COPD
Rural Prevalence and Impact Webinar

National Rural Health Resource Center
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COPD Patient
Grace Anne Dorney Koppel leads efforts to help COPD patients through pulmonary rehab.
COPD: A Public Health Epidemic

- **COPD Deaths**
  - 2015 – 3rd leading cause of death (N=155,041)
  - 2016 – 4th leading cause of death (N=154,596)
  - 97% are COPD

- **Costs of COPD**
  - $32 billion on COPD-related patient care in 2010
  - $49 billion by 2020
  - Does not include billions in indirect costs

- **15.7 million Americans have diagnosed COPD**
  - 6.1% in 2016
  - Millions more may have undiagnosed COPD symptoms
  - Rural populations had the greatest risk in 2015- twice that of urban
COPD is nearly twice as common in rural areas.

Learn about its risk factors.
What is Chronic Obstructive Pulmonary Disease (COPD)?

It is a preventable and treatable disease that makes it difficult to empty air out of the lungs.

Airflow obstruction can lead to shortness of breath or feeling tired because the affected individual is working harder to breathe (to maintain adequate oxygen levels).

COPD is a term that includes chronic bronchitis and emphysema.

In most patients there is a combination of both conditions.

Asthma is also a disease where it is difficult to empty the air out of the lungs, but asthma is not included in the definition of COPD. A person with COPD can frequently have some degree of asthma.

http://www.thoracic.org/patients/patient-resources/resources/copd-intro.pdf
Rural Populations Have Greater COPD Risk Factors

- **Tobacco Use**
  - Higher % with smoking history
  - Greater exposure to secondhand smoking
  - Less access to smoking cessation programs

- **Environmental and Occupational Exposures**
  - Mold spores, organic toxic dust, nitrogen dioxide
  - Vapors, gas, dust, fumes, microbial agents
  - Smoke from burning biomass fuels

- **Other Factors**
  - Genetics
  - Respiratory infections
  - Asthma history
  - Greater proportions of older ages and low socioeconomic status
COPD Risk Factors

- **Worldwide**: Indoor air pollution from biomass fuels
- **United States**: Cigarette Smoking

Cigarette Use among U.S. Adults 2017

CDC data from Behavior Risk Factor Surveillance System 2017 available at https://www.cdc.gov/statesystem/cigaretteuseadult.html
Sources of Indoor and Outdoor Pollution

National Geographic, A fresh Look at Appalachia: 50 years after the war on poverty, February 6, 2015
Solid Fuel Use as Primary Heating Source in the United States

Solid fuel is the primary heating source for >2.5 million U.S. households or 6.5 million people.

Rogalsky DK et al. Environmental Health Perspectives 2014 122; 806 810.
Age-adjusted death rates among persons of all ages for five leading causes of death in nonmetropolitan and metropolitan areas,* by year — National Vital Statistics System, United States, 1999–2014

Source: Moy et al. MMWR / January 13, 2017 / Vol. 66 / No. 1
COPD IN THE U.S.

- Prevalence in 18 and up age group: 6.1%
- Prevalence in 45 and up age group 9.0%
- Women reported higher COPD rates: 6.5% vs 5.4%
- 24.9% of those with COPD never smoked
- 43.2% saw physician re COPD in last year
- 17.7% ER visit or hospitalization in last year
- Health disparities in COPD: 9.9% reported in individuals with income less than $25,000
- 43.9% of adults with COPD continue to smoke

DATA FROM BRFSS-Centers for Disease Control & Prevention: 2011-14
Why do some rural counties in the Midwest and Great Plains have low prevalence of doctor-diagnosed COPD?

Source: CDC. *MMWR* 2018;67(7):205-211.
But have very high COPD death rates?
Early diagnosis and treatment may come too late.

Age-adjusted prevalence of doctor-diagnosed COPD among adults aged ≥18 years, by urban-rural status: BRFSS, 2015

Source: CDC. *MMWR* 2018;67(7):205-211.
Age-adjusted death rates (per 100,000) for COPD as underlying cause of death, by urban-rural status: US Vital Statistics, 2015

Source: CDC. MMWR 2018;67(7):205-211.
Hospital discharges for COPD as first-listed diagnosis among Medicare enrollees aged ≥65 years are higher in rural settings

Source: CDC. MMWR 2018;67(7):205-211.
In a nationally representative sample, increased COPD prevalence in rural, poor regions

The prevalence of COPD was 8.4% nationwide with the highest prevalence of 15.7% in rural, poor communities.

Raju, Sarath, "Rural Residence and Poverty are Independent Risk Factors for COPD in the United States." American journal of respiratory and critical care medicine 2018
Residents in rural, poor regions had increased prevalence of COPD among never smokers.

Among never smokers, community level use of coal for fuel was associated with COPD prevalence.

Raju, Sarath, “Rural Residence and Poverty are Independent Risk Factors for COPD in the United States.” American journal of respiratory and critical care medicine 2018
Patient-Provider Awareness Gaps for Adults with COPD

Adults with COPD symptoms in 2016
➢ Only 73% talked to physician about their symptoms
➢ Only 40% were given a breathing test (spirometry)

Primary Care Providers in 2016
➢ Only 71% evaluate COPD symptoms with spirometry
➢ Only 68% acknowledge pulmonary rehabilitation programs are available
➢ Only 38% routinely prescribe pulmonary rehabilitation for patients diagnosed with COPD
Pulmonary Rehabilitation: major therapy to improve exercise tolerance, but... poor rural access to 1,446 accredited services

The 2017 COPD National Action Plan

- The first-ever
- Developed at the request of Congress with input from the broad COPD community
- Provides a comprehensive framework for action

Downloadable for free at: https://www.nhlbi.nih.gov/health-topics/education-and-awareness/COPD-national-action-plan
Dissemination & Implementation

All COPD stakeholders own the plan and have an active role in its implementation.

- Patients and their Families
- Industry Partners
- Payors
- Government Agencies
- Professional Societies
- Scientific Investigators and Health Care Providers
- Public Interest Organizations and Advocacy Groups
3.5 million people living in rural counties have been diagnosed with COPD.

And hundreds of thousands more don’t know they have it.

“Hope is like a path in the countryside. At first there is no path, but if enough people walk in the same direction, the path appears.”

Lu Xun