

LSE Works: LSE Health and Social Care public lecture

STAR: using visual economic models to engage stakeholders to increase value in the NHS

Dr Mara Airoidi

Departmental Lecturer in Economics and Public Policy, Researcher at the Blavatnik School of Government, Oxford University

Siân Williams

Programme Manager, IMPRESS Manager, International Primary Care Respiratory Group

Professor Gwyn Bevan

Professor of Policy Analysis, LSE

Sir Muir Gray

*Consultant in public health, Oxford University Hospitals NHS Trust
Director, Better Value Healthcare Chair*

Suggested hashtag for Twitter users: **#LSEworks**





IMPRESS



Improving and Integrating Respiratory Services

STAR to prioritise guidelines for COPD

Siân Williams, IMPRESS Programme Manager

Mara Airoidi, Blavatnik School of Government,
University of Oxford

LSE

 **The
Health
Foundation**
Inspiring
Improvement

A story of COPD and value

WHAT IS COPD?



CHRONIC OBSTRUCTIVE PULMONARY DISEASE...



IS A LUNG AND AIRWAYS DISEASE...
in which the airways are restricted, making it difficult to breathe



CAUSES WHEEZING...
shortness of breath, chest tightness and other symptoms



IS OFTEN MISDIAGNOSED...
and confused with asthma



IS MAINLY CAUSED BY SMOKING...
but long-term exposure to other irritants may also contribute to COPD e.g. outdoor air pollution, passive smoking

COPD IS A MAJOR HEALTH PROBLEM IN EUROPE

300,000 DEATHS



There are 300,000 deaths in Europe from COPD each year - the equivalent of 3 Hiroshima bombs¹



4%–10%

In Europe 4-10 % of adults have COPD²

5TH BIGGEST KILLER



COPD is the 5th biggest killer worldwide³

3RD LEADING CAUSE OF DEATH BY 2030
AFTER HEART DISEASE AND STROKE



COPD is the only major cause of death whose incidence is on the increase and is expected to be the third leading cause of death worldwide by 2030⁴



€4,7 BILLION PER YEAR

The total COPD related expenses for outpatient care in the EU is approximately €4,7 billion per year⁵

270,000 DEATHS IN 2005

338,000 DEATHS BY 2030

COPD is expected to increase from almost 270,000 in 2005 to 338,000 deaths by 2030⁶

ISSN 2040-2023

IMPRESS

Improving and Integrating Respiratory Services

July 2012

PRIMARY CARE • PCRS • RESPIRATORY SOCIETY • UK

NHS Jargon Buster

Integrate COPD Care

SERVICE SPECIFICATION: Obstructive Sleep Apnoea Syndrome

Respiratory Service Specification / COPD

Pulmonary Rehabilitation

Respiratory Outpatient Care

Relative Value of COPD Interventions

IMPRESS Guide to the relative value of COPD interventions

...& clinical decision-making and influences



In 2010
pharmaceutical
companies spent
\$18.5bn promoting
medicines to
doctors in top 5
European
countries



60% of that on
“detailing” and
10% on meetings

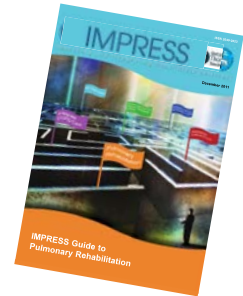
Top 5 drug costs to
NHS are respiratory
inhalers

Where did we start in 2007? What and who?

- **What** is right care?
- **Who** are the right professionals? Or is it about competences?
- **What proof** is required to show we are the right professionals? What about competition?
- **Who** are the right recipients of care:
need/demand/individuals/populations?

