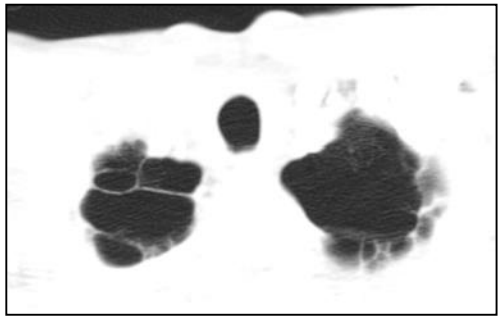
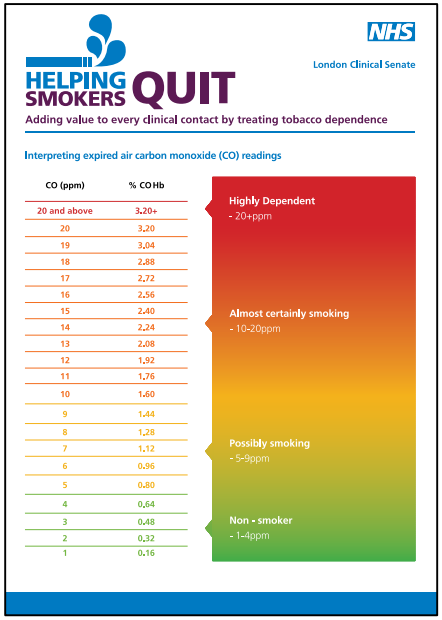
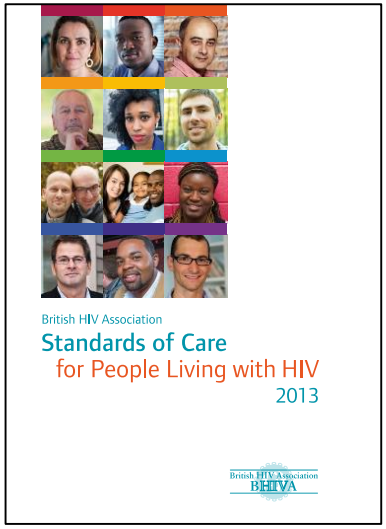
Tobacco Dependence & HIV: Case for change







Helping Smokers Quit
Adding value to HIV Care?

BHIVA Conference: Best Practice Session 13 Nov 2015

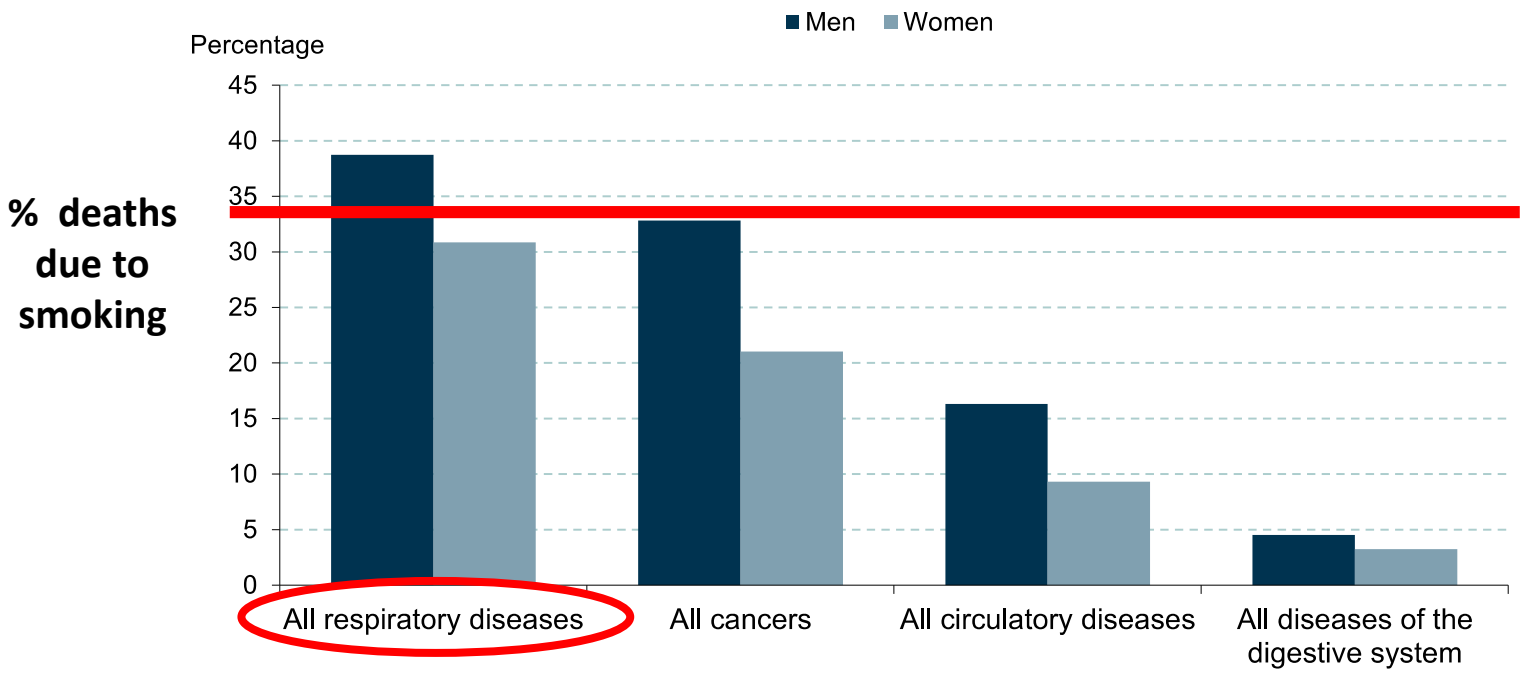
Louise Restrick, integrated consultant respiratory physician,
Whittington Health & Islington CCG
London Senate Helping Smokers Quit Team
London Respiratory Network Lead

‘Smoking’ and respiratory deaths

NHS England

Statistics on Smoking, England 2015

Figure 4.5 - Estimated deaths attributable to smoking, as a percentage of all deaths from that disease[1], by gender, 2013



1. Among adults aged 35 and over.

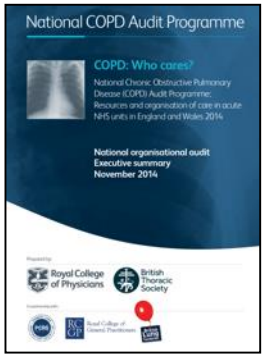
Source: Office for National Statistics, Annual Mortality Statistics, 2013 date of death registration : Crown Copyright

