COPD – why bother?

June 2011

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February 2011

Overview

- What is COPD?
- Who says we're under-diagnosing?
- Why do we care?
- Who are we missing?
- Where will we find them?
- Organisation of care

What is COPD?

COPD is:

COPD is a preventable and treatable disease with some significant extra-pulmonary effects that may contribute to the severity in individual patients. It's pulmonary component is characterised by airflow limitation that is not fully reversible.

The airflow limitation is usually progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases

Global Initiative for Obstructive Lung Disease (GOLD) 2008

Definition of COPD

- Airflow obstruction is defined as reduced FEV_1/FVC ratio (< 70% or 0.7)

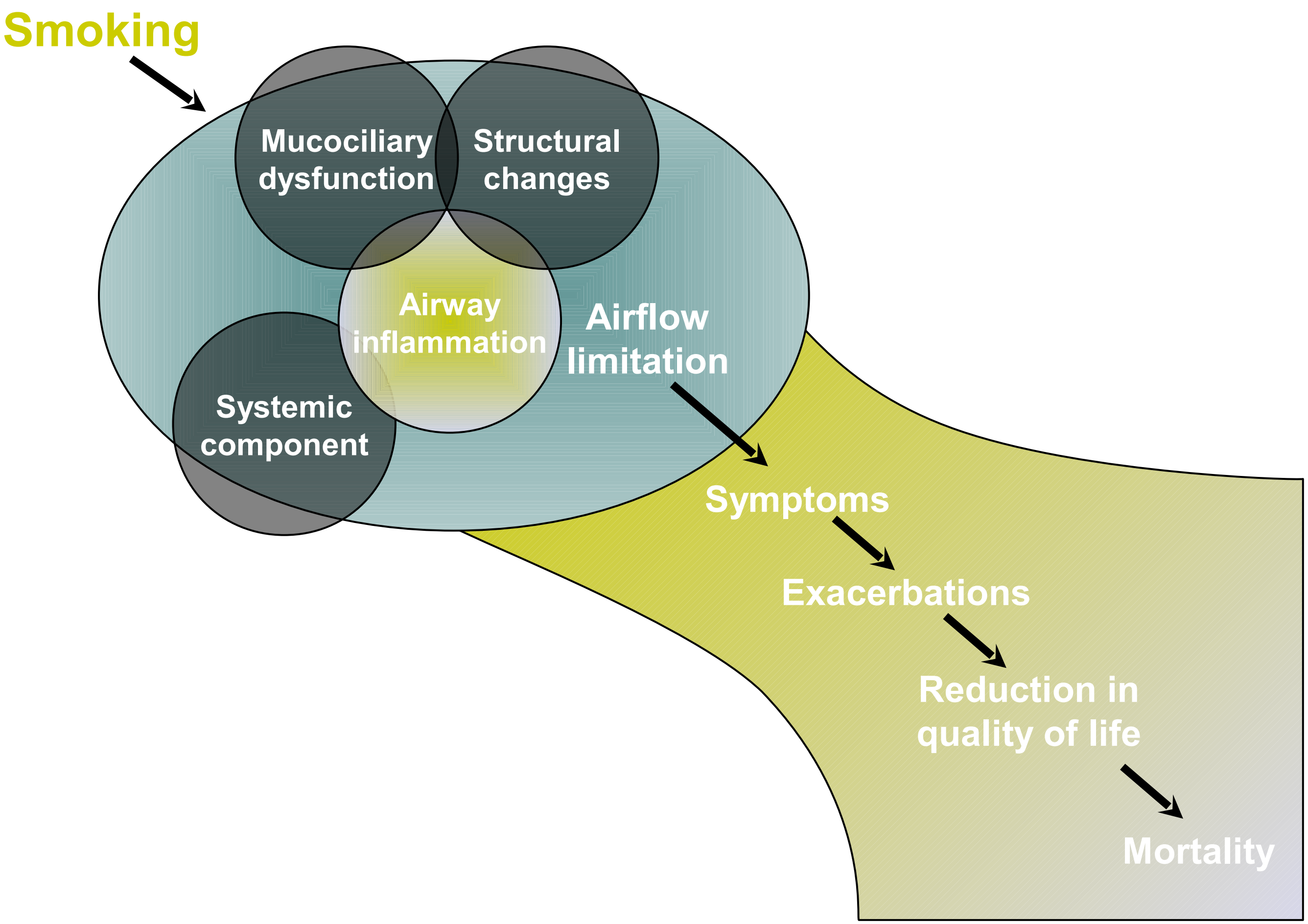
- It is no longer necessary to have an FEV_1 < 80% predicted for definition of airflow obstruction

