

# WoW

## Wellness of Workers

# Synergy Wellness Centre



# Who we are...

**Synergy  
Respiratory Care  
Dr. Lyle Melenka**

**Respiratory Care**  
2 Accredited Pulmonary  
Function Labs

**Dr. Melenka-Pulmonologist**  
**Dr. Witmans** – Paediatric  
Pulmonologist and Sleep  
Specialist

**Cardiac Care**  
2 Accredited Cardiac Exercise  
Stress Testing labs

**Dr. Khadour** - Cardiologist

**WoW**  
Wellness of Workers  
Early Identification / Early Intervention

**Dr. Naseem**- Occupational Medicine  
Specialist / Exposure Specialist

# WoW

- ▶ The Wellness of Workers Centre is a wellness/health assessment surveillance program designed to identify individuals at risk of developing cardiopulmonary disease as well as modifiable risk factors in the trades.
- ▶ Each participants receives:
  - Private consultation with a Registered Nurse who conducts a Health Risk Assessment (approx. 1 hour is spent with each worker).
  - Pulmonary Function Testing by a Registered Respiratory Therapist
  - Chest X-Ray

# Insulator Trade Union Local 110

- ▶ The International Association of Heat and Frost Insulators and Allied Workers Local 110 became both a purchasing partner and member of the WoW Centre in 2011
- ▶ They are 1700 members strong
- ▶ Insulators, and many other trades workers, are exposed to chemicals, dusts and fibres in their workplace environments that put them at risk for exposure-related asthma and respiratory disease processes



# Asthma

- ▶ 15% of the general population is affected by asthma
- ▶ 15-20% of asthma is caused by an occupational exposure
- ▶ Workplace fumes can lead to very severe and unremitting asthma
- ▶ Lifelong disability remains despite removal from the environment
- ▶ Untreated asthma can lead to severe disability
- ▶ **Most asthma is under diagnosed and under treated**

# In the First Two Years ...

- ▶ 331 members seen
- ▶ Pulmonary Referrals: 46.4% (based on CAT Score and PFT)
- ▶ Cardiac Referrals: 36.7% (based on symptomatology, and Framingham risk score)
- ▶ Other referrals: 22% (Spouse's referral)

# Research

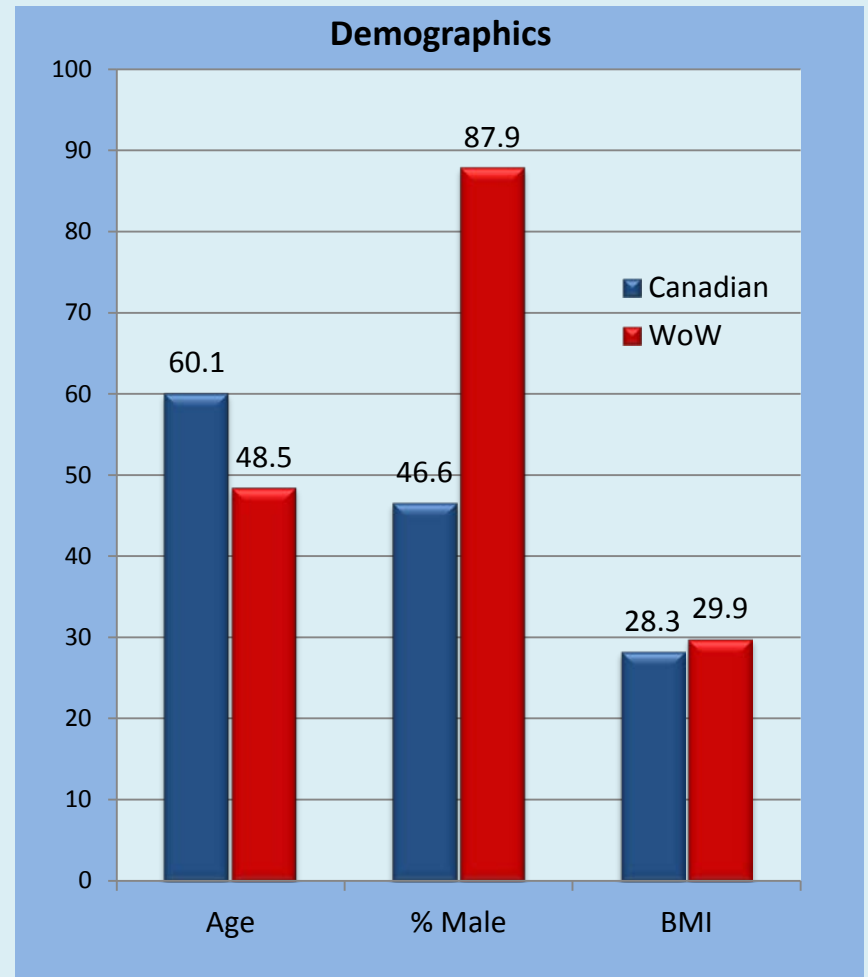
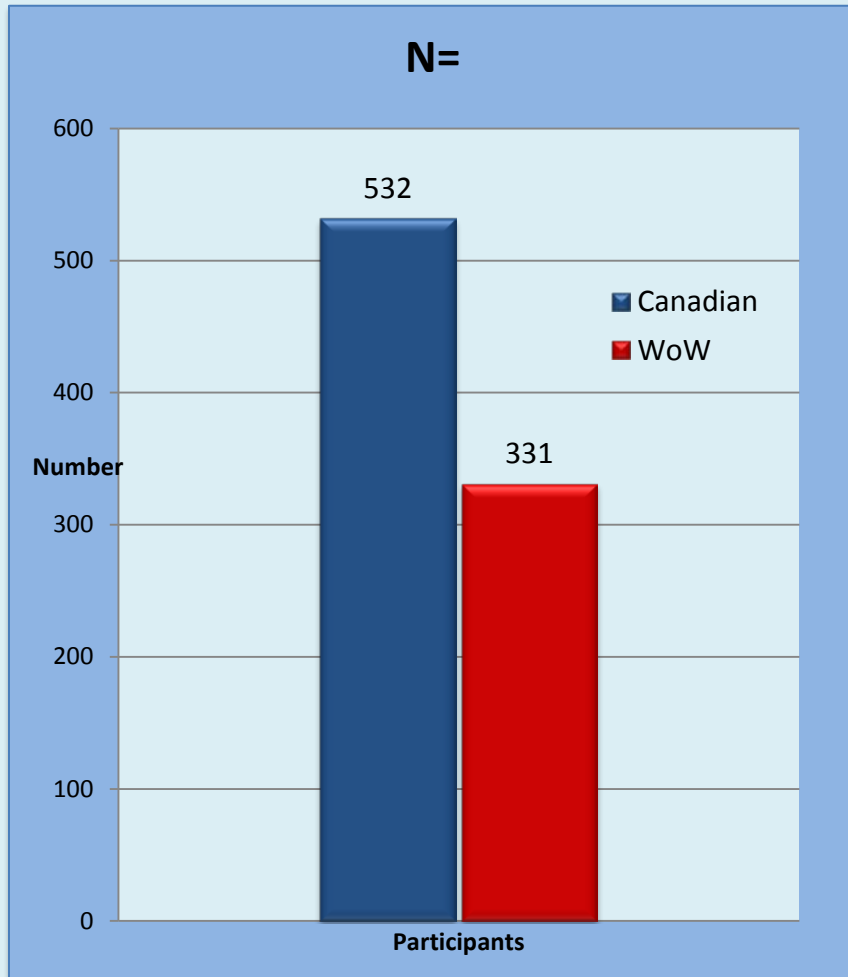
- ▶ 6 year study of insulators
- ▶ Voluntary
- ▶ Confidential
- ▶ Ability to withdraw
- ▶ Ethics approval
- ▶ Validity