More than 1 in 3 respiratory deaths the result of tobacco dependence

~ 35%

COPD and Lung Cancer

Tobacco dependence and COPD



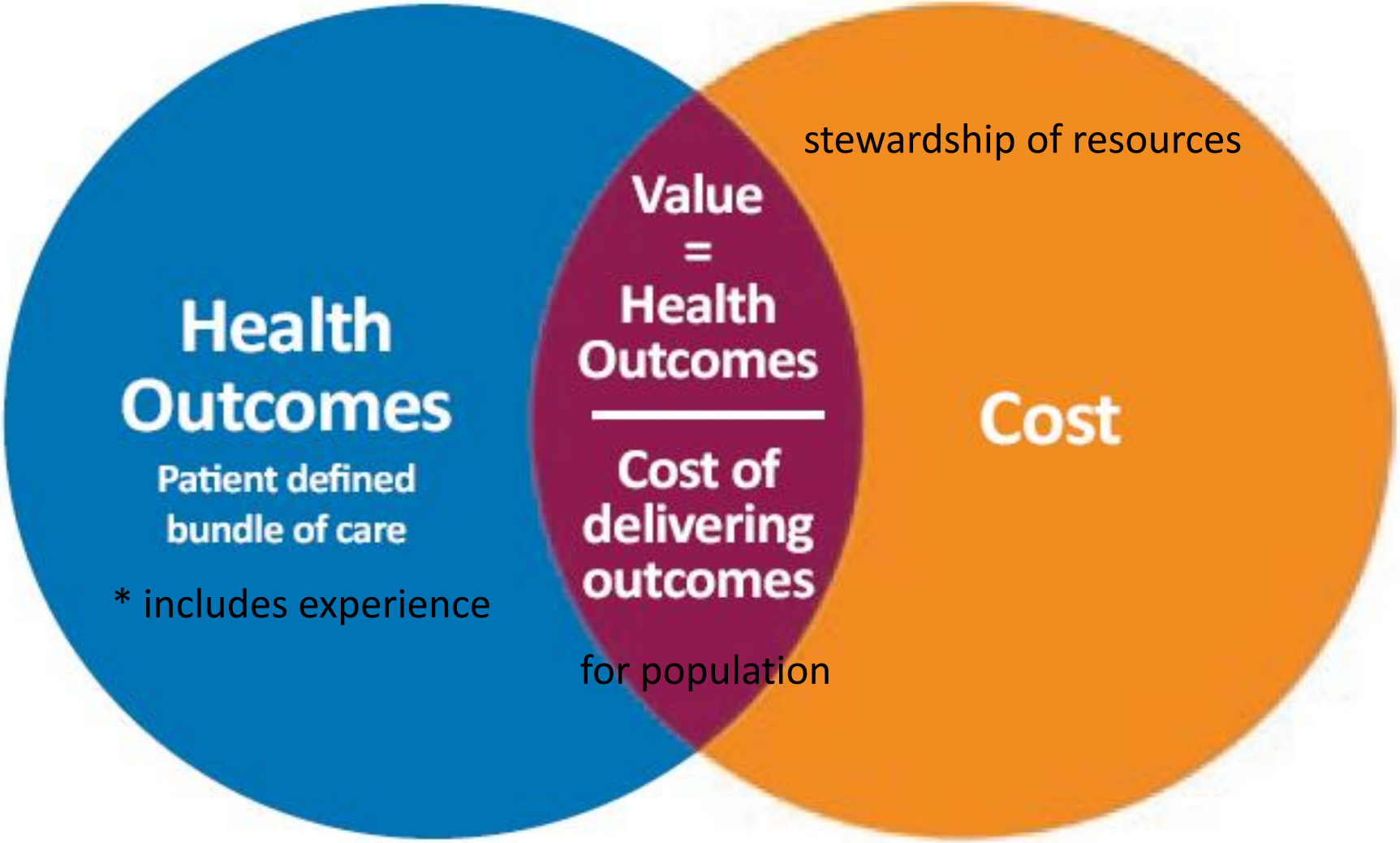
Smoking status		
RCP BTS COPD Audit 2014	National audit (13414)	
Known	92%	12390
If known (12390):		
Current smoker	37%	4528
Ex-smoker (stopped prior to hospital admission)	61%	7552
Never smoked	3%	310

More than 1 in 3 people admitted with COPD remain tobacco or nicotine dependent ~37%

Unchanged in 10 years

Value Framework: work with patients, improve outcomes and reduce costs

NHS England



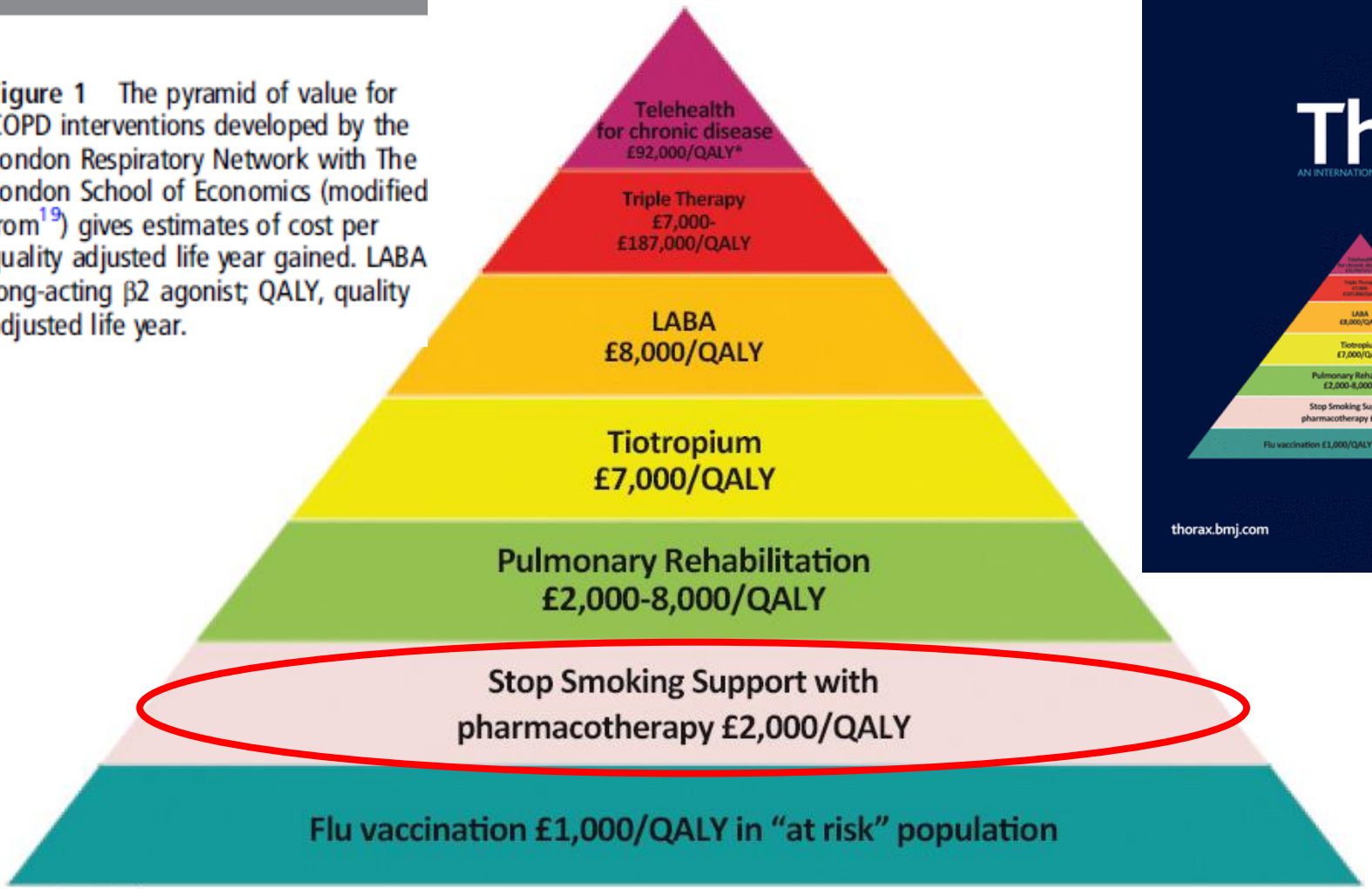
Porter ME; Lee TH
NEJM 2010;363:2477-2481; 2481-2483

What is High Value Respiratory Care? COPD 'Value' Pyramid

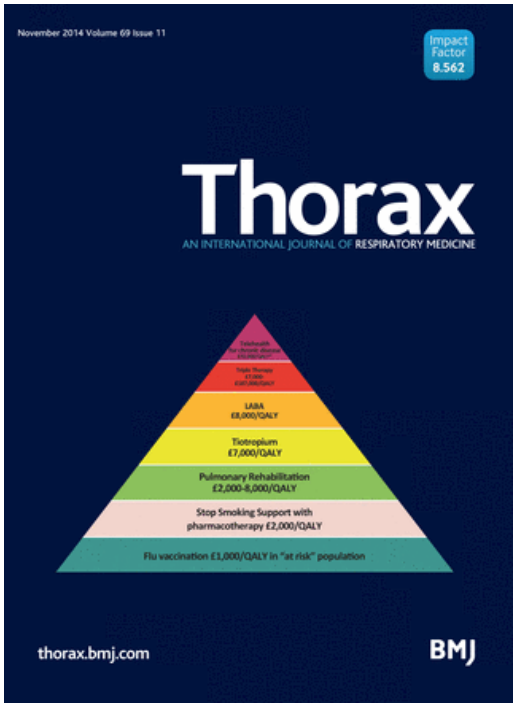
NHS England

Editorial

Figure 1 The pyramid of value for COPD interventions developed by the London Respiratory Network with The London School of Economics (modified from[19]) gives estimates of cost per quality adjusted life year gained. LABA long-acting β2 agonist; QALY, quality adjusted life year.