    NICE COPD Guideline 2010

- If FEV_1 is ≥ 80% predicted, a diagnosis of COPD should only be made in the presence of respiratory symptoms, for example breathlessness or cough

  FEV_1 = forced expiratory volume in 1 second
  FVC = forced vital capacity

COPD is a progressive disease, most often caused by smoking[1,2]



1. NICE guideline No. 12. *Thorax* 2004. 2. GOLD 2006.

Diagnose COPD - 1

Consider a diagnosis of COPD for people who are:

over 35 **and have a risk factor**

Usually a smoker or ex-smoker, **with >15 pack year history, and have any of these symptoms:**

- progressive exertional breathlessness
- chronic cough
- regular sputum production,
- frequent winter 'bronchitis'
- wheeze

[2004]

Diagnose COPD: 2

Following a detailed history

- The presence of airflow obstruction should be confirmed by performing post-bronchodilator spirometry [new 2010 BTS COPD)

  Use this FEV1 to classify degree of obstruction

  Mild / moderate / severe / very severe

- All health professionals involved in the care of people with COPD should have access to spirometry and be competent in the interpretation of the results [2004]

Those diagnosed so far
- the tip of an Iceberg ?

Who says we're undiagnosed?

British Lung Foundation "Invisible Lives"

- Epidemiological evidence estimate 3.7million in UK with COPD
- But only 900,000 diagnosed *Shawab et al Thorax 2006*
- 2.8 million unaware they have COPD which, if left untreated, could severely restrict their lives and eventually cause their death

Then find the 2.8 million in order to slow disease progression & allow healthy, active lives for longer

The Missing Millions

- Despite invisibility of COPD – 5th greatest killer in UK (set to be 3rd greatest by 2020)
- 2nd most common cause of emergency admission
- One of most costly inpatient conditions
- Direct cost of COPD NHS care = £500 million / year
  - Over half is spent on hospital care
- Undiagnosed COPD exacerbate – inpatient care
- One of most costly to economy – loss of work force

Missing Millions – what did BLF look for?

Nov 2007 British Lung Foundation (BLF) campaign to find missing millions with COPD

Start point – the evidence BLF used Dr Foster Intelligence to help identify where the missing millions are living, admissions, lifestyle types

- Then find the best way to target / reach / engage these audiences
- Project ongoing

We all have undiagnosed or misdiagnosed COPD in our practices – look at your prevalence

Other COPD Initiatives

2001 BTS "Burden of Lung Disease"

2002 / 03 CMO annual report focussed on Smoking

2004 CMO annual report "It takes your breath away"

2005 BLF "Missing Millions"

2005 Long term conditions NSF set out quality requirements & key priorities for COPD

2006 Report "Clearing the Air" highlighted need for PCT's to improve COPD diagnosis and management

2010 Year of the Lung. Lung Improvement Programme supports local initiatives

2010 Still awaiting COPD National strategy publication

2010 COPD Uncovered – a global report

An Invisible Disease – why?

- 89% never heard of COPD (Bachman 2007)
- 85% smokers no knowledge of COPD (BLF 2007)
- Neglected by health care services – misdiagnosis is a common theme especially in females
- A smoking related lung disease (stigma) = delay in seeking help for increasing disability
- Diagnosis is made too late. May need repeated Rx for exacerbations or increasing symptoms before COPD considered. HCP needs confidence / knowledge in COPD to recognise

Why do we care?

COPD in 40-65 yr olds

"I feel like I am old. I feel like I am really old, and I am 51"

"The most important thing I've lost is probably getting together with my dad and playing outdoors"

She is throwing her life away and she is throwing my life away."

The patient and their family cares

"you can only wash half the dishes and then you've got to wait for breath and then start again...it has to rule your life"

"Sometimes I think if only I was a dog, I could be shot"

"I'm totally disgusted with my life"

COPD uncovered report

Quality of life?