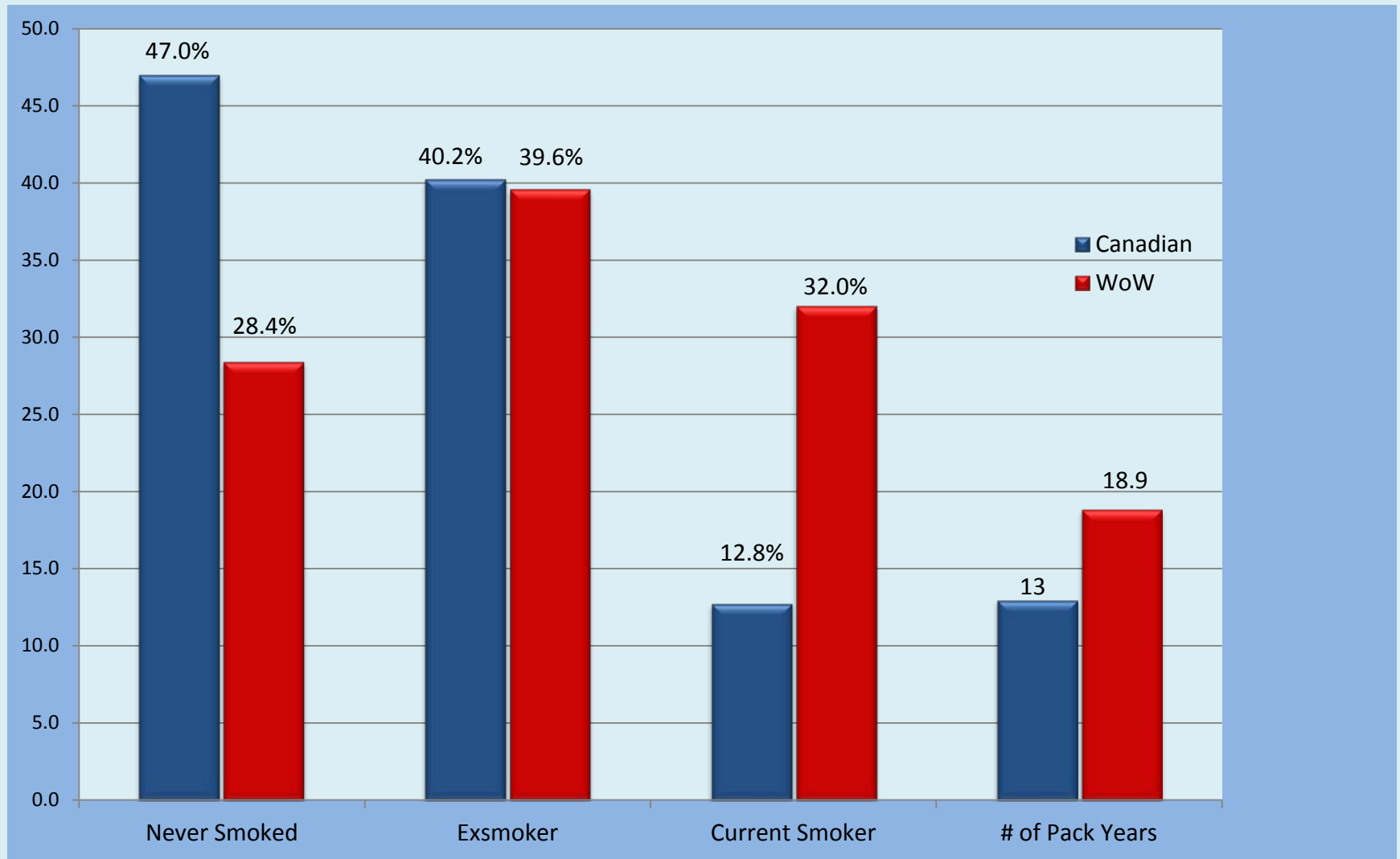
# Research Grant - OHS

- ▶ We wish to thank Alberta Occupational Health and Safety, particularly the Disease Prevention Program for their research grant used to analyze the first two years of our data.