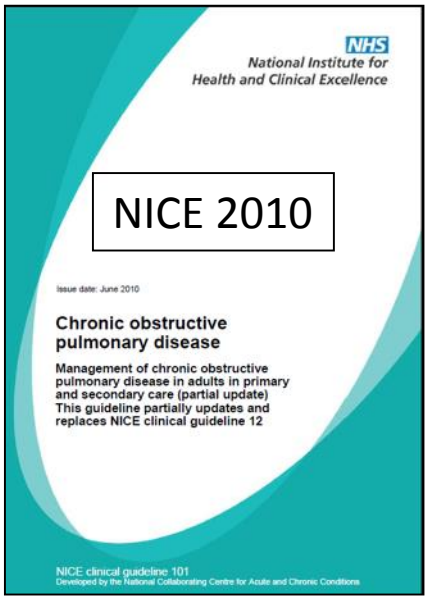
*(not specific to COPD)

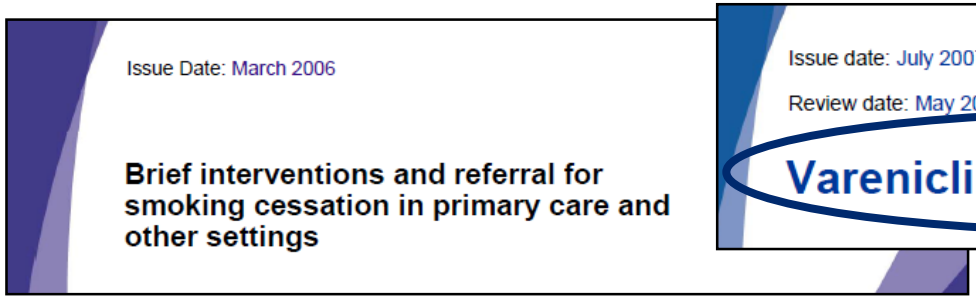


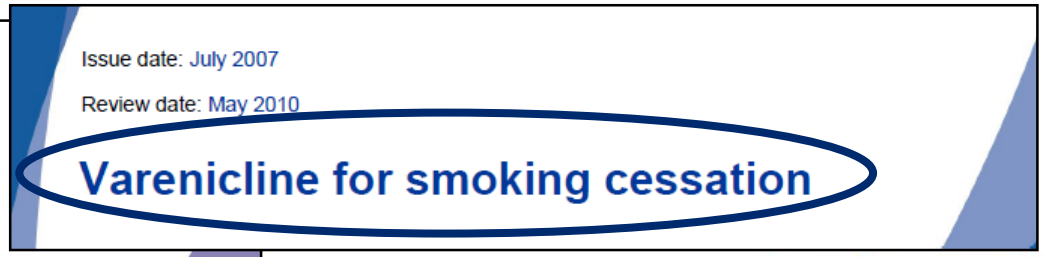
Evidence-based treatment for tobacco dependence in COPD

NHS England

‘Offer nicotine replacement therapy, **varenicline** or bupropion (unless contraindicated) combined with a support programme to optimise quit rates… ***to all people with COPD who still smoke at every opportunity.’***





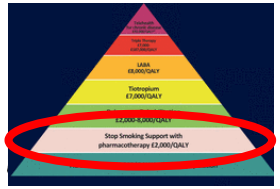


40% COPD admissions tobacco dependent: Do we treat tobacco dependence?

Current smokers given smoking cessation advice during admission		
RCP BTS COPD Audit 2014	National audit (4528 current smokers)	
Yes	58%	2610
No	11%	490
Not applicable	5%	217
Not recorded / not clear from notes	25%	1138
No answer=blank	2%	73

More than 40% people admitted with COPD who are tobacco dependent do not have a record of having been 'given smoking cessation advice during admission'

Adding value to hospital admission: Treating nicotine dependence



‘Smoking’ is tobacco/nicotine dependence

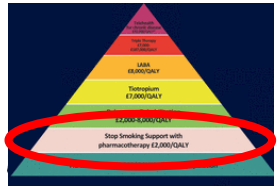
Sick smokers are admitted to … hospitals

Evidence based quit smoking is the most important treatment for nicotine dependence in sick smokers:

Behaviour change support and prescribed quit smoking medication

As supporting people who are nicotine dependent and have respiratory disease to quit is their key treatment …
… effective quit smoking is our clinical responsibility

Adding value to **respiratory** ward admission:
Evidence-based treatment of nicotine dependence



Integral part of clinical care

Consultant led - all team members responsibility

Skilled behaviour change support

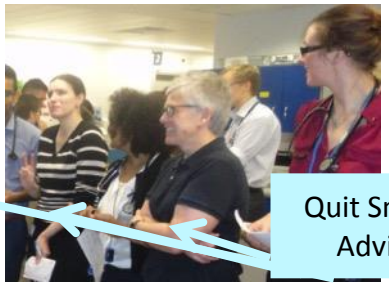
Quit smoking advisor key member in MDT

Multiple interventions on the ward

Co-ordinated follow up in clinic and at home

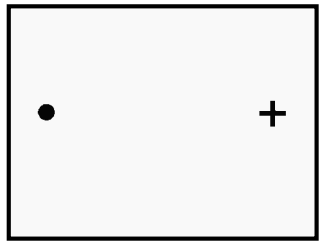
Team have and use Carbon Monoxide (CO) monitors

Range of NRT and varenicline available and prescribed



Quit Smoking Advisors

Impact of tobacco dependence in people living with HIV?



~3000 HIV-infected individuals*
Denmark 1995-2010 - 10 000 controls - followed up ~4 years

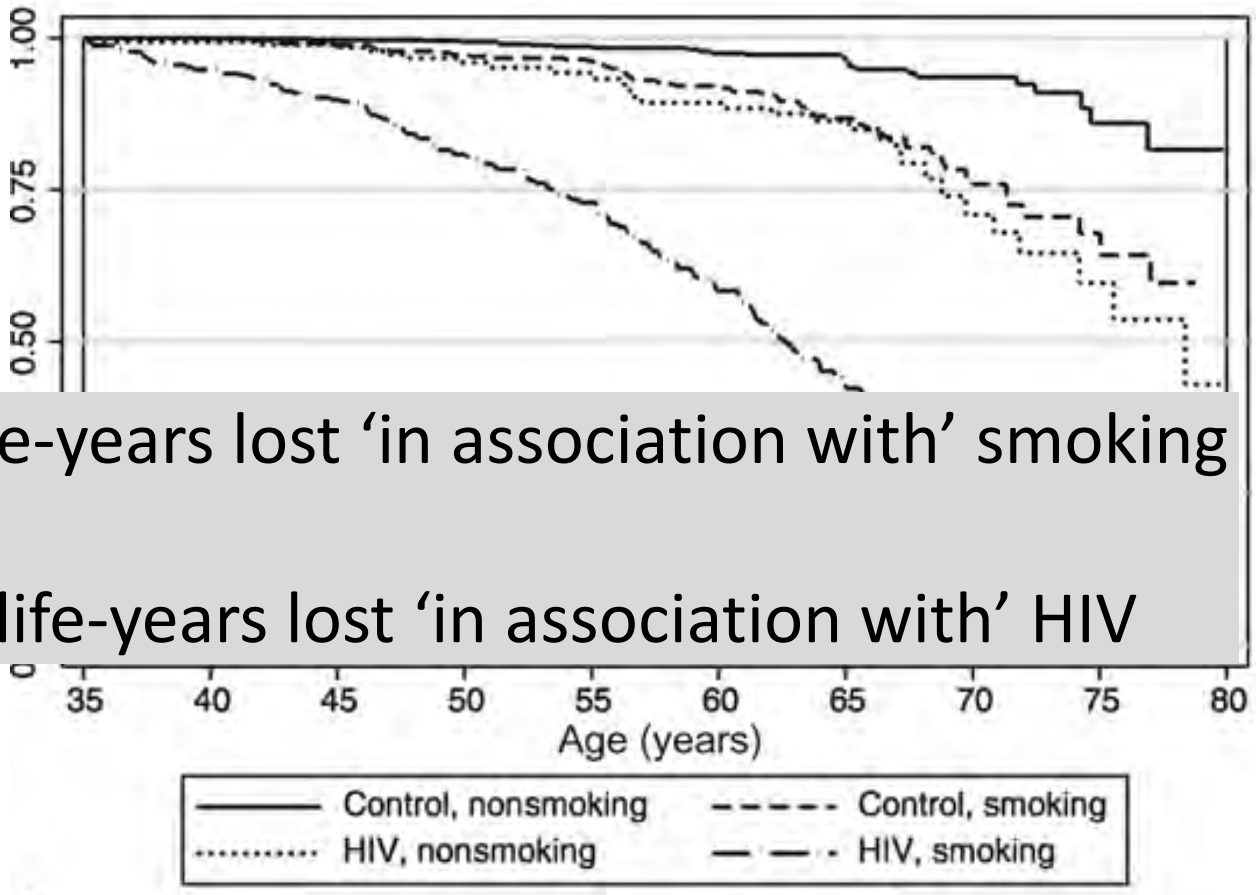
Self-reported Smoking status	**'Smoker' %**	**'Ex-smoker' %**	**'Never Smoker' %**
HIV-infected individuals	**47**	18	35
Population Controls	20.6	32.8	46.6

*1500 excluded because missing data on smoking status ie 1 in 3!