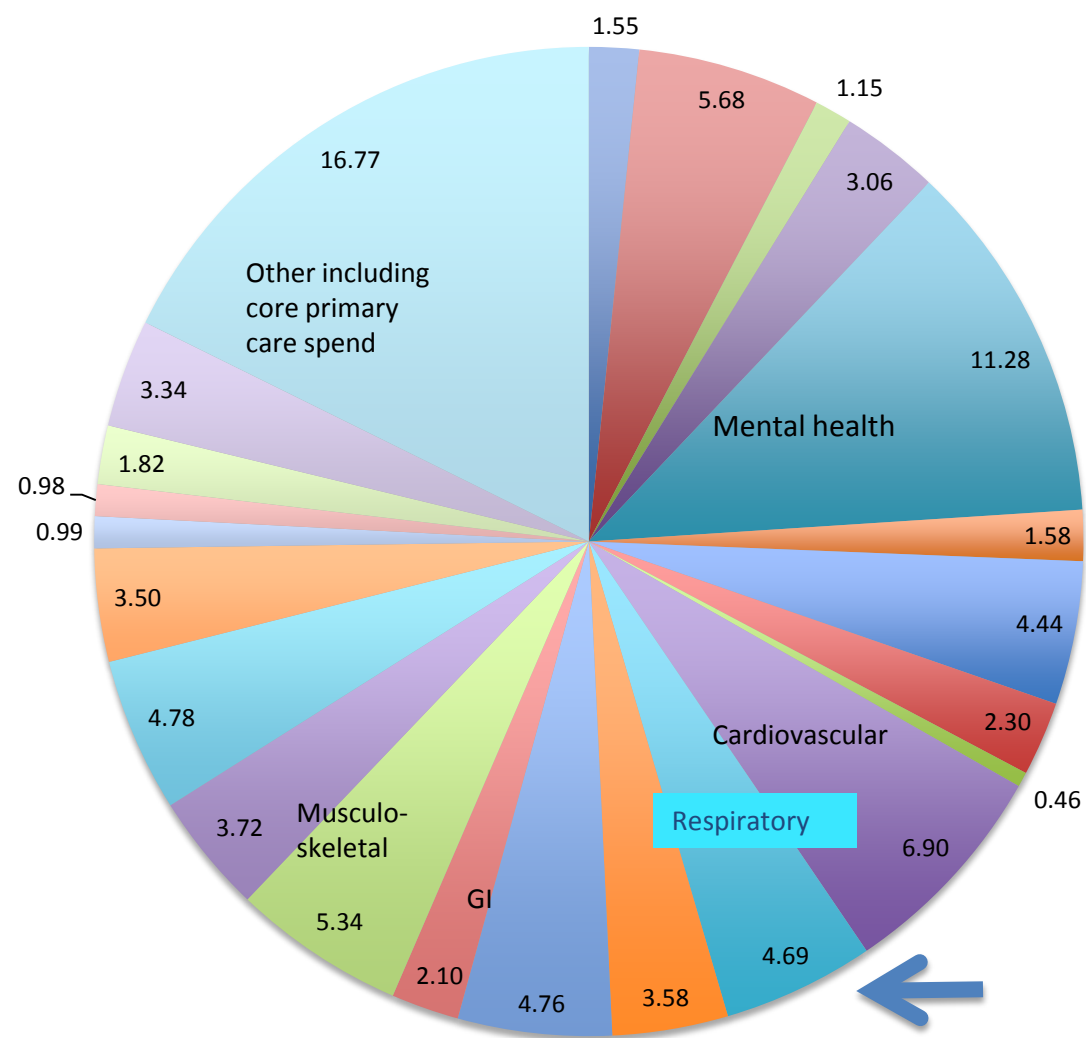


Respect and trust



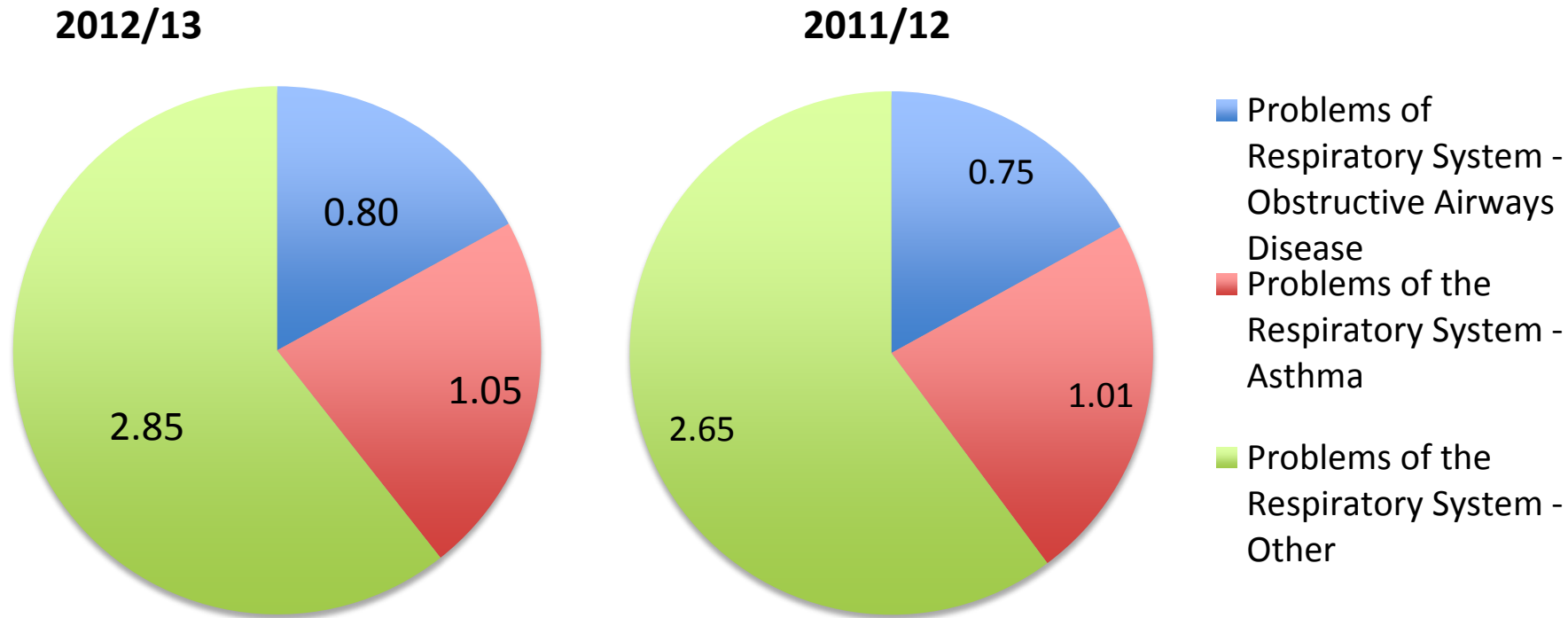
But austerity changes things: need to understand constraints

NHS England Programme Budgeting expenditure 2012/13: £billion



[2011/12 spend: £4.41bn (so represents 6% increase) Compare CVD: 0.3% decrease]

Scope to change within respiratory spend (£billion)



More for Less, 2010: consensus from respiratory specialists using Ovretveit's classification