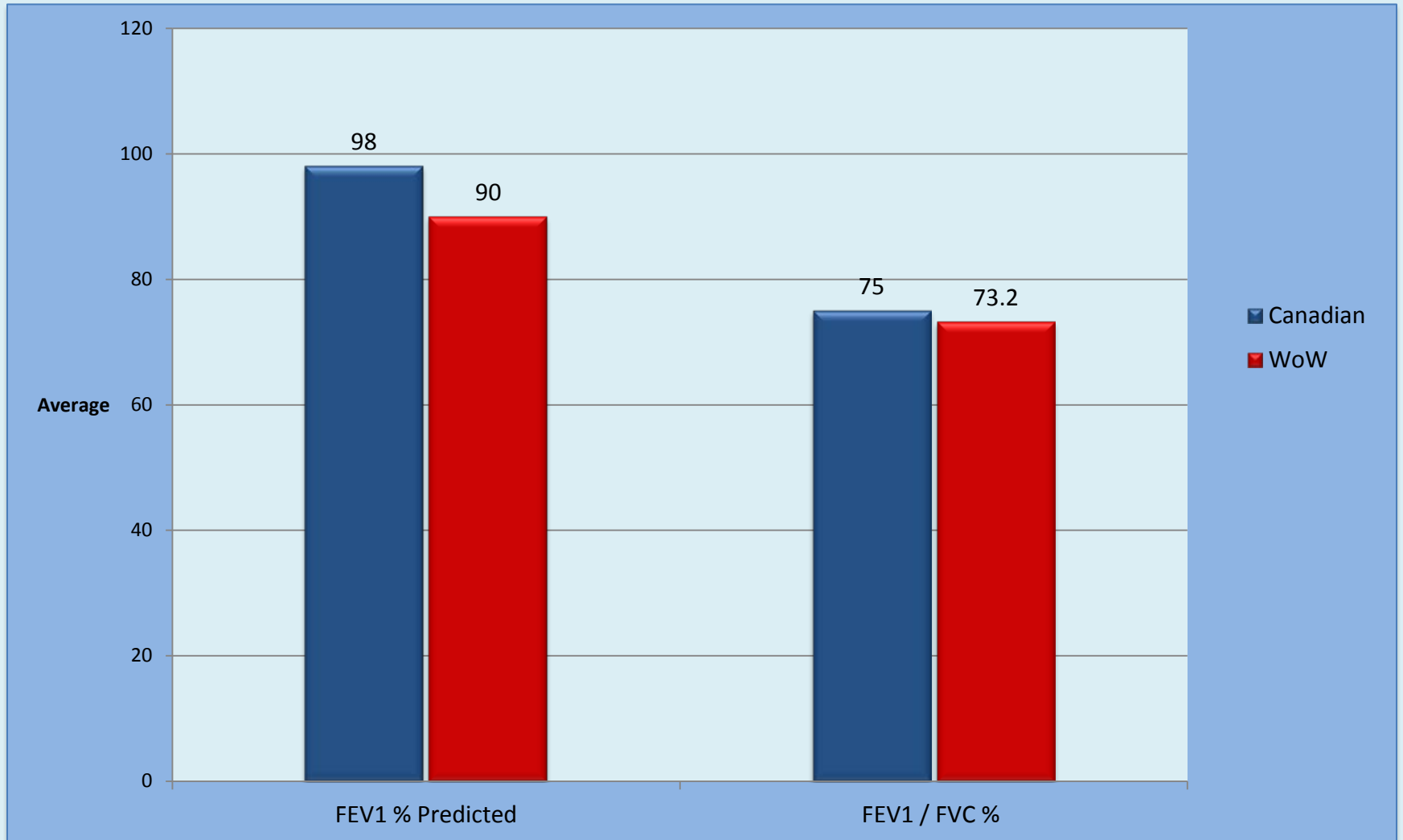
# CanCOLD vs WoW – a Comparison



# Smoking Status



# Lung Function Test



# NIOSH Standard for Spirometry

## Technicians and Clinical Healthcare Professionals

- Technicians who perform testing should have successfully completed a National Institute for Occupational Safety and Health (NIOSH)-approved course, or equivalent, within the past 5 years. A certificate should be available for you to inspect.
- The program should be supervised by a healthcare professional knowledgeable about spirometry accuracy and test validity. Documentation of the professional's spirometry update training should be available.

## Spirometry Equipment

- A letter from the spirometer manufacturer indicating successful validation testing of the spirometer, following current American Thoracic Society/ European Respiratory Society standards, should be available for review.
- The spirometer's calibration is checked by the technician each day of use. Records of daily spirometer calibration checks should be maintained and available for review.

## Interpretation of Results

- Worker's results are compared to normal values. The report should specify the source of the normal or predicted values. If the testing satisfies a regulatory requirement, then the appropriate predicted values must be used.
- Current worker's results are compared to his or her previous baseline values, if available. This is the preferred method of evaluating change over time.

## Reporting of Results

- The healthcare professional reports the results to the worker indicating how the worker's results compared to the normal range and whether changes over time require further medical evaluation.