Mortality Attributable to Smoking Among HIV-infected Individuals. Helleberg M et al. **Clinical Infectious Diseases** 2013;56(5):727-34

Impact of tobacco dependence in people living with HIV

Kaplan-Meier curve showing survival by age stratified by HIV & smoking status



12 life-years lost 'in association with' smoking

5 life-years lost 'in association with' HIV

Mean age 42-45 years

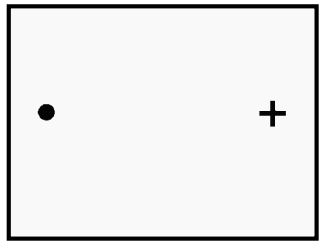
223 deaths in 4 years …

Age at death?

Young

Mortality Attributable to Smoking Among HIV-infected Individuals. Helleberg M et al. **Clinical Infectious Diseases** 2013;56(5):727-34

Impact of tobacco dependence in people living with HIV



~18 000 HIV-infected individuals **US & Europe**

46 000 eligible HIV-infected individuals

60% smokers

Higher mortality from cardiovascular disease & non-AIDS malignancies than non-smokers

7.9 life-years lost associated with smoking

5.9 life years lost associated with HIV

24 000 excluded due to lack of data on smoking status

ie information missing in more than half …

What about respiratory illnesses?

Smoking and life expectancy among HIV-infected individuals on antiretroviral therapy in Europe and North America . Hellenberg M et a. **AIDS** 2015, 29:221–229

Cannabis smoking and respiratory illness: inner city experience & observations

NHS England

1 in 3 tobacco smokers in an inner city hospital population also smoke cannabis*

- ✓ all groups in society
- ✓ have to ask not volunteered…

History of tobacco **and cannabis smoking**

- ✓ Young people with pneumothorax
- ✓ Younger people with severe COPD with emphysema on CT
- ✓ Younger people with lung cancer

*LJ Restrick, EV Cumbus, O Thomas, M Stern, European Respiratory Society Congress 2011; 38:776s

Cannabis smoking & lung cancer

NHS England

Tunisia, Morocco & Algeria*

*Berthiller et al **J Thoracic Oncology** 2008

Odds Ratio for lung cancer if cannabis user >2

New Zealand** 79 cases lung cancer in under-55s

Risk of lung cancer increased:

8% for each joint-year cannabis smoking

7% for each pack-year cigarette smoking

>5 x Relative Risk with >10 joint-years cannabis

'5% of lung cancer in those aged ≤55 years may be attributable to cannabis smoking.'

Aldington et al **ERJ 2008:31;280-286

Sweden*** 49 000 male conscripts age 18-20 followed for 40 years

1.7% 'heavy' cannabis users (>50 joints total ie ~1 joint-year)

Odd ratio of lung cancer >2 (adjusted for tobacco use)

***Callaghan et al **Cancer Causes Control** 2013:24:1811-1820

Cannabis smoking and respiratory illness: changing what we do ….. ASK

Whittington Health NHS

NAME.....
HOSP.NO.....
DOB..... Age.....

ACUTE EXACERBATION OF C.O.P.D. CLERKING PROFORMA

SMOKING (including cannabis and other drugs)

Still smoking tobacco Yes ☐ No ☐ If yes, .../ day. If ex-smoker, date given up .....

Pack years = no. of cigarettes / 20 X years =_____

Still smoking cannabis Yes ☐ No ☐ **Joint years = no. of joints per day X years =_____**

History of smoking other drugs e.g crack/ heroin Yes ☐ No ☐
If yes, state _____ Frequency of use _____

Still smoking other drugs e.g crack/ heroin Yes ☐ No ☐

Radiologist CT chest reporting:

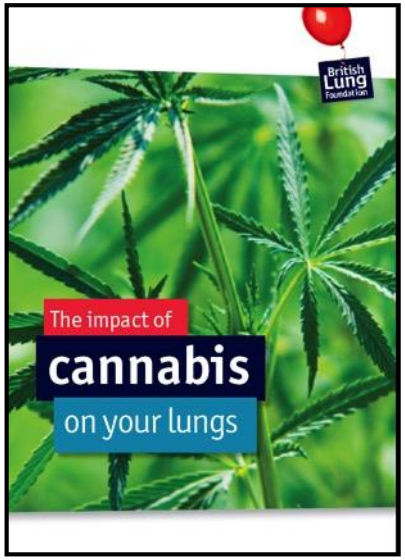
‘Does this patient smoke cannabis?’

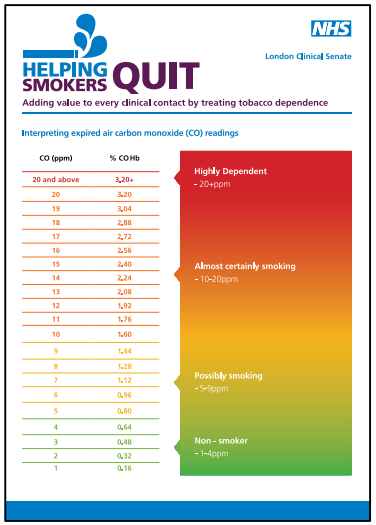
‘Appearance consistent with ‘cannabis lung’

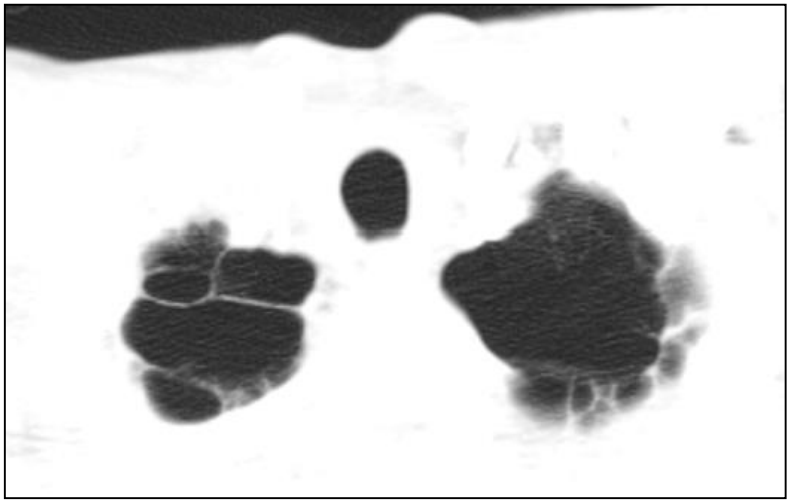
Radiological diagnosis of emphysema, pneumothorax and bullae: case for tobacco and cannabis smoking histories
Selverajah B et al **Thorax 2013;68(Suppl 3):A1–A220**

Cannabis smoking and respiratory illness: changing what we do … ADVISE

NHS England







Impact of **tobacco dependence** in people living with HIV: Lung cancer

NHS England

520 deaths in ~18 000 HIV-infected individuals
29% (152) AIDS- related
71% (368) deaths considered non-AIDS related

25% (94/368) due to non-AIDS **malignant** deaths
50% (47/94) **due to cancers strongly related to tobacco smoking**
lung, head-and-neck, oesophagus, pancreas & bladder cancer
96% (45/47) **in tobacco smokers**

Lung cancer accounted for 35% - all tobacco smokers
34/94 non-AIDS malignant deaths
6.5% all deaths in PLWH

Impact of cannabis smoking?

