


Examining the public health burden of COPD,
the third leading cause of death: What
population-based data tell us

Winston Liao

143rd Annual APHA
November 3, 2015



Presenter Disclosures

Winston Liao

No relationships to disclose

Objective

- Describe the public health burden of COPD from a data perspective
 - Present epidemiologic and economic data to support the need for targeting preventive and control efforts for COPD
 - Present two examples of using population-based data to support community-based programs

What is COPD?

- Progressive lung diseases
- Chronic bronchitis, emphysema, refractory asthma, some forms of bronchiectasis
- Airways partially blocked
- Hard to get air in and out
- When severe: shortness of breath, other symptoms
- Affects activities of daily living
- 3rd leading cause of death in U.S.
- A leading cause of disability




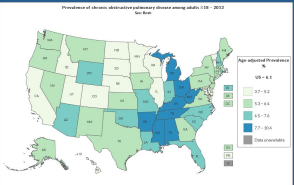
Photo Credit: Photo G.A.D.A.M.

Data Sources

- Behavioral Risk Factor Surveillance System (BRFSS): prevalence and co-morbidities
- Mortality
- ED visits
- Hospitalizations
- Healthcare costs

Prevalence

- US: 6.1%
- PR: 3.7%
- KY: 10.4%
- NC: 7.0%



Prevalence of chronic obstructive pulmonary disease among adults 18+ - 2010 - 2013
See Map

Legend: Age-Adjusted Prevalence %
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 99.1 - 100.0
 Data unavailable

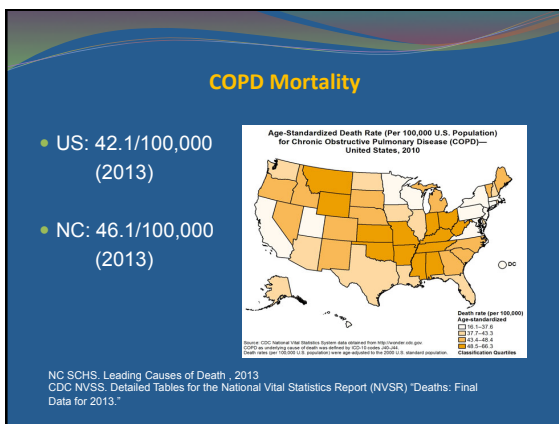
CDC. NCDPHP. Chronic Disease Indicators [online]. 2014. [accessed Oct 21, 2015]. URL: <http://nccd.cdc.gov/cdi/>

Selected Demographic Characteristics North Carolina

Demographics	With COPD		Without COPD	
	N	%	N	%
Gender				
Male	284	6.8	3,150	93.2
Female	553	8.0	4,830	92.0
Age				
18-34	46	3.4	1,334	96.6
35-44	55	4.4	1,110	95.6
45-54	117	6.9	1,354	93.1
55-64	222	11.5	1,585	88.5
65-74	229	14.1	1,390	85.9
75+	163	12.5	1,122	87.5
Race				
White	610	8.3	5,334	91.7
African American	129	6.3	1,531	93.7
Native American	58	18.5	333	81.5
Other Minorities	19	2.4	248	97.6

NC SCHS, Behavioral Risk Factor Surveillance System, 2013






COPD Healthcare Utilization among Adults >45 years

Emergency Room Visits

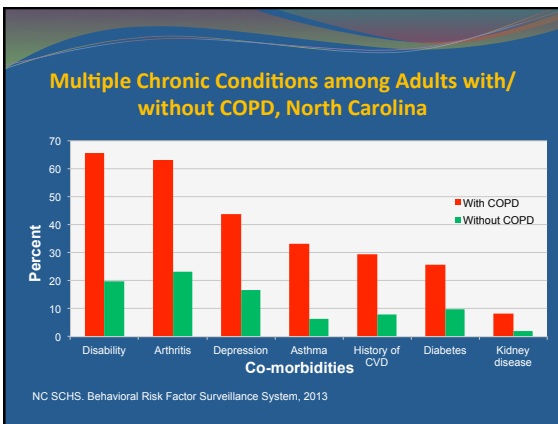
- US: 1st - 78.1/10,000
- Any - 193.2/10,000

Hospitalizations

- US: 1st - 5.5/1,000
- Any - 32.7/1,000



CDC. NCCDPHP. Chronic Disease Indicators [online]. 2014. [accessed Oct 21, 2015]. URL: <http://nccd.cdc.gov/cdi/>



Financial Burden

- 2010 US COPD-attributable costs ~\$36 billion
 - ♦ Total medical costs ~\$32.1 billion
 - Private insurance – 18%
 - Medicare – 51%
 - Medicaid – 25%
 - ♦ Absenteeism costs ~ \$ 3.9 billion
 - ♦ Work days lost ~ 16.4 million
- 2020 US projected medical costs ~\$49 billion

Chest. 2015; 147(1):31-45

Impact on Healthcare Costs

- COPD patient costs ~ \$6000 higher than non-COPD patients
- COPD patients with hospital readmissions: 13-14%
 - 41-49% had readmission within 60 days
- Treatments for COPD-related exacerbations: lower COPD-related medical costs
- Preventing complications and hospitalizations: avoid 40% of COPD costs

COPD Foundation, 2012


Smoking and COPD North Carolina

	With COPD		Without COPD	
	%	95% C.I.	%	95% C.I.
Former smoker	35.9	31.5-40.5	24.3	22.9-25.4
Current smoker	38.9	34.3-43.7	18.7	17.5-20.0
Secondhand smoke	26.7	22.2-31.8	9.9	8.9-11.1

NC SCHS. Behavioral Risk Factor Surveillance System, 2013

Two Community-based Programs

- Davidson County: NC County with highest COPD prevalence (12.1%, twice state average)
 - Community- and provider-based programs
- Targeting COPD and Tobacco in Free Clinics in NC, VA, SC
 - Clinic-based screening of at-risk patients for COPD



Legislative Actions for Addressing Smoking and Chronic Diseases in North Carolina

- NC General Statute 130A-497: North Carolina's Smoke-Free Restaurants and Bars Law
 - ◆ ED visits for myocardial infarctions decreased by 21% during first year after law passage
 - ◆ Relative risk of visiting ED for asthma decreased by 7% between 2010-2011 vs. 2008-2009
- N.C. Session Law 2013-207 House Bill 459: DHHS to Coordinate Chronic Disease Care
 - ◆ Chronic lung disease includes asthma and COPD

Healthy People 2020 COPD Objectives

- Reduce activity limitations among adults with COPD
- Reduce deaths from COPD among adults
- Reduce hospitalizations for COPD
- Reduce emergency department (ED) visits for COPD
- Increase the proportion of adults with abnormal lung function whose underlying obstructive disease has been diagnosed


Next Steps

- Increase awareness
- Educate patients, healthcare providers, caregivers, policy makers
- Increase funding for outreach and community-based programs
- Apply frameworks from government initiatives
- Promote collaborative efforts




Leonard Nimroy (Mr. Spock, Star Trek)

March 26, 1931 - February 27, 2015



I quit smoking 30 yrs ago. Not soon enough. I have COPD.
Grandpa says, quit now!! LLAP

6:44 PM - 29 Jan 2014



Thank You!

Winston Liao
winston.liao1@gmail.com

North Carolina COPD Taskforce
(www.nccopd.org)