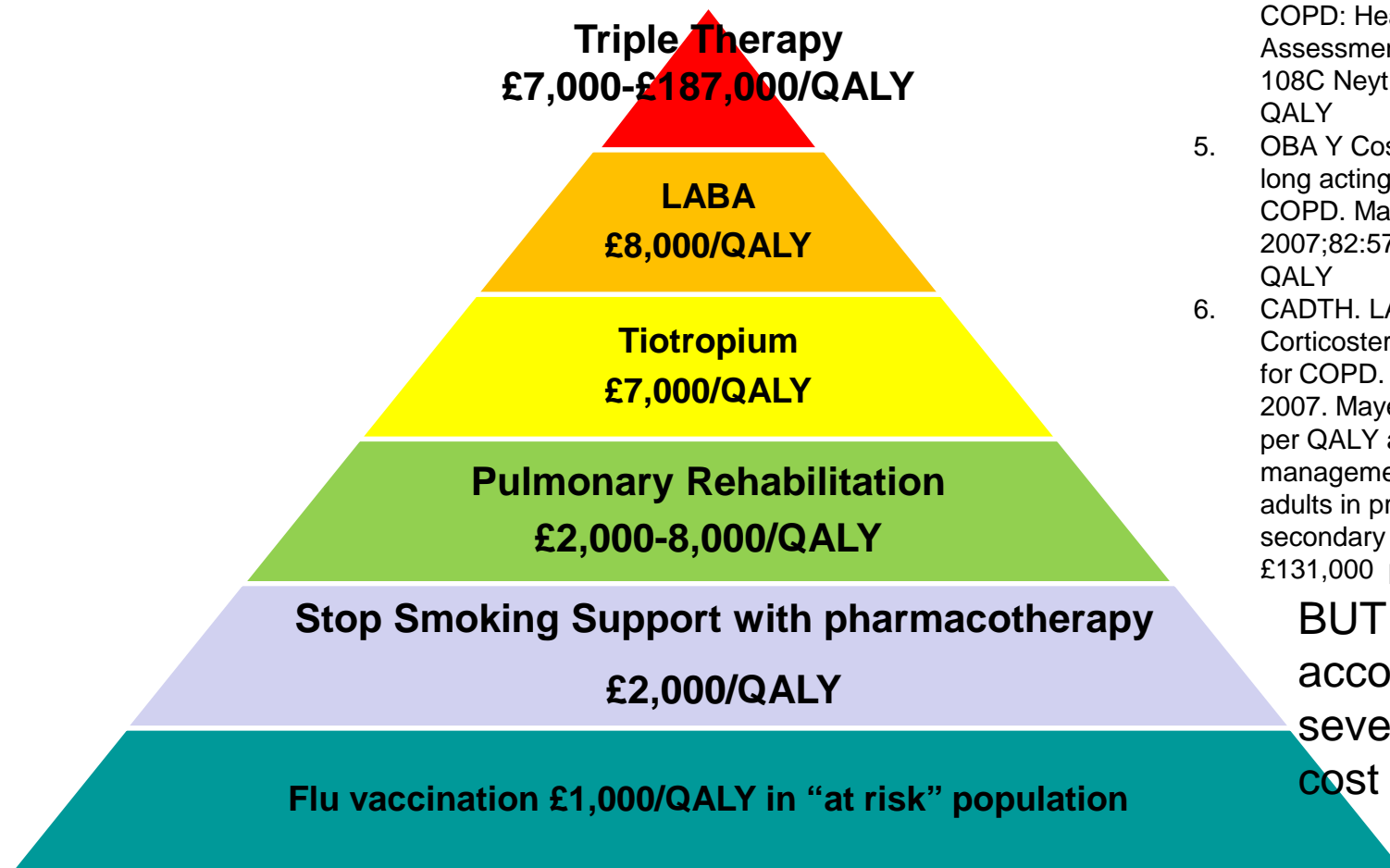
- Underuse of smoking cessation
- Rationalising oxygen prescribing (see IMPRESS separate guide)
- Reducing inhaler waste
- Overuse of high dose inhaled corticosteroids and/or combination products
- Underuse of inhaled corticosteroids for patients with asthma prescribed long acting beta agonists
- Underuse of reviews of patients with asthma requesting excess short acting beta agonists with no other treatments
- Underuse of audit of adverse effects eg percentage of children prescribed or using >800 micrograms per day of inhaled beclametasone who are not under the care of a specialist respiratory physician
- Overuse of enteric-coated prednisolone tablets for patients with COPD or asthma instead of uncoated prednisolone tablets. At the time of drafting (Jan 2010) there was a six-fold difference on the drug tariff)
- Underuse of person-centred consultation and records review to identify and support people with poor asthma control
- Overuse of hospital beds (eg asthma admissions and COPD length of stay) and underuse of hospital respiratory specialist care
- Underuse of referral to pulmonary rehabilitation
- Underuse of psychological support
- Overuse of outpatients for common conditions
- Under-coordination with social care

Example of a simple change to reduce cost for same quality and enough volume to make it worthwhile

One SHA: April to June 2010 compared to April to June 2011
Prednisolone prescribing, change from red to white tablets

Priority area	Low cost prednisolone	Low cost prednisolone	
Metrics	April to June 2010 (3 month average) Prednisolone 5mg tablets as % of all prednisolone 5mg	April to June 2011 Prednisolone 5mg tablets as % of all prednisolone 5mg	Lost opportunity Prednisolone 5mg tablets as % of all prednisolone 5mg
Key Performance indicator / max or minimise		95%	95%
Cluster 1	31.49%	55.8%	£85,673
Cluster 2	39.66%	71.2%	£52,168
Cluster 3	51.22%	66.4%	£22,956
Cluster 4	40.49%	66.6%	£41,581
Cluster 5	28.92%	56.2%	£66,426
Cluster 6	25.12%	60.9%	£89,825
SHA	33.92%	62.54%	£358,628