Smoking and life expectancy among HIV-infected individuals on antiretroviral therapy in Europe and North America . Hellenberg M et a. **AIDS** 2015, 29:221–229

Does smoking matter in other respiratory illnesses? P**neumonia**

NHS England

Current smoking:

- ✓ Increases risk of getting community acquired pneumonia
- ✓ Increases risk of severe sepsis and hospitalisation
- ✓ Increases 30-day mortality ... independent of tobacco-related co-morbidity, age and co-morbid conditions

Does smoking matter in other respiratory illnesses? **Tuberculosis (TB)**

NHS England

Smoking doubles the risk of pulmonary TB and related mortality

Increased risk of infection from exposure to second hand smoke and increased risk of relapse

15% of pulmonary TB diagnosed each year may be attributable to smoking alone*

Smoking cessation:

Reduces the risk of premature death from TB by 50%

Reduces the risk of infection in contacts

Reduces the risk of relapse*

* **Lancet Resp Med** July 24 2013

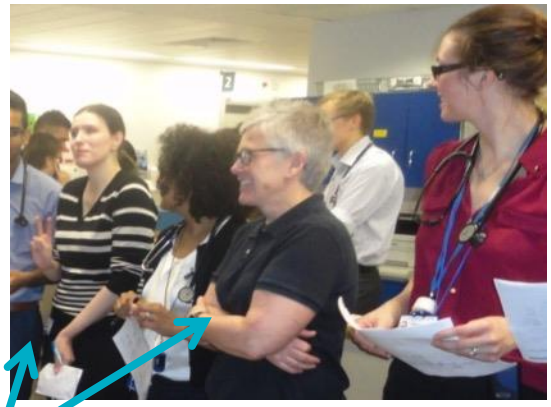
Changing respiratory care to deliver evidence-based treatment of nicotine dependence

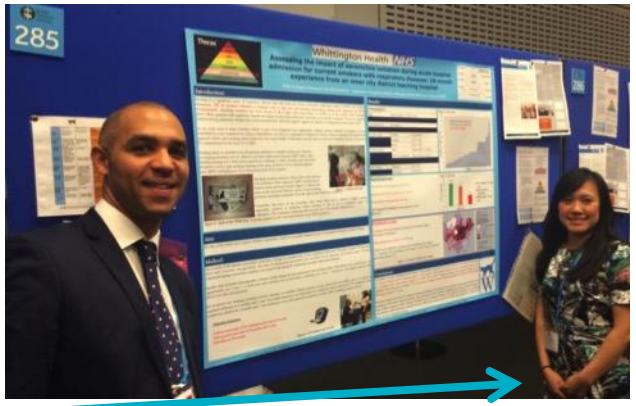
NHS England

Skilled behaviour change support & **medication**

Quit smoking advisors working with respiratory teams

Respiratory team training in smoking cessation and prescribing … and behaviour change skills





Smoking Cessation Advisors work on wards with patients …and teams

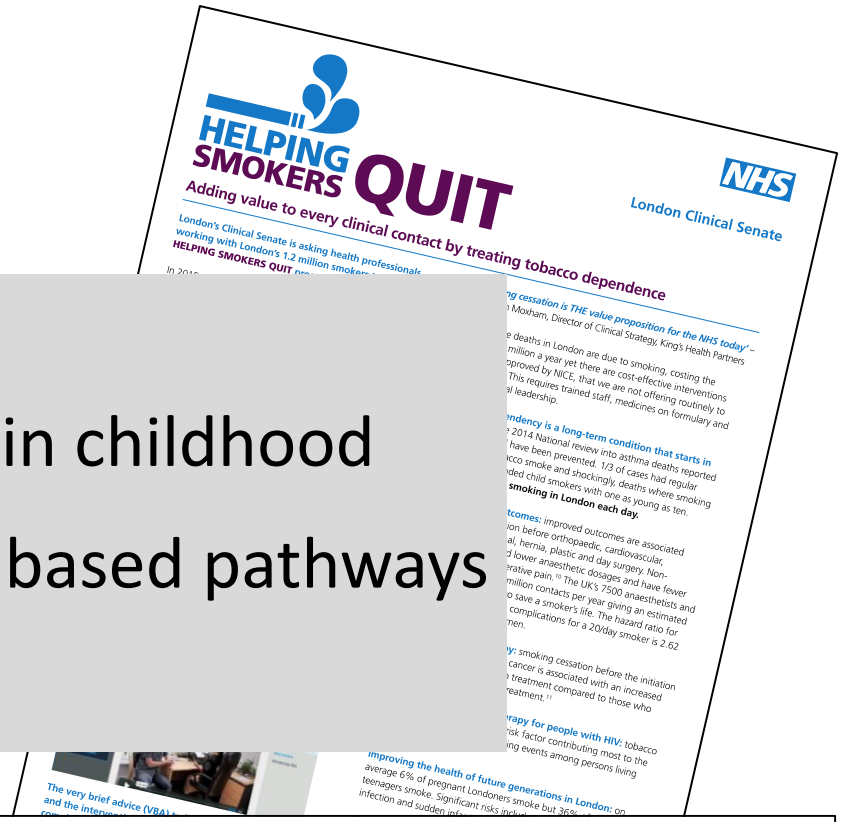
50% 6 month quit rates

For highly tobacco dependent patients with varenicline and intensive support*

*Ainley A, Pang E, Coleman B, Stern M, Restrick LJ **Thorax 2014**;69 (Suppl 2):A199 10.1136/thoraxjnl-2014 206260.404

Helping Smokers Quit
London Senate Programme 2014-16

HELPING SMOKERS QUIT



Treating tobacco dependency

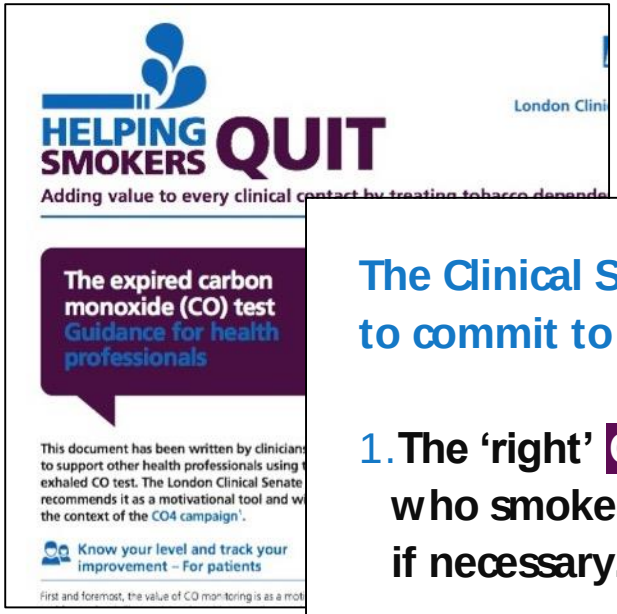
Long-term condition that starts in childhood