A disease that interferes with breathing

Reduces vitality

Withdrawal from daily life

Produces progressively severe symptoms

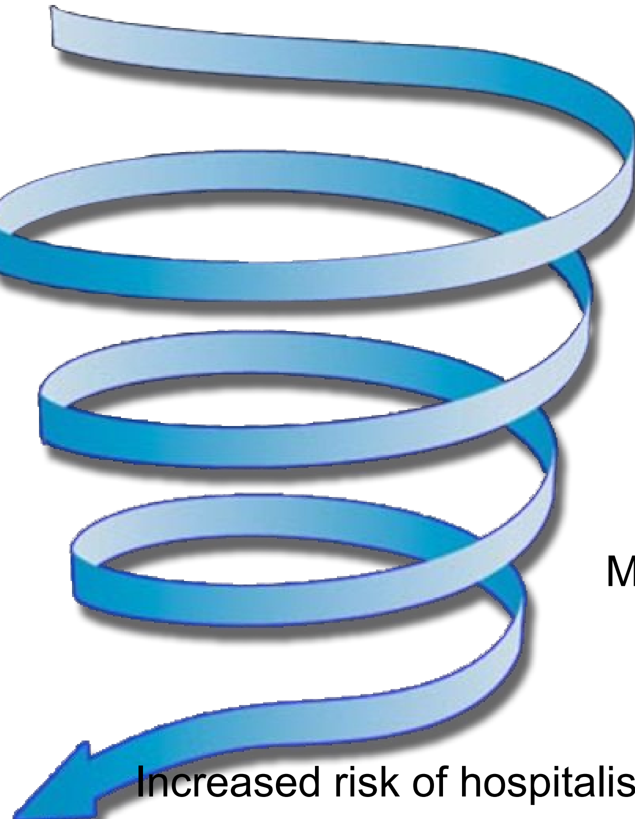
Tends to provoke psychological complications – depression /anxiety

Avoids confrontation "An emotional straight jacket"

Use QoL questionnaires – COPD Assessment Test (CAT)

*www.ca**test**online.org*

What does an exacerbation mean to a patient?



1. Garcia-Aymerich J *et al*. 2001
2. Donaldson D *et al*. 2002
3. Gore JM *et al*. 2000
4. Seemungal T *et al*. 1998
5. Pauwels P *et al*. 2001
6. Seemungal T *et al*. 2000
7. Garcia-Aymerich J *et al*. 2003
8. Anto JM *et al*. 2001

Exacerbations

- Many admissions for exacerbations are in undiagnosed patients
- COPD inpatient stay is mean 9 days

NCROP 2009: Clinical Data for South Central SHA

If patients are diagnosed, educated, treated with relevant pharmacotherapy and reviewed regularly. Have "2 pots of pills" and self management plan – admissions can be reduced

“COPD Uncovered” a global report

- International COPD experts in 6 countries, highlight impact of disease in 40-65 year olds
- November 2010 results revealed COPD costs UK economy £1.2 billion/year
- A disease of the working population based on current retirement age
- “Economic Time Bomb”
- Needs early diagnosis & management to enable active & productive lives

Social and Budget Impact;

Working age patients & carers drive up indirect costs COPD is responsible for a significant loss of productivity among family members and others who provide informal care

This significantly reduces home income – a serious issue for the low income families who tend to have the highest incidence of COPD

Indirect costs from lost productivity are a high portion of total costs [1, 2, 3]

Earlier diagnosis means earlier treatment & less progression

- **1. Sullivan SD, Ramsey SD, Lee TA. Chest 2000;117(2,Suppl.):5S-9S**
- **2. Wouters EF. Respir Med 2003;97 (Suppl. C):S3-S14 3.Fletcher et al ATS 2010**

"It takes your breath away" The Impact of COPD CMO annual report 2004

- Preventable & treatable
- UK mortality rate is double the European average
- Stronger action needed in current health policy

Low prevalence = low QOF payments

What is Prevalence?

Defined as the % of patients on a practice list with COPD

Calculate by dividing number of patients with COPD by the number registered at the practice

It is a measure of the burden of disease at a particular point in time

A few years ago national average COPD prevalence was 1.4%.

Last year it rose to 1.6%

Estimated real figure is >2%

COPD and QoF Income

There are 30 QOF points for COPD, but what is each point worth?

On average each QOF point is worth £124.60, but the actual value is altered by 2 things;

$$\text{Value of a QOF point} = £124.60 \times \frac{\text{Your practice list size}}{\text{The average list size}} \times \frac{\text{Your practice prevalence}}{\text{The average prevalence}}$$

The average list size is 5891, and the average COPD prevalence was 1.4%.

If your prevalence was below 1.4%, this reduced the value of each QOF point.