Your name:

Today's date:



# COPD Assessment Test Score Sheet

## How is your COPD? Take the COPD Assessment Test™ (CAT)

This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

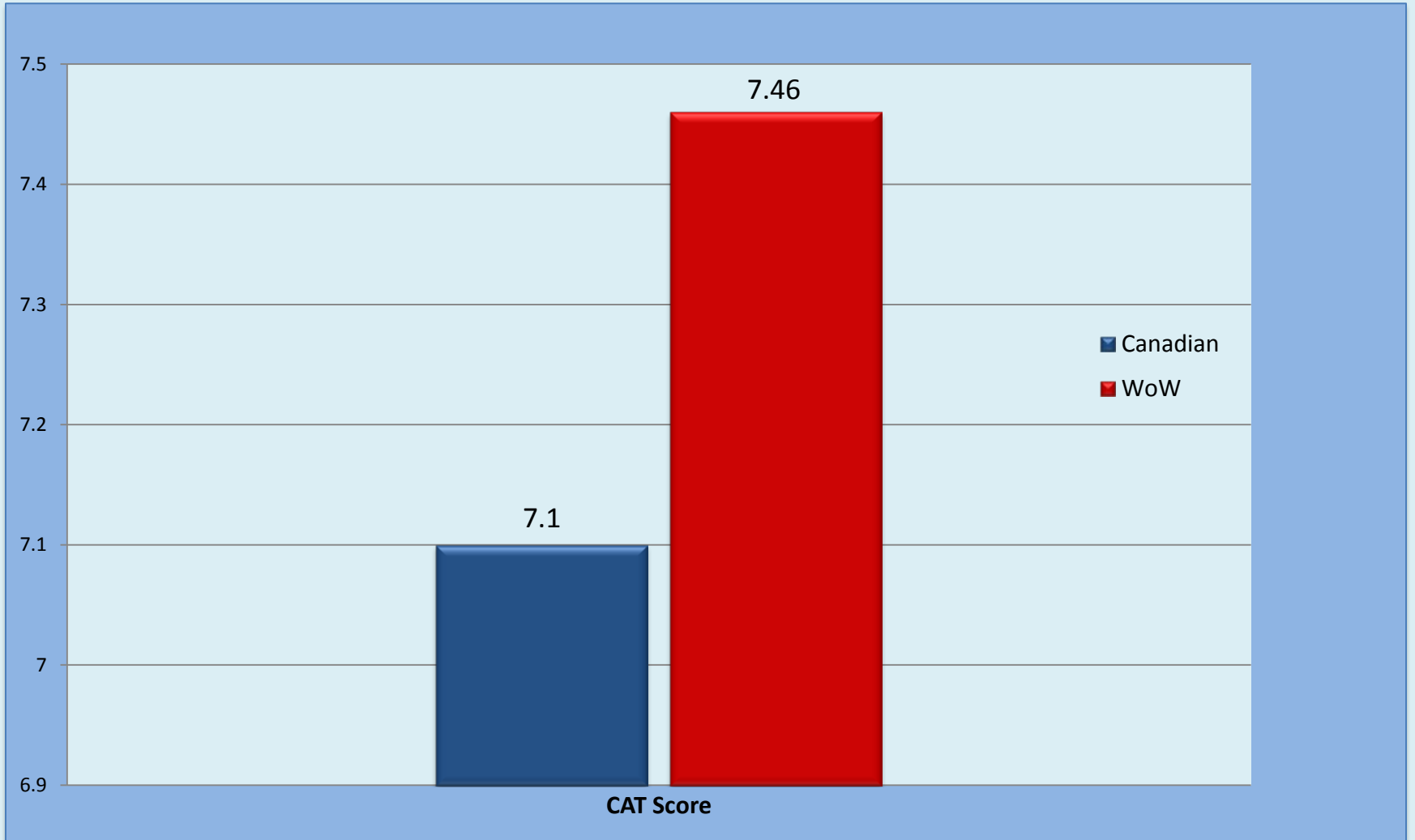
**Example:** I am very happy (0)  (1) (2) (3) (4) (5) I am very sad

			SCORE
I never cough	(0) (1) (2) (3) (4) (5)	I cough all the time	<input type="text"/>
I have no phlegm (mucus) in my chest at all	(0) (1) (2) (3) (4) (5)	My chest is completely full of phlegm (mucus)	<input type="text"/>
My chest does not feel tight at all	(0) (1) (2) (3) (4) (5)	My chest feels very tight	<input type="text"/>
When I walk up a hill or one flight of stairs I am not breathless	(0) (1) (2) (3) (4) (5)	When I walk up a hill or one flight of stairs I am very breathless	<input type="text"/>
I am not limited doing any activities at home	(0) (1) (2) (3) (4) (5)	I am very limited doing activities at home	<input type="text"/>
I am confident leaving my home despite my lung condition	(0) (1) (2) (3) (4) (5)	I am not at all confident leaving my home because of my lung condition	<input type="text"/>
I sleep soundly	(0) (1) (2) (3) (4) (5)	I don't sleep soundly because of my lung condition	<input type="text"/>
I have lots of energy	(0) (1) (2) (3) (4) (5)	I have no energy at all	<input type="text"/>

