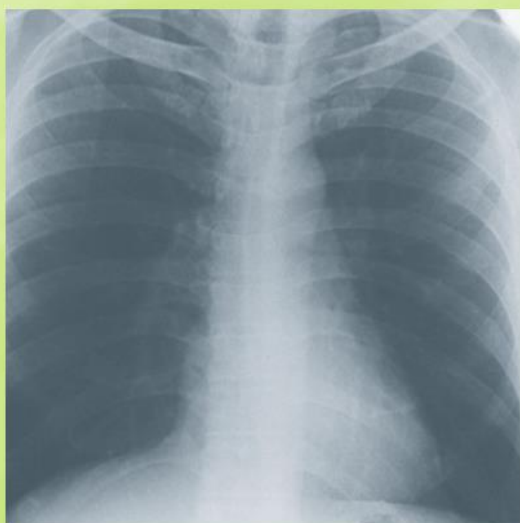


National COPD Audit Programme



Time to take a breath

*National Chronic Obstructive
Pulmonary Disease (COPD)
Audit Programme: National
primary care audit (Wales)
2014-15*

**Local Health Board (LHB) report
November 2016**

Powys Teaching Health Board and GP clusters

Mid Powys,
North Powys,
South Powys.

Prepared by:



**Royal College
of Physicians**



Royal College of
General Practitioners

In partnership with:



British
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Society



Commissioned by:



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The Royal College of Physicians

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The National COPD Audit Programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Programme (NCA). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. Its aim is to promote quality improvement, and in particular to increase the impact that clinical audit has on healthcare quality in England and Wales. HQIP holds the contract to manage and develop the NCA Programme, comprising more than 30 clinical audits that cover care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual audits, also funded by the Health Department of the Scottish Government, DHSSPS Northern Ireland and the Channel Islands.

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Royal College of Physicians

Clinical Effectiveness and Evaluation Unit
11 St Andrews Place
Regent's Park
London NW1 4LE

www.rcplondon.ac.uk/COPD @NatCOPDAudit #COPDAudit #COPDAuditQI #COPDtakeabreath
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Document purpose	To disseminate the results of the national COPD primary care audit (Wales) 2014-15 at cluster and local health board (LHB) level
Title	Time to take a breath National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: National COPD primary care audit (Wales) 2014-15. Local Health Board Report.
Author	Baxter N, Holzhauser-Barrie J, McMillan V, Saleem Khan M, Skipper E, Roberts CM. (on behalf of the National COPD Audit Programme: primary care workstream)
Publication date	November 2016
Audience	Healthcare professionals, NHS managers, chief executives and board members, service commissioners, policymakers, voluntary organisations, patient support groups, COPD patients, their families/carers and the public.
Description	<p>This report details cluster and LHB level data relating to primary-care-delivered COPD care in Wales.</p> <p>The information, key findings and recommendations outlined in the report are designed to provide readers with a basis for identifying areas in need of change and to facilitate development of improvement programmes that are relevant not only to primary care providers but also to commissioners and policymakers.</p>
Supersedes	There is no scheduled review date for this report because it is detailing the results of the first of three annual audits, presented at LHB and cluster levels. Reports on future audit cycles, which are anticipated to be published in 2017 and 2018 will, therefore, add to the learning contained within this report.
Related publications	<ul style="list-style-type: none"> • National Institute for Health and Clinical Excellence. <i>Chronic obstructive pulmonary disease quality standard (QS10)</i>. London: NICE, 2016 www.nice.org.uk/guidance/qs10 • National Institute for Health and Care Excellence. <i>Smoking: supporting people to stop</i>. Quality Standard 43 (QS43). London: NICE, 2013 https://www.nice.org.uk/guidance/qs43 • National Institute for Health and Care Excellence. <i>Chronic Obstructive Pulmonary Disease in over 16s: diagnosis and management</i>. Clinical Guidelines 101 (CG101). London: NICE, 2010 https://www.nice.org.uk/guidance/CG101 • Stone RA, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. <i>COPD: Who cares? National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Resources and organisation of care in acute NHS units in England and Wales 2014. National organisational audit report</i>. London: RCP, November 2014. www.rcplondon.ac.uk/projects/outputs/copd-who-cares-organisational-audit-2014 • Stone RA, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. <i>COPD: Who cares matters. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Clinical audit of COPD exacerbations admitted to acute units in England and Wales 2014. National clinical audit report</i>. London: RCP, February 2015. www.rcplondon.ac.uk/projects/outputs/copd-who-cares-matters-clinical-audit-2014 • Steiner M, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. <i>Pulmonary Rehabilitation: Time to breathe better. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Resources and organisation of Pulmonary Rehabilitation services in England and Wales 2015. National organisational audit report</i>. London: RCP, November 2015. www.rcplondon.ac.uk/projects/outputs/pulmonary-rehabilitation-time-breathe-better • Steiner M, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. <i>Pulmonary Rehabilitation: Steps to breathe better. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Clinical audit of Pulmonary Rehabilitation services in England and Wales 2015. National clinical audit report</i>. London: RCP, February 2016. www.rcplondon.ac.uk/projects/outputs/pulmonary-rehabilitation-steps-breathe-better