COPD and QoF Income continued

- e.g. If your list size is 5891, and your COPD prevalence is 1.4%, you will earn £124.60 per point, or £3738 if you get all 30 points.
- But a practice with 5891 patients, where COPD prevalence is only 1% will lose £1068/year.
- A bigger practice, with 11782 patients, where COPD prevalence is only 1% will lose £2135/year.
- There is no longer a cap, a threshold, a cut off or a square-root reduction. The value of each point is now directly linked to prevalence.
- Higher prevalence = higher income, even if you always achieve all your points.

How much does under-diagnosis cost from QOF income?

Figures show the amount a practice of each size looses in income each year by under-diagnosing COPD compared to the national average of 1.4%

Number of patients in the practice;

COPD prevalence %	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000
0.5	816	1224	1632	2040	2447	2855	3263	3671	4079	4487	4895	5303	5711	6119
0.6	725	1088	1450	1813	2176	2538	2901	3263	3626	3988	4351	4714	5076	5439
0.7	635	952	1269	1586	1904	2221	2538	2855	3173	3490	3807	4124	4442	4759
0.8	544	816	1088	1360	1632	1904	2176	2447	2719	2991	3263	3535	3807	4079
0.9	453	680	906	1133	1360	1586	1813	2040	2266	2493	2719	2946	3173	3399
1	363	544	725	906	1088	1269	1450	1632	1813	1994	2176	2357	2538	2719
1.1	272	408	544	680	816	952	1088	1224	1360	1496	1632	1768	1904	2040
1.2	181	272	363	453	544	635	725	816	906	997	1088	1178	1269	1360
1.3	91	136	181	227	272	317	363	408	453	499	544	589	635	680

In 2009-2010 the national COPD prevalence rose to 1.6%.
This will affect 2010-2011 payments- 1.4% is now too low.

Who are we missing?

Who will have COPD?

Among smokers with no prior history of obstructive lung disease 18.7% will have COPD 1

Amongst patients currently treated with asthma therapy & no history of COPD 24.5% will have COPD 1

50% of those with an FEV1 <50% predicted are currently undiagnosed 2

30% of moderate COPD (FEV1 50-79% predicted) and symptomatic have never seen a doctor

1 Tinkelman D, Price D, Nordyke R, Halbert RJ, Prim Care Resp Journal. 2007;16:44-48
2 Freeman D, Nordyke RJ, Isonaka S, Nonokov DV, Maroni JM, Price D Repir Med 2005;99:1311-1318

Those at risk

- The most important risk factors for COPD are;
- Smoking
- Social deprivation
- Occupational exposure to dust
- Indoor pollution such as smoke from wood and coal fires
- Inherited faulty genes – alpha 1 antitrysin def
- Poor airway function after birth

Lower socio-economic group at risk

- Older people in crowded apartments
- High-density social housing
- Poor health from work in heavy industry
- Towns as well as cities
- Large social housing estates

  BLF 2007

Where will we find them?

Be aware

- Poor recognition of early symptoms leads to delays in presentation: those who present late have more advanced disease

  (Wouters 2003)

In the UK

- 80% cases of COPD attributable to smoking
- 15% occupational or environmental
- 5% may be genetic Alpha 1 antitrypsin deficiency

Case Finding Questions [1]

- Pack years smoked (0-14, 15-24, 25-49, 50+)
- Body mass index (calculated from height and weight)
- "Does the weather affect your cough?" (Yes/No)
- "Do you ever cough up phlegm [sputum] from your chest when you don't have a cold?" (Yes/No)
- "Do you usually cough up phlegm [sputum] from your chest first thing in the morning?" (Yes/No: negative)
- "How frequently do you wheeze?" (Ever/Never)
- "Do you have or have you had any allergies?" (Yes/No: negative)

1. Price D et al. Respiration 2005


FEV1
8.88
CAUCASIAN
HISPANICBLACK
188%
PulmoLife

Where to find them no 1

COPD patients have co-morbidities

- 40% heart disease
- 10% diabetes
- 17-42% hypertension
- 2-19% osteoporosis
- 18-22% depression

Check history etc & FEV1 in other disease reviews – involve the team

Where to find them no 2

- Many are diagnosed as “Asthma”
- Irreversible obstruction from long term untreated Asthma sits under the COPD umbrella – benefit for COPD drugs
- Amongst patients currently treated with asthma therapy & no history of COPD 24.5% will have COPD
- Check FEV1 with PEFR, especially older asthmatics

Where to find them 3;

Practical Searches / Screening;