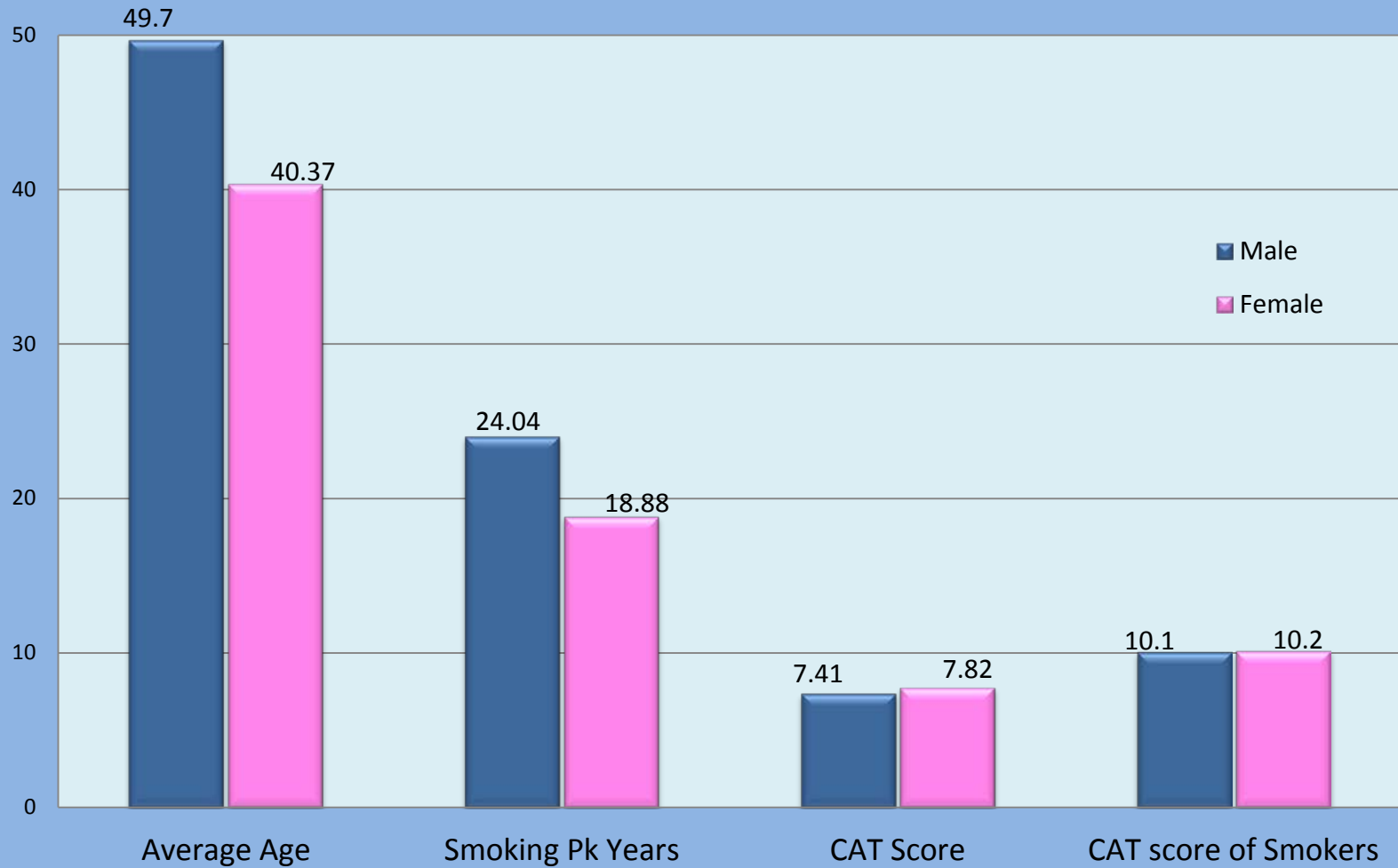
**TOTAL SCORE**



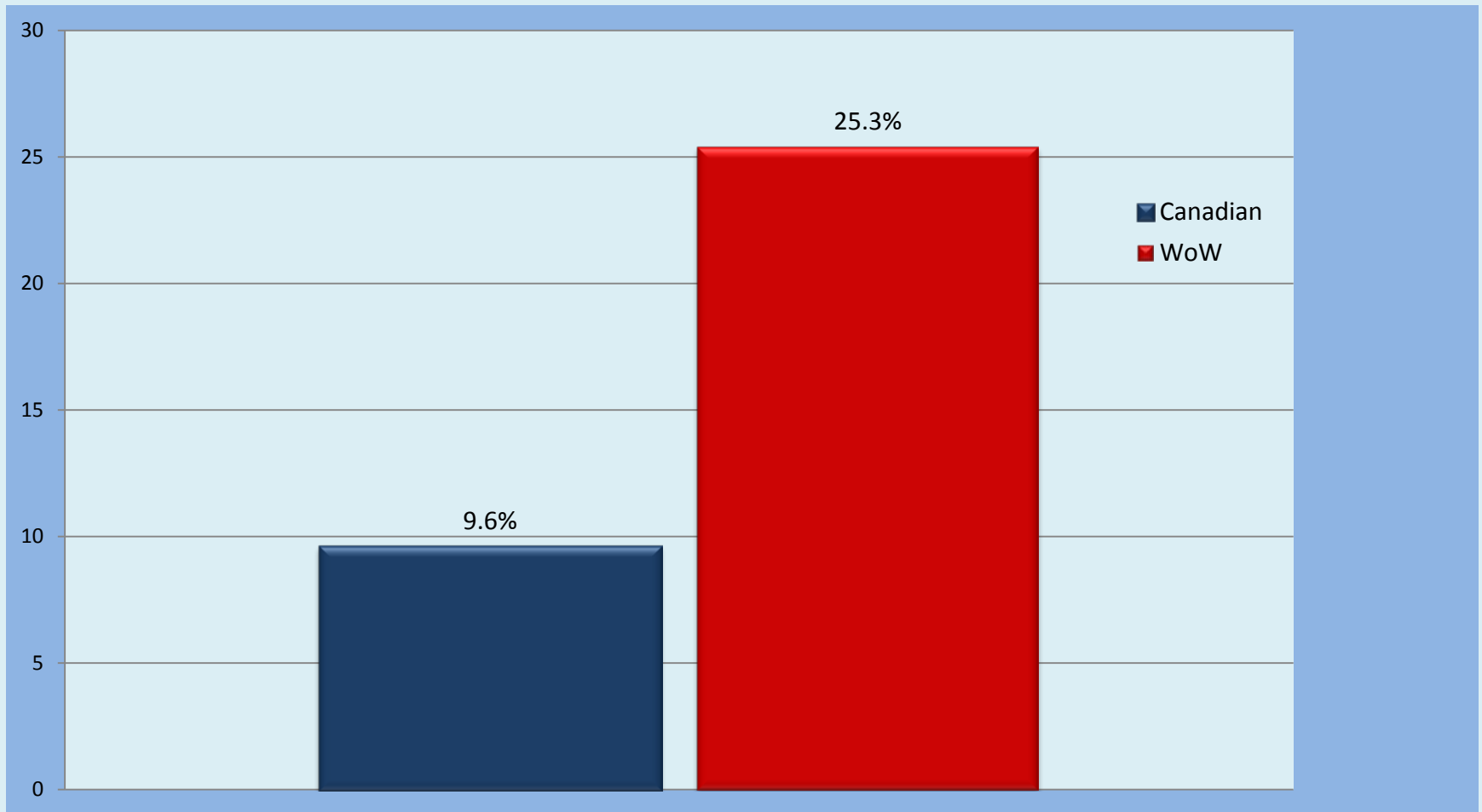
# CAT Score



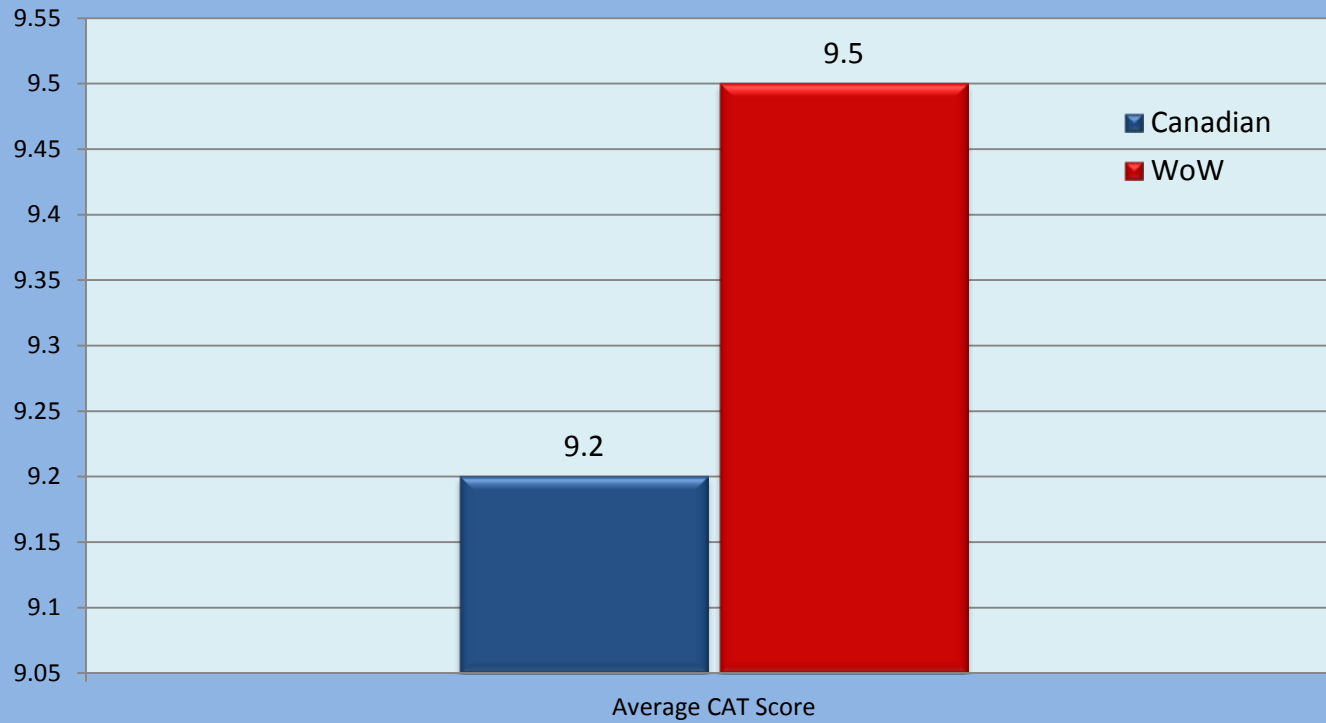
# Male vs Female Insulators



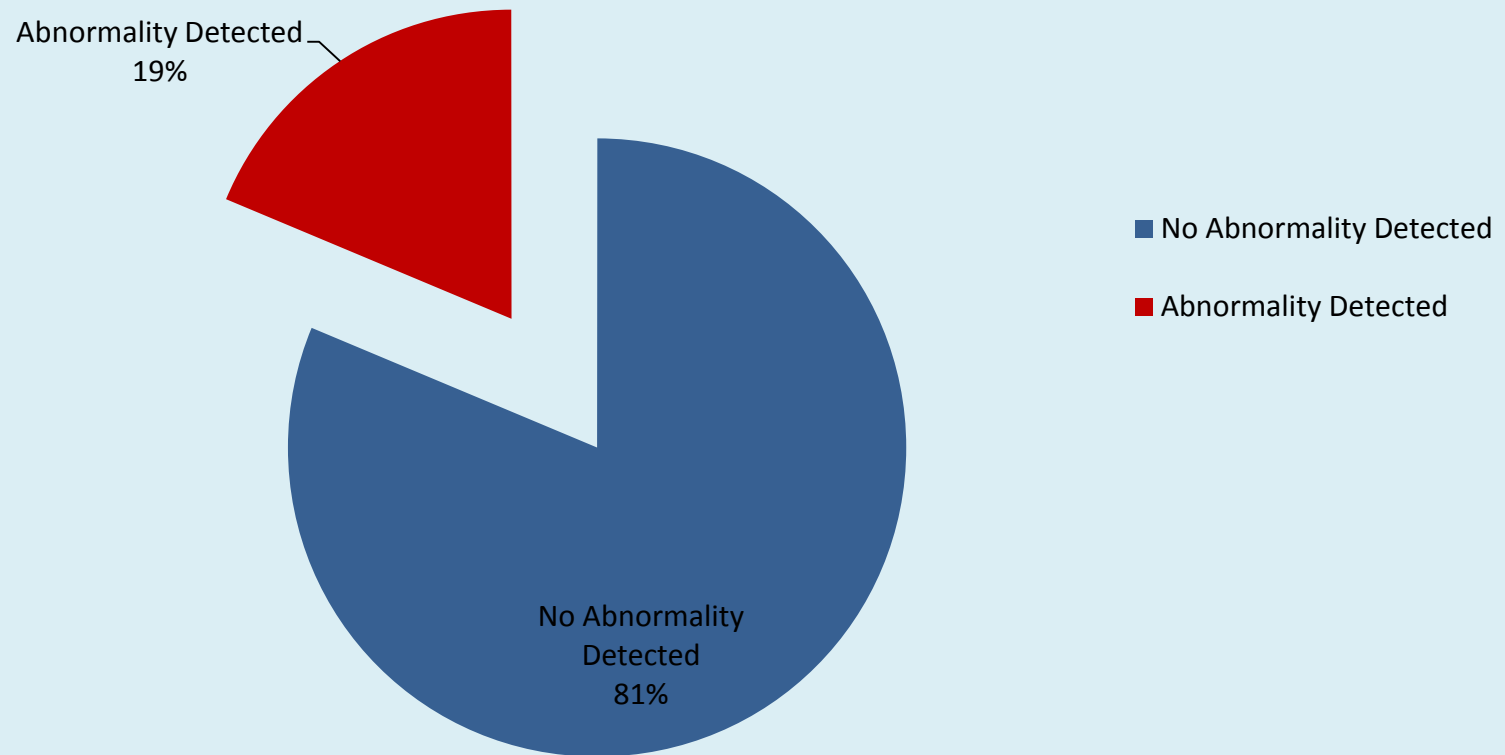
# % of Participants with COPD



# Average CAT Score - COPD



# Chest X Rays



# Priisme – Education & Support

- ▶ The link between patient and doctor. Included in the discussion:
- ▶ The importance smoking cessation plays in slowing progressive lung diseases.
