurture trees.

years of healthcare management experience to the company. Natalie has worked in varied leadership roles with practices and specialties. Her primary focus is revenue cycle management with an emphasis on Medical Billing, Coding, and Insurance Verification Management. She has written numerous articles on all aspects of Practice Management and presently manages a large team focused on Medical Billing, Medical Coding, Verification, and Authorization services for MOS. Contact us at 1-800-670-2809 or visit us at (www.outsourcestrategies.com).