1. Advertise / offer free lung health check to those with > 15 pack years of smoking (www.smokingpackyears.com) using a microspirometry screener "Know your lung age"
2. Smoking cessation advisor to check all quitters FEV1 & lung age using microspirometry

Where to find them no 4

Computer searches:

1. Smokers/ex smokers with short acting beta-2 agonists but no COPD or asthma diagnosis.
2. Patients on inhalers with no diagnosis
3. Asthmatics with frequent courses of antibiotics and/or oral steroids
4. Those with previous spirometry not diagnosed because FEV1 >80%. Recheck FEV1/FVC ratio

A Missing millions hot spot- Hull

What can be done – a screening event

- 5000 'at risk' households contacted
- 3055 requested information packs
- Total Tested: 790
- Total Referred : 183 (23%)
- 85% of those referred had visited their GP, 6 % intended to
- 35 % were diagnosed with COPD
- 78 % of smokers felt the event had encouraged them to cut down or quit
- 76 % felt the event increased their awareness of COPD
- 95 % would recommend a lung function test to others

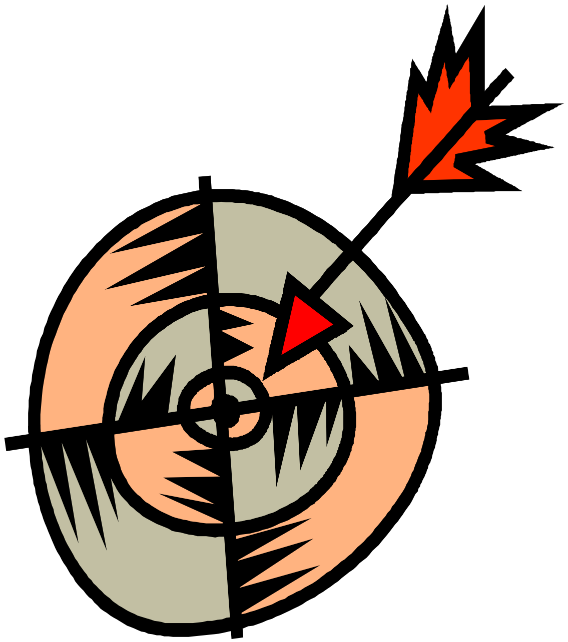
COPD targets- NICE attacks Qof

Targets do not = good medicine

- Those newly diagnosed need post-bronchodilator spirometry to confirm diagnosis
- Percentage of patients with An FEV1 recorded in last 15m
- MRC dyspnoea score in last 15m
- Flu jab in previous flu season

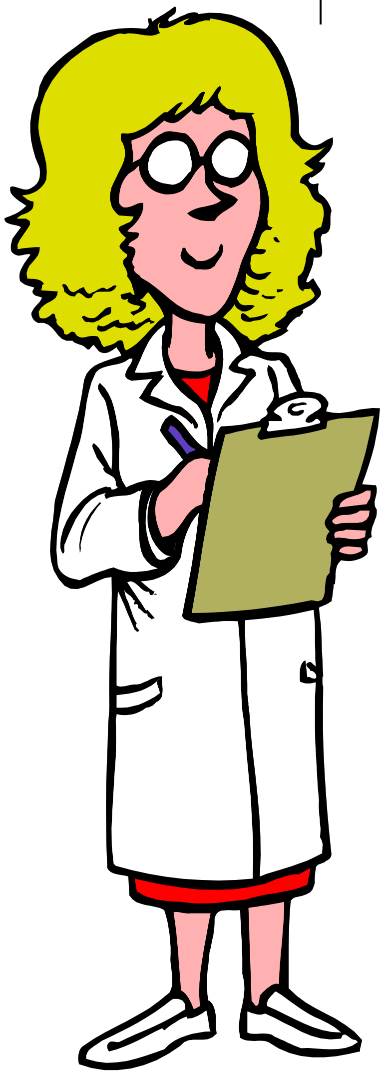
No inhaler technique or quality of life scores

No incentive for screening



Delivery and Organisation of Care

- Regular and Structured Review
  - COPD trained HCP
  - Maintain a clean up to date register
  - Target Patients at risk
- A Standard Recording System
  - Purpose built template e.g. Apollo V
  - Spirometry by HCP trained to operate & interpret
  - sPo2 when stable
  - Inhaler Technique / In Check
  - Co morbidities
  - Drug treatment as per NICE
  - Pulmonary Rehab
- Individualised Action Plans
- Clinical Audit – e.g. admissions



Which one has COPD?