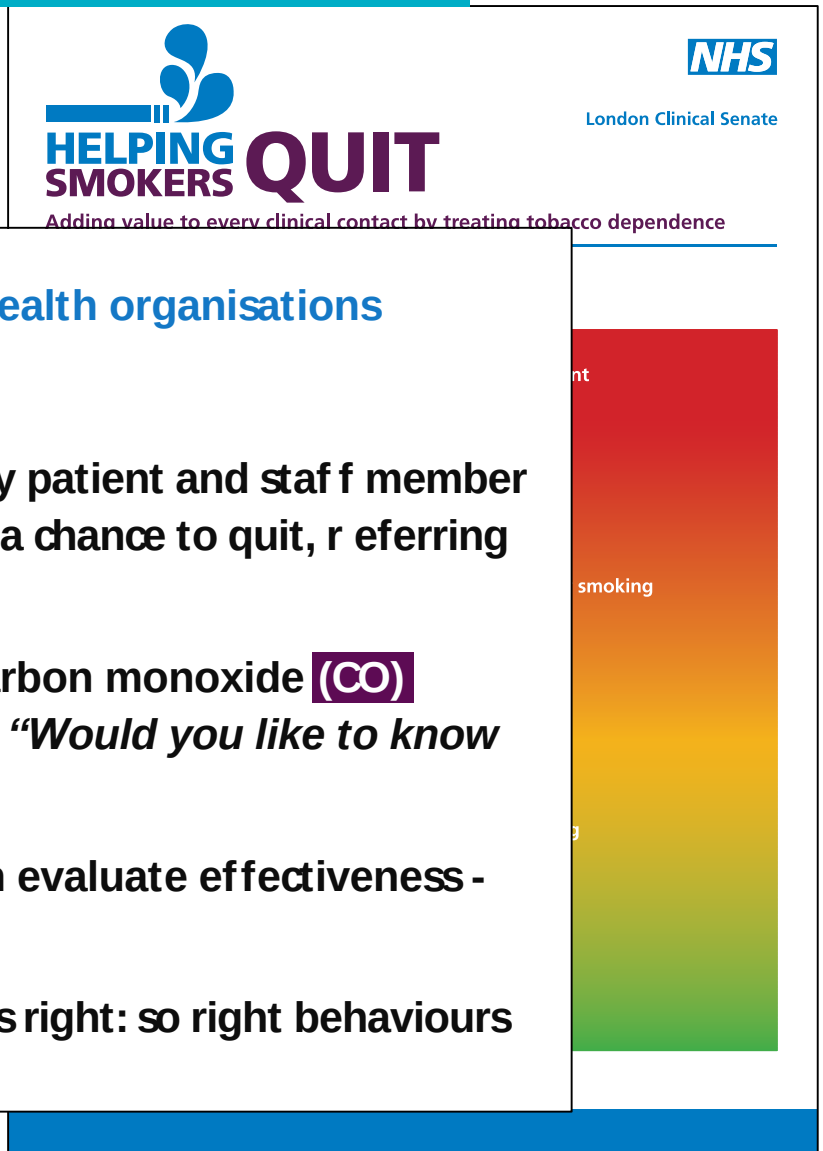
Using established and evidence based pathways

Collective clinical leadership

Increasing the impact of therapy for people with HIV: tobacco consumption is the modifiable risk factor contributing most to the development of non-AIDS-defining events among persons living with HIV/AIDS.[12]

Helping Smokers Quit
London Senate Programme 2014-16





The Clinical Senate asks London's health organisations to commit to CO4:

1. The 'right' CO nversation for every patient and staf f member who smokes that gives him or her a chance to quit, r eferring if necessary.
2. Make routine desktop exhaled carbon monoxide (CO) monitoring by clinicians possible: *"Would you like to know your level?"*
3. CO de the intervention so we can evaluate effectiveness - including death certification.
4. CO mmission the system to do this right: so right behaviours incentivised systematically.

Enabling **CO**nversations:
Clinicians trained in smoking cessation

HELPING SMOKERS QUIT

Very Brief Advice on Smoking
30 seconds to save a life

ASK

AND RECORD SMOKING STATUS
Is the patient a smoker, ex-smoker or a non-smoker?

ADVISE

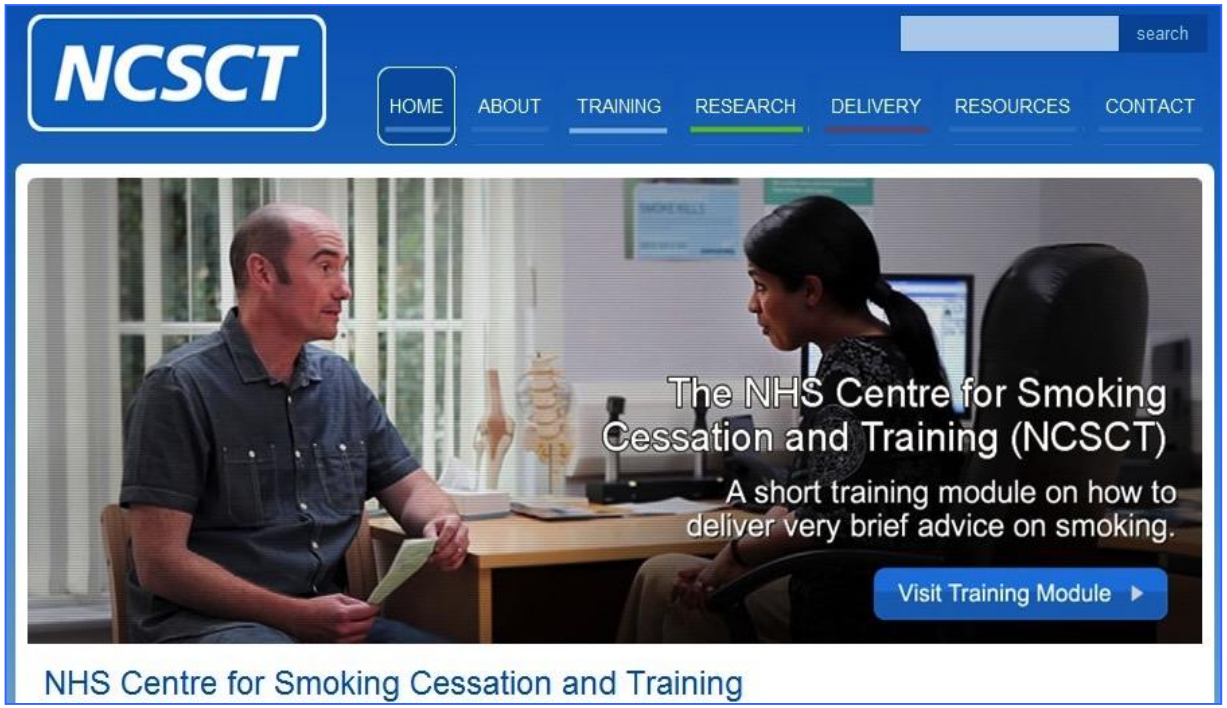
ON THE BEST WAY OF QUITTING
The best way of stopping smoking is with a combination of medication and specialist support.

ACT

ON PATIENT'S RESPONSE
Build confidence, give information, refer, prescribe. They are up to four times more likely to quit successfully with support.

REFER THEM TO THEIR LOCAL NHS STOP SMOKING SERVICE

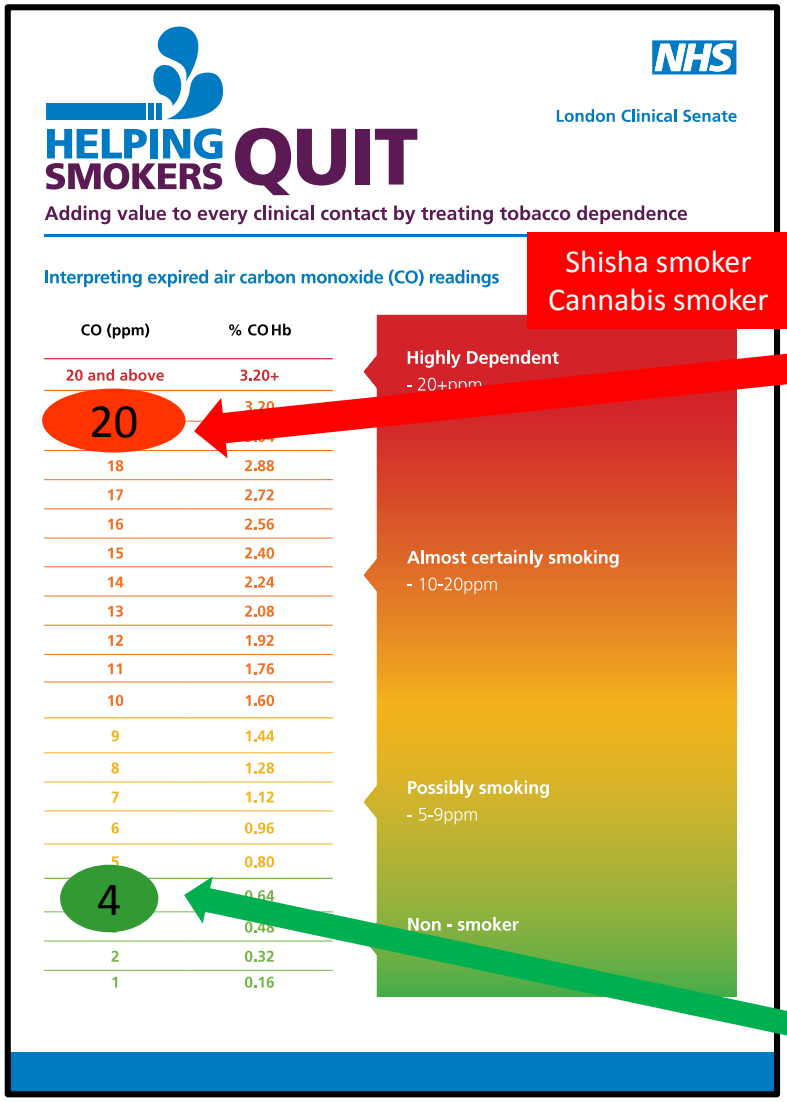
Online training module
WWW.NCSCT.CO.UK/VBA