Colleagues looking at VALUE



1. Health. 1998 Feb;52(2):120-3 £50 saving for over 65
2. Thorax. 65(8):711-8, 2010 Aug.
3. Thorax 2001;56:779-784 £0-1000 per QALY
4. Tiotropium in the treatment of COPD: Health technology Assessment KCE reports 108C Neyt M et al £7,456 per QALY
5. OBA Y Cost effectiveness of long acting bronchodilators for COPD. Mayo Clinic Proc 2007;82:575-582 £5,396 per QALY
6. CADTH. LABA plus Corticosteroids vs LABA alone for COPD. Issue 83 March 2007. Mayers I et al £130,000 per QALY and NICE COPD management of COPD in adults in primary and secondary care 2010 £131,000 per QALY

BUT... no account of severity, or cost

STAR: what did we do?

- Modelled a population of 300,000 including about 11,000 at risk of COPD
- Identified 3 **population segments** and created an **archetype** for each:
 - **undiagnosed** (6000 people),
 - diagnosed with **mild-moderate** disease (3000) and
 - diagnosed with **severe-very severe** disease (1900)
- Defined a **list of evidence-based interventions** for each population segment
- Debated the effectiveness of each intervention for the archetype
- Drew **rectangles** that plotted the segmented population's health benefit of selected interventions, and from that
- Added in the cost dimension to create **value triangles**

8.11.5 Theophylline and other methylxanthines.....	379
8.11.6 Respiratory stimulants	380
8.12 Oxygen therapy during exacerbations of COPD	382
8.13 Non invasive ventilation (NIV) and COPD exacerbations	386
8.14 Invasive ventilation and intensive care	389
8.15 Respiratory physiotherapy and exacerbations	392
8.16 Monitoring recovery from an exacerbation	394
8.17 Discharge planning	395
9 AUDIT CRITERIA	397
10 Areas for Future Research	403
10.1 General Points	403
10.2 Specific points	404
10.2.1 Pharmacological Management.....	404
10.2.2 Adjunctive therapies	405
10.1.3 Patient focused strategies	405
10.3 NEW 2010 UPDATE Future research recommendations	406
11 Appendix A Details of questions and literature searches	410
12 Appendix B Cost effectiveness of opportunistic case finding in primary care.....	431
13 Appendix C Educational packages.....	454
14 Appendix D Economic costs of COPD to the NHS	455
15 Appendix E Searching for health economics evidence	459
16 Appendix F Evidence tables	462
17 Appendices for NEW 2010 update	463
18 Appendix G NEW 2010 update Scope.....	464
19 Appendix H NEW 2010 update PICO questions.....	473
20 Appendix I NEW 2010 update research protocols.....	476

Bring the evidence eg Appendix M of NICE COPD guideline...

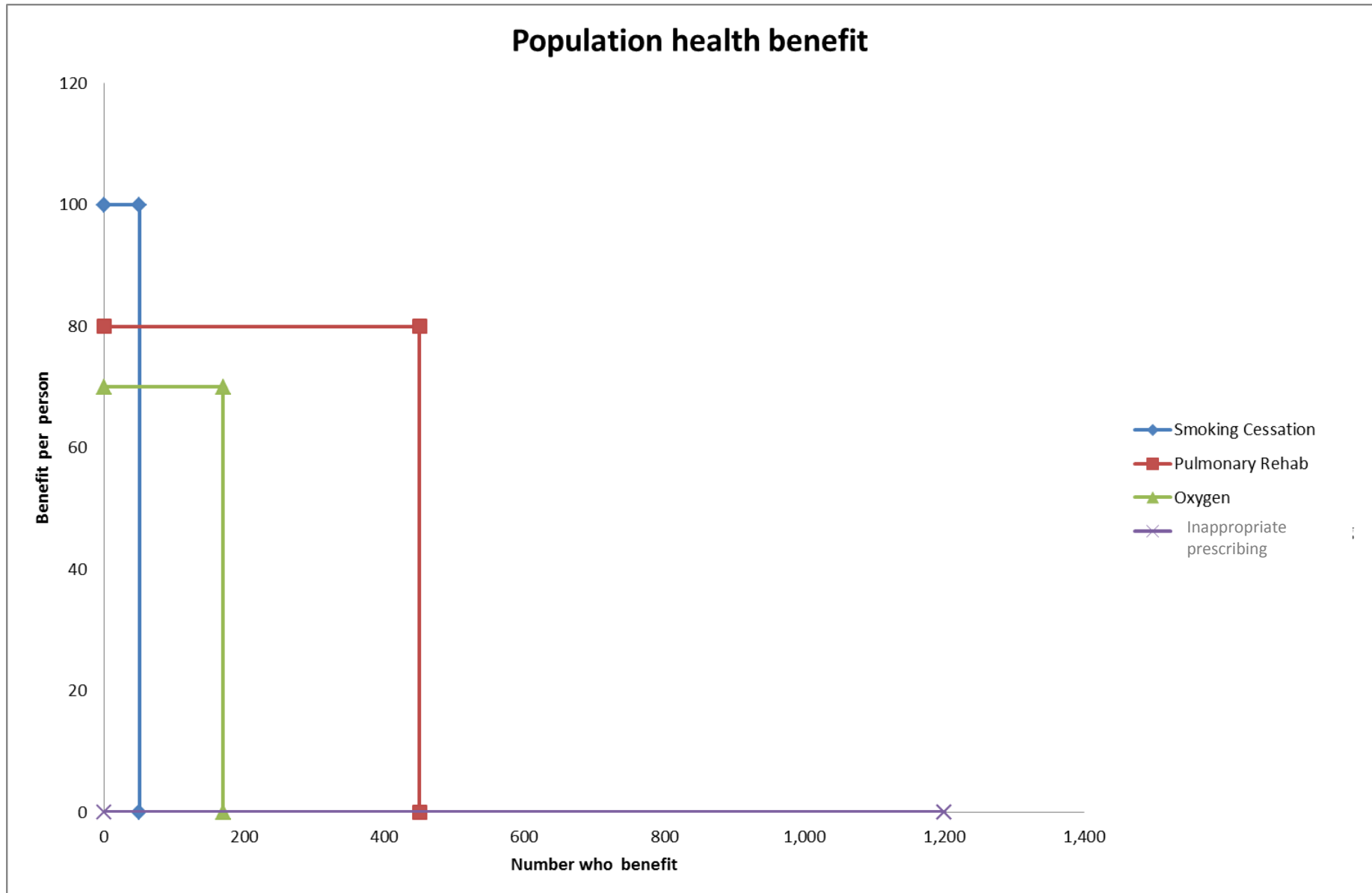
COPD (update)

21 Appendix J NEW 2010 update literature searches	497
22 Appendix K NEW 2010 deleted sections from original guideline	531
23 Appendix L NEW 2010 update criteria for selecting high-priority research recommendations.....	559
24 Appendix M NEW 2010 update cost effectiveness modelling.....	561
25 Appendix N NEW 2010 COPD update GDG declarations of interest register	609
26 Appendix O NEW 2010 COPD update forest plots	613
27 Reference List	626

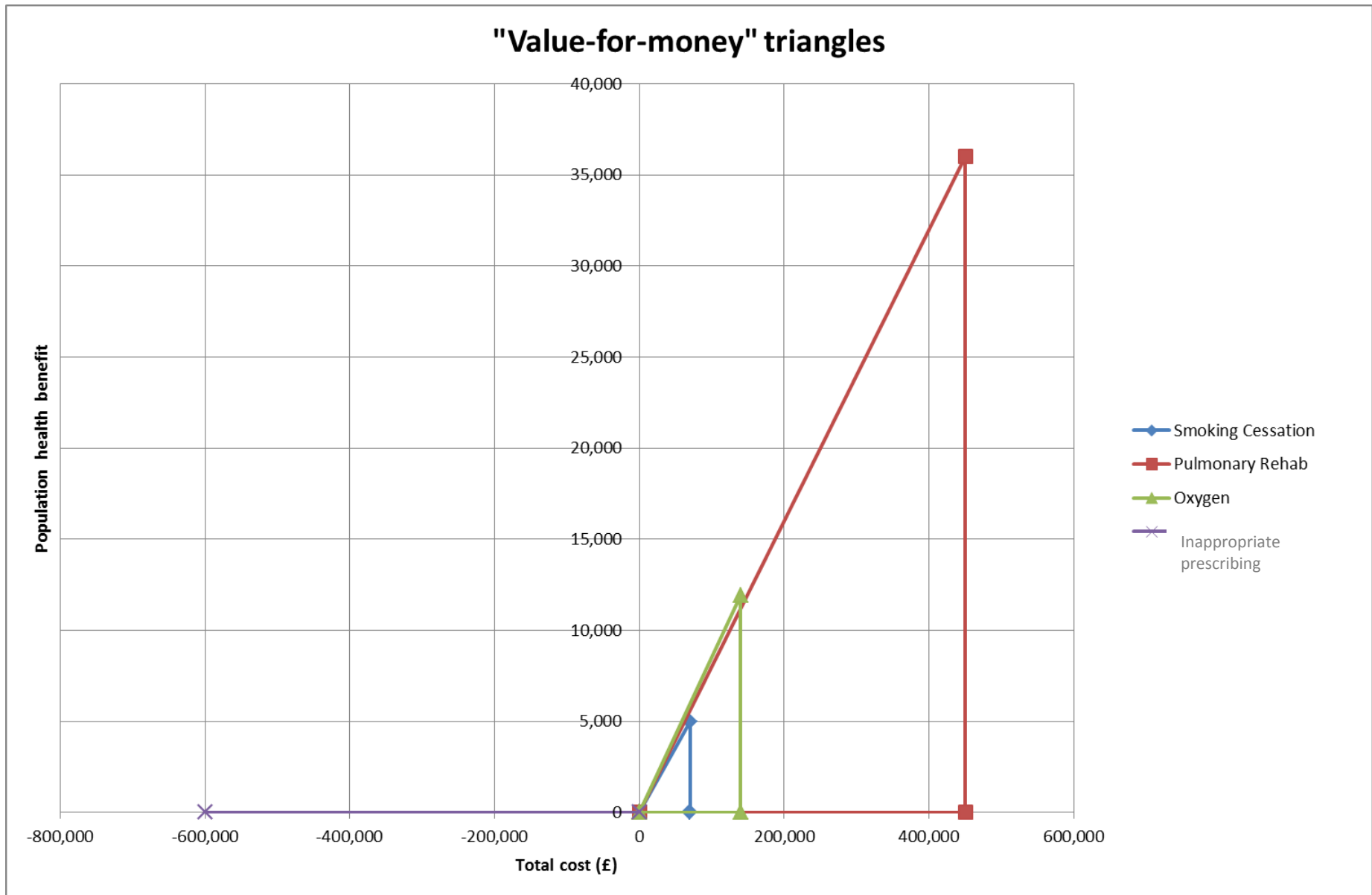
Also built on IMPRESS Pulmonary rehabilitation evidence



The rectangle for severe COPD



Value for money triangles for severe COPD



Conclusions: severe COPD

- Interventions such as stop smoking and consideration for referral to pulmonary rehabilitation should happen before any trial of triple therapy. **Patients should be optimised on treatment prior to pulmonary rehabilitation, not necessarily maximised**
- Clinicians and commissioners should take much more note of the cost-effectiveness data of drug therapies, (we used NICE, Canadian and Belgian systematic reviews up to mid-2011)
- **Triple therapy should be reserved for patients for whom it is appropriate: for people with severe disease who have persistent exacerbations despite using either ICS/LABA or LAMA**

So how does it help engage clinicians in prioritisation?

- Fair evaluation of both medicines and non-medical intervention
- Have to look at population too: the scale
- Start asking:
 - Who am I responsible for?
 - Who am I NOT seeing?
- Smoking is a treatable dependency, so it's my business
- Physical activity and PR are effective, so I should ensure I can refer to them
- I know the value of prescribing, and should prescribe responsibly



LSE Works: LSE Health and Social Care public lecture

STAR: using visual economic models to engage stakeholders to increase value in the NHS

Dr Mara Airoidi

Departmental Lecturer in Economics and Public Policy, Researcher at the Blavatnik School of Government, Oxford University

Siân Williams

Programme Manager, IMPRESS Manager, International Primary Care Respiratory Group

Professor Gwyn Bevan

Professor of Policy Analysis, LSE

Sir Muir Gray

*Consultant in public health, Oxford University Hospitals NHS Trust
Director, Better Value Healthcare Chair*

Suggested hashtag for Twitter users: **#LSEworks**