	<ul style="list-style-type: none"> • <i>Baxter N, Holzauer-Barrie J, McMillan V, Saleem Khan M, Skipper E, Roberts CM. Time to take a breath. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Clinical audit of COPD in primary care in Wales 2014–15. National clinical audit report. London: RCP, 2016.</i> www.rcplondon.ac.uk/projects/national-copd-audit-programme-primary-care-workstream
Contact	COPD@rcplondon.ac.uk

Report preparation

This report was written by the following, on behalf of the National COPD Audit Programme's primary care audit workstream group. (The full list of workstream group members is included in the appendix of the Welsh national report)¹.

Dr Noel Baxter

Clinical lead, National COPD Audit Programme Primary Care Workstream, Co-lead of the London Respiratory Strategic Clinical Network and London Clinical Senate 'Helping Smokers Quit' programme, Chair of PCRS-UK, an NHS GP and Clinical Lead, NHS Southwark Clinical Commissioning Group

Professor C Michael Roberts MA MD FRCP ILTHE FAcadMED

Associate Director, Clinical Effectiveness and Evaluation Unit, Care Quality Improvement Department, Royal College of Physicians, London; Programme Clinical Lead, National COPD Audit Programme; and Consultant Respiratory Physician, Whipps Cross University Hospital, Barts Health, Barts and The London School of Medicine and Dentistry, Queen Mary University of London

Ms Juliana Holzhauer-Barrie MA

Project Manager, National COPD Audit Programme, Clinical Effectiveness and Evaluation Unit, Care Quality Improvement Department, Royal College of Physicians, London

Ms Viktoria McMillan

Programme Manager, National COPD Audit Programme, Clinical Effectiveness and Evaluation Unit, Care Quality Improvement Department, Royal College of Physicians, London

Mr Muhammad Saleem Khan MPH MSc

Data Manager, National COPD Audit Programme, Clinical Effectiveness and Evaluation Unit, Care Quality Improvement Department, Royal College of Physicians, London

Ms Emma Skipper PGDip

Programme Manager (until April 2016), National COPD Audit Programme, Clinical Effectiveness and Evaluation Unit, Care Quality Improvement Department, Royal College of Physicians, London

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Executive Summary

The national primary care audit report for Wales 2014–15¹ detailed the clinical effectiveness of COPD care in the general practice setting. This report helped to complete a picture of COPD services in Wales by adding to the recently published national COPD reports about the quality of hospital care^{2 3} and pulmonary rehabilitation services^{4 5}. We would like to thank the 280 practices (61% of practices in Wales) and the 48,105 people registered with COPD who took part in this audit.

National results demonstrate that the computerised coding of COPD diagnosis is not consistent between practices. Consequently, coding provided confidence in diagnosis (recording of an appropriate diagnostic test code and of a result for that test consistent with a diagnosis of COPD) for only 14.4% of people on COPD registers. We have available to us life-saving and life-enhancing therapy for people with COPD. These treatments are well evidenced and many are highly cost-effective. The extracted electronic data show there is good provision of many aspects of evidence-based COPD care, but there may also be underutilisation of established NICE-advised interventions and potential overuse of harmful or ineffective treatments. To that effect, the national report made the following key recommendations (for more detail, please refer to the full report):

- **A diagnosis of COPD should be made accurately and early. If the diagnosis is incorrect, any subsequent treatment will be of no value.**
- **People with COPD should be offered interventions according to value-based medicine principles.**
- **People with more severe disease (categorised according to the extent of airflow limitation) should be identified for optimal therapy. COPD encompasses a broad spectrum of conditions and health statuses and a personalised approach is essential.**
- **There should be better coding and recording of COPD consultations, prescribing and referrals.**

The Wales Respiratory Health Implementation Group (RHIG) has already recognised that there is a need to ensure accurate and timely diagnosis as well as more widespread use of the highest value COPD interventions. The Group has instituted programmes and resource for better diagnosis and effective and accessible pulmonary rehabilitation programmes.⁶ We are confident that this work will show measurable improvement during the life of this audit programme and that the feedback of data to individual practices will inform local quality improvement initiatives.