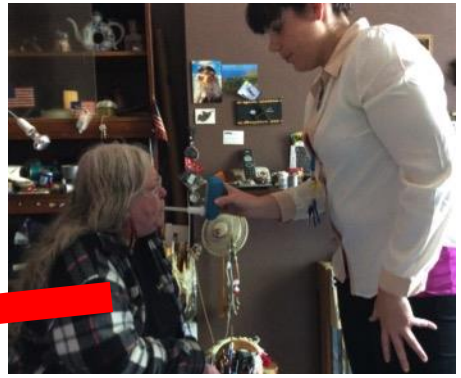
Why we have and use a CO monitor on the ward, in clinic and on home visits

NHS England

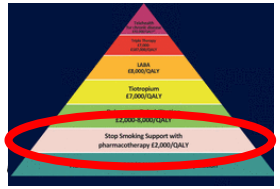
Cheap ~ £150
Quick - easy to use
Diagnostic:
Smoking contributing
Tobacco dependence
Motivational tool
Outcome measure



Shisha smoker
Cannabis smoker



Why we recommend, offer & can prescribe varenicline for our nicotine dependent patients with COPD/respiratory illnesses



~500 smokers with severe COPD

Mean age 58 years

60 pack-years of smoking

High nicotine dependence

Access to skilled support

Prescribed NRT and varenicline

48.5% abstinence at 6 months

61% with varenicline and 44% with NRT

Safe

Jiminez Ruiz et al ***Nicotine and Tobacco Research*** *2011*

COding smoking status & interventions: national respiratory data

Record	Smoking Status	Interventions
COPD	✓	(✓)
Asthma (2011)	✓	✗
Pneumonia	✗	✗
Tuberculosis	✗	✗
ILD	✗	✗
Lung Cancer	✗	✗

Records of smoking as cause of death?

NHS England

South Africa

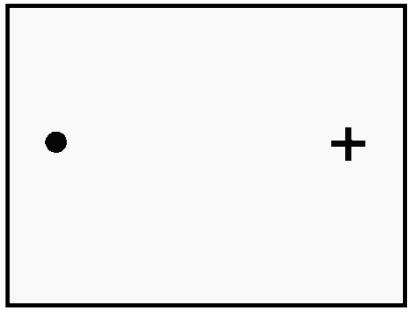
Sitas F et al **Lancet** 2013:382;685-693

'Smoker five years ago?' included on death notifications since 1998

England

Smoking as cause of death without referral to coroner since 1992 …

Diagnosis	No. of deaths (% of total)	Smoking cited as underlying COD (part I)	Smoking cited as a contributory factor (part II)
Carcinoma of lung or bronchus	145 (7.3%)	1	3
COPD & Emphysema	134 (6.7%)	1	3



Smoking included as cause of death in fewer than 1% of deaths due to lung cancer or COPD although smoking known cause of >85% of both

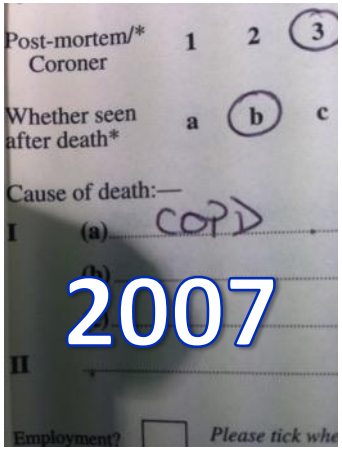
Proctor I et al **Clin Pathol** 2012;65:129-132

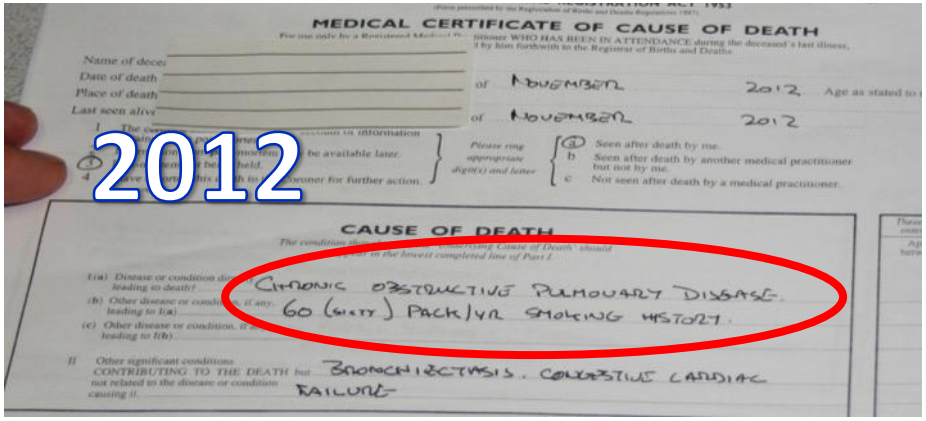
Code: smoking on death certificates

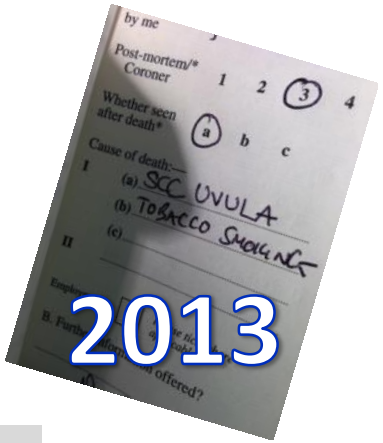
NHS England

Consultant input into death certificates for all in hospital deaths

Tobacco smoking recording in Part 1 for deaths due to:
Lung cancer, COPD, other cancers and diseases caused by smoking







Importance and confidence – TRAINING

COmmission the system to do this right
Clinical leadership and incentives

NHS England

Public Health England

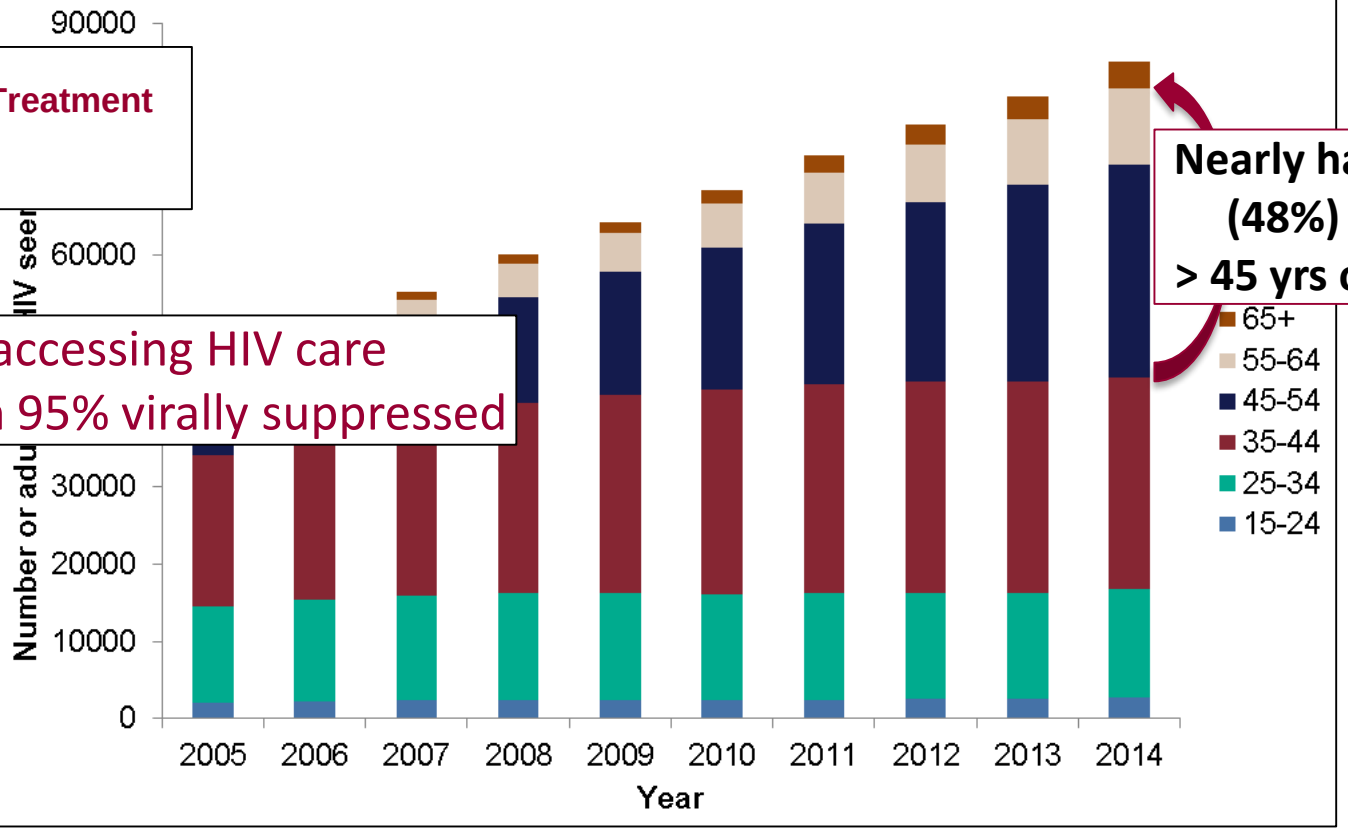
HIV New Diagnoses, Treatment and Care in the UK
2015 report