- ▶ Explanations of bronchoconstriction and airway inflammation.
- ▶ The progression of lung diseases.
- ▶ The role/importance of maintenance medications.
- ▶ The role of rescue medications and when they should be used.
- ▶ Signs and symptoms indicative of an asthma/COPD exacerbation.
- ▶ Properties of medications and how they work.
- ▶ Proper device technique.
- ▶ Comparison/trend reports with the patient to show them the changes in their lung function from one visit to the next.



# Case Review – Meet Ray (2011)

- ▶ 71 years of age.
- ▶ First seen in 2011.
- ▶ Worked as Insulator >50 years.
- ▶ Smoking hx >63 pk yrs (cessation X 6 years).
- ▶ Exposures: Aerogel, Fibre glass, Mineral Fibre, Asbestos, Calcium Silicate, Ceramic Fibre
- ▶ PPE reported as worn, but not with all exposures
- ▶ At first visit FVC had decreased by 53% (over a 3 year period) and he was on home oxygen.

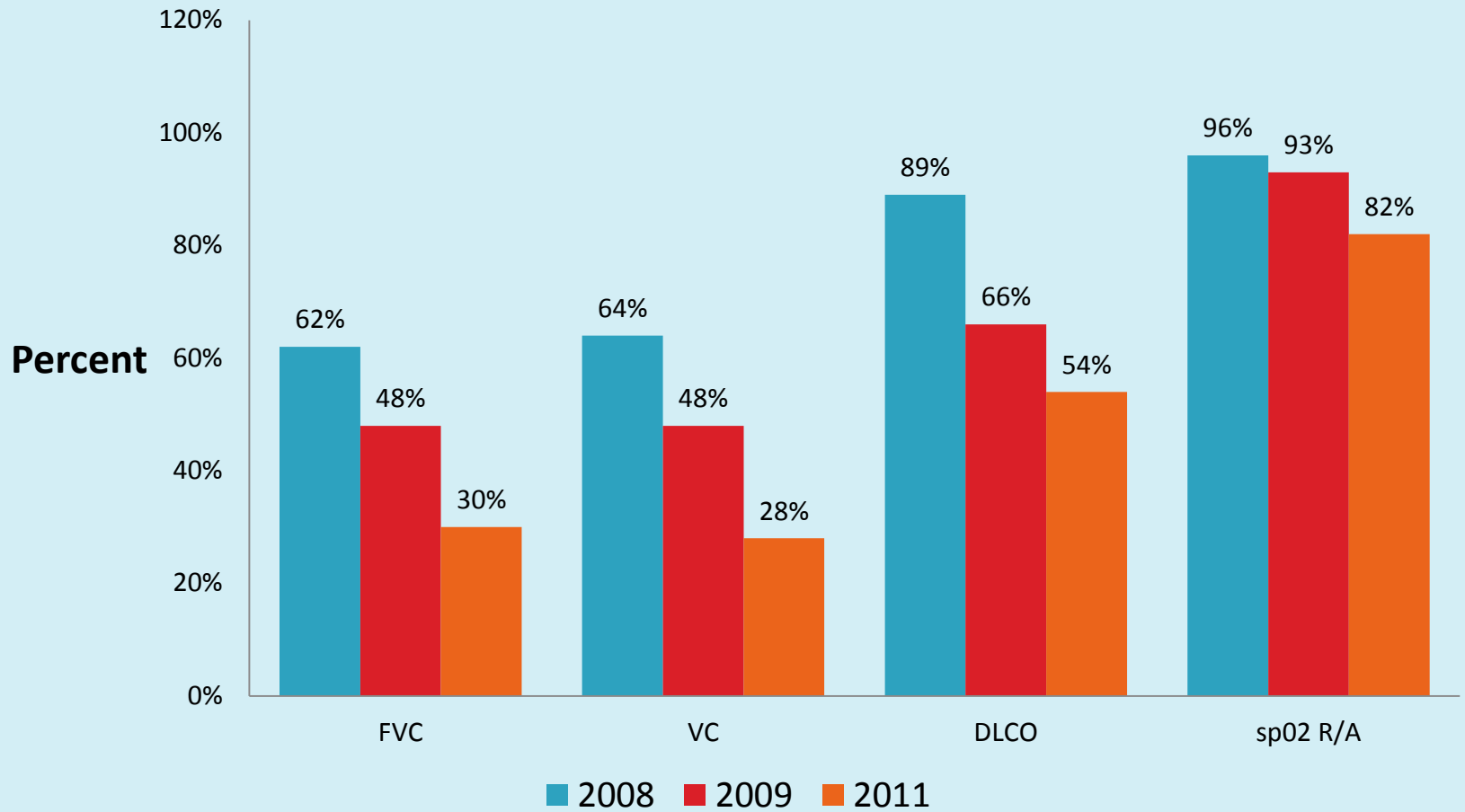
***Can we change disease progression with early intervention?***

# Ray in 2008

- ▶ Followed by family doctor
- ▶ SpO2 96% on room air
- ▶ FVC 2.71 L / 62% of pred
- ▶ FEV1 2.22 L / 64% of pred
- ▶ FEV1/FVC 82%
- ▶ VC 64%
- ▶ TLC 72%
- ▶ DLCO Adj 89%
- ▶ *Interpretation: Mild restrictive defect but normal diffusion. Oxygen saturation on room air 96%*

# Rapid Decline

PFT Series (2008-2011)

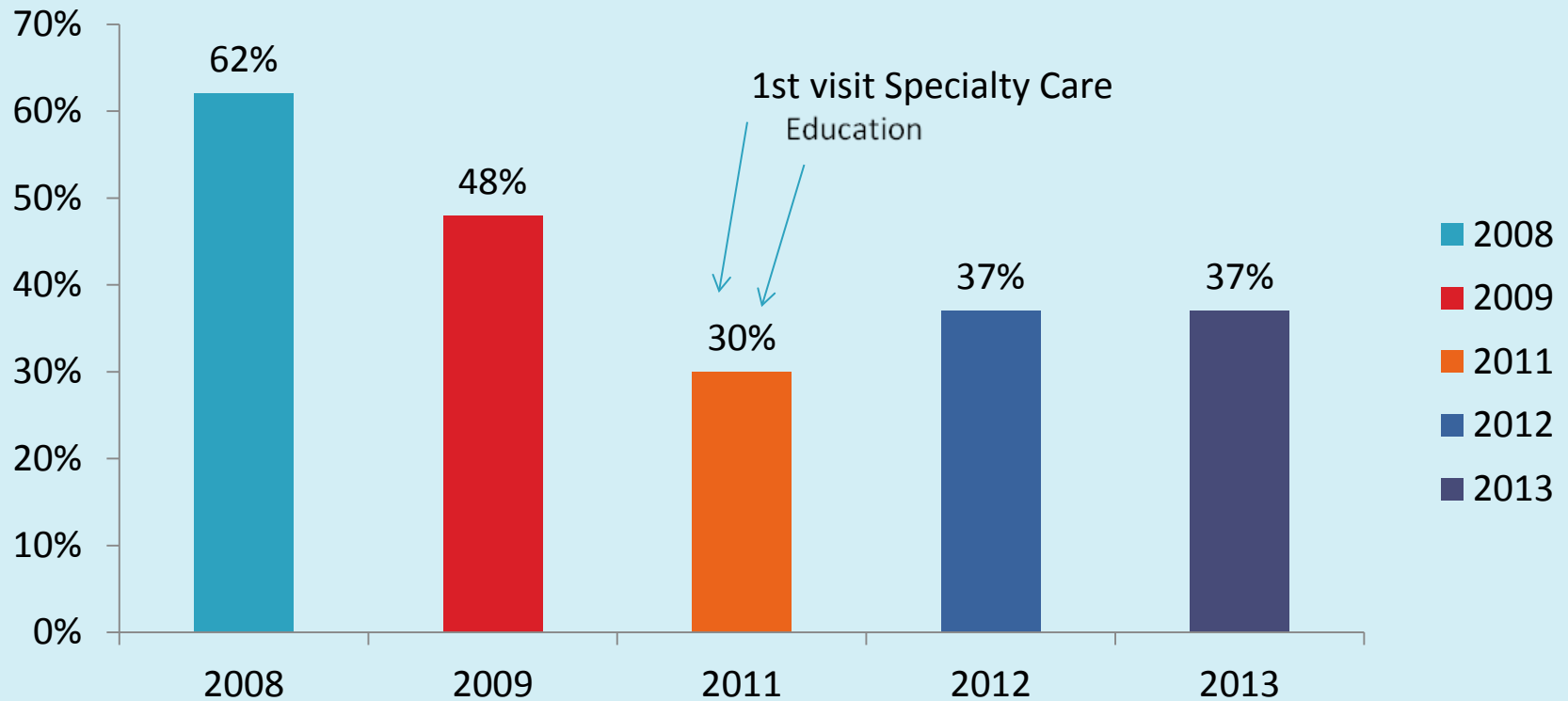


# Benefits of Education

- ▶ **Medication** – pts often not taking medications and/or using incorrectly. (Ray was on Combination treatment (ICS 1000ug/LABA) + ipatropium) – compliance technique corrected.
- ▶ **Smoking cessation** – cessation early is best however beneficial at any interval (educator can support this process)
- ▶ **Pulmonary Rehab** - priority
- ▶ **Nutrition**- patients often under nourished

# Ray Post Education

**FVC 2008 - 2013**



# What now?

- ▶ Further analysis on Cohort One
- ▶ Second Cohort began January 2014
- ▶ Third Cohort will begin January 2016
- ▶ Biomarkers