This LHB audit report aims to present local figures in order to support primary care clinicians who are currently working under considerable pressure to prioritise areas where improvement is required in the care of people with COPD. We hope to do this by sharing good practice and providing advice on how to address apparent deficiencies in care. In Powys Teaching Health Board, 7 practices and 922 people registered with COPD participated in the full audit. A further 10 practices did not participate in the audit, but submitted data to the Quality and Outcomes Framework (QOF), bringing the total that participated in the QOF up to 17.

Introduction

Reported here are data from the 2014-15 clinical audit of COPD in primary care in Powys Teaching Health Board. The table below shows the percentage of practices that participated from each of the clusters within Powys Teaching Health Board relative to the Health Board and Wales. The table also details how many patients with COPD were included in the audit.

Cluster Name	Number of participating practices per cluster	Percentage of practices that participated	Patients registered with COPD who participated
Mid Powys	1	20.0	95
North Powys	5	62.5	708
South Powys	1	25.0	119
Powys Teaching Local Health Board	7	41.2	922
Wales	280	61.0	48,105

Please note, audit analyses have not been presented for clusters which had a limited (3 or less) number of participating practices. This applies to Mid Powys and South Powys. This is to prevent practice-level data from becoming publicly available. In future rounds of audit, the intention is to make practice level data publicly available. Please note QOF results are still presented for these clusters.

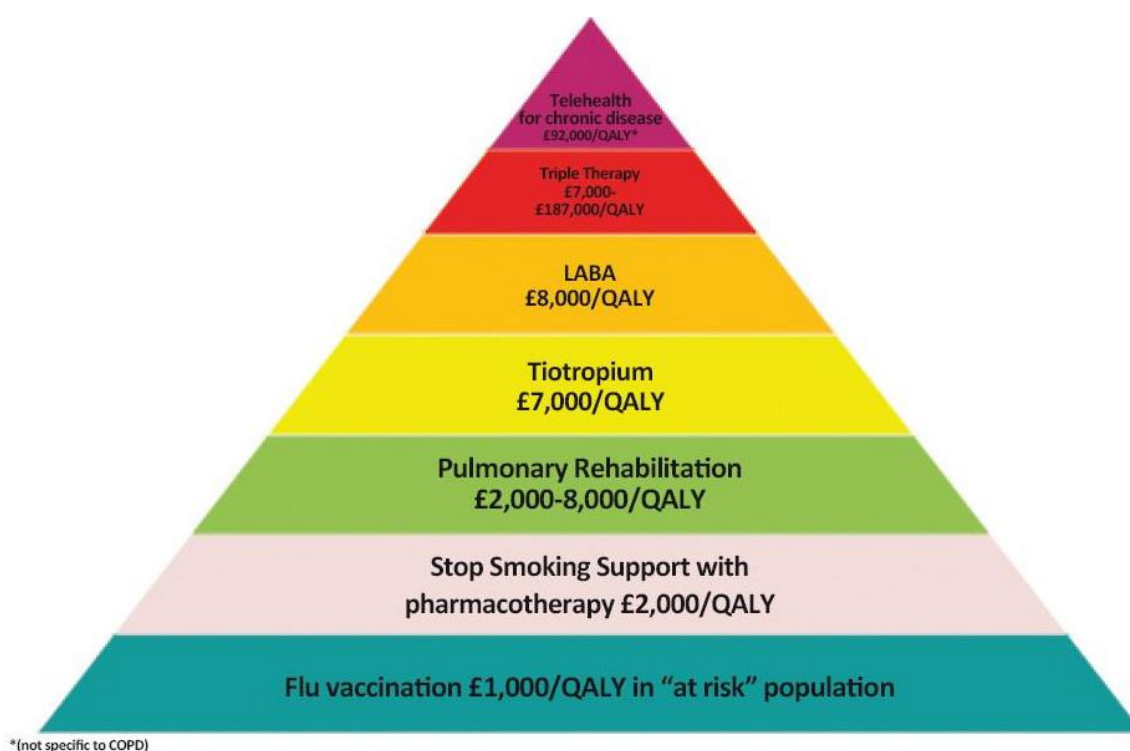
Results for Powys Teaching Health Board

Section 1: Rationale, results, analysis and interpretation

This report does not explore all the queries included in the national data extraction as these are reported in practice reports and in the National report for Wales.¹ Instead, it focuses on a limited number of questions, through a value based healthcare lens. We hope this report will support system leaders at a local level to plan for improvement that relates specifically to their results and any local challenges they face. We believe significant improvement could be seen within one year for many of these measures.

1.1 The COPD Value Pyramid (2013)

Fig 1. The pyramid of value for COPD interventions



This model was developed by the NHSE London Respiratory Network⁷ to help individual clinicians, health system commissioners and providers to choose wisely for people and populations with COPD – a complex