85, 489 people accessing HIV care
91% on ART, of whom 95% virally suppressed

41% live in London

613 people with HIV died

Figure 2: People seen for HIV care by age group over time; 2005-2014



Nearly half (48%) > 45 yrs old

'HIV specialist treatment and care in the UK remains excellent'

Smoking prevalence & interventions?

COmmission the system to do this right
Clinical leadership and incentives

NHS England

British HIV Association

Standards of Care
for People Living with HI

Monitoring according to national guidelines

- Patients having a documented 10-year cardiovascular disease (CVD) risk calculated within 1 year of first presentation and within the last 3 years (target: 70% each).
- Patients with a smoking history documented in the last 2 years (target: 95%) and blood pressure (BP) recorded in the last year (target: 95%).

12 Standards of Care for People Living with HIV

Standard 1: HIV testing and diagnosis

Standard 2: Access to, and retention in, HIV treatment and care

Standard 3: Provision of outpatient treatment and care for HIV, and access to care for complex comorbidity

Standard 4: Safe ARV prescribing: Effective medicines managem

Standard 5: Inpatient care for people living with HIV

Standard 6: Psychological care

Standard 7: Sexual health and identification of contacts at risk of infection

Standard 8: Reproductive health

Standard 9: Self-management

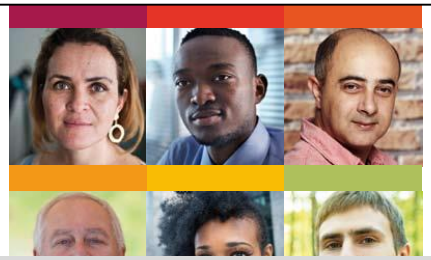
Standard 10: Participation of people with HIV in their care

Standard 11: Competencies

Standard 12: Information for public health surveillance, commissioning, audit and research

COmmission the system to do this right
Clinical leadership and incentives

NHS England



Monitoring according to national guidelines

- Patients having a documented 10-year cardiovascular disease (CVD) risk calculated within 1 year of first presentation and within the last 3 years (target: 70% each).
- Patients with a smoking history documented in the last 2 years (target: 95%) and blood pressure (BP) recorded in the last year (target: 95%).

Standards & Outcome Measures?

Smoking prevalence in PLWH?

Risk assessment - Pack years? Cannabis? Joint-years?

Tobacco dependence identified & treated in every setting

- Smoking cessation offered & by trained professional?

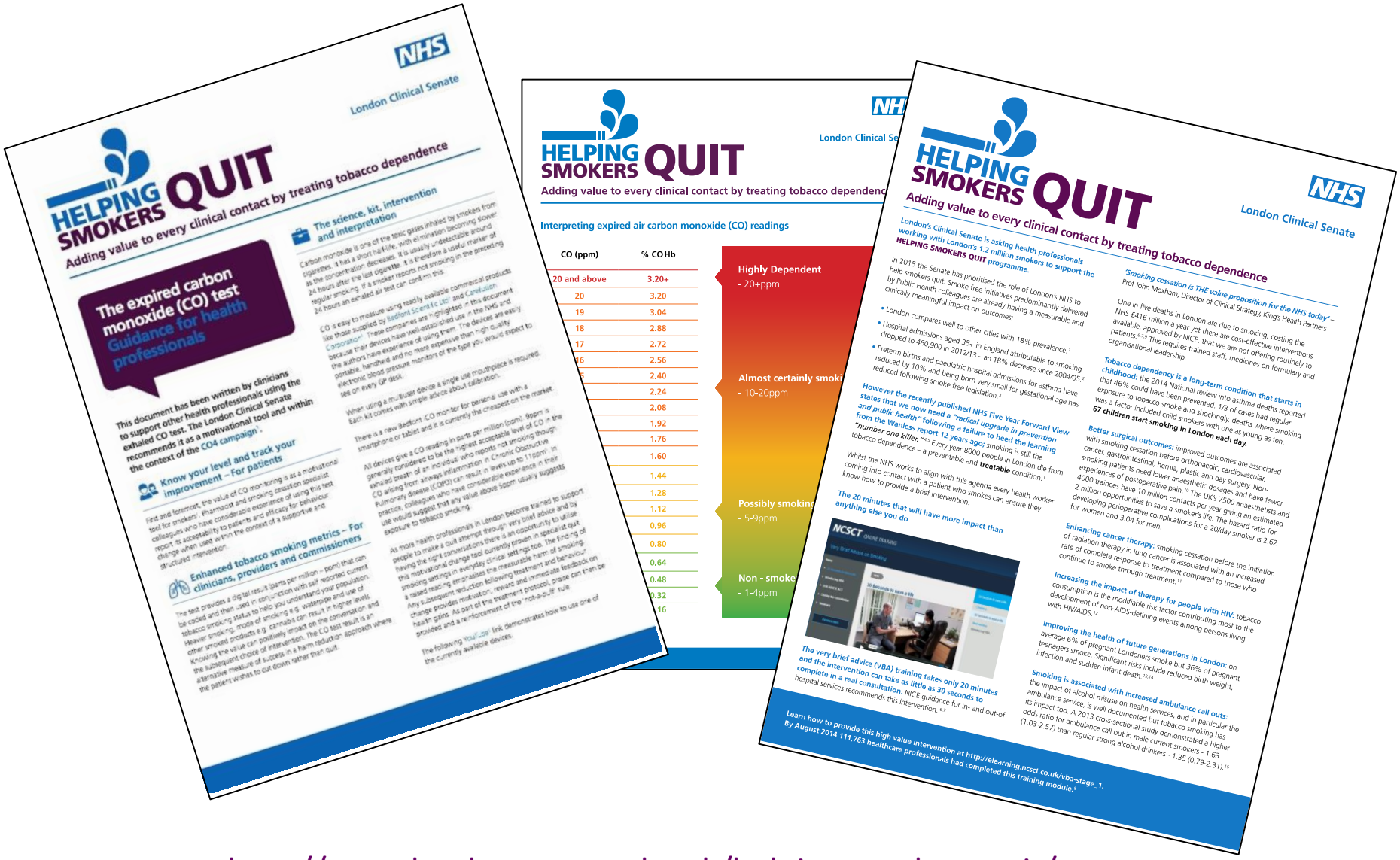
- % all staff trained in smoking cessation eg VBA, Level 1

- Evidence-based smoking cessation – trained staff, CO readings, NRT & varenicline prescriptions?

6/12 or 1 year quit rates?

Smoking attributable mortality and age at death

London Senate Helping Smokers Quit Resources:



http://www.londonsenate.nhs.uk/helping-smokers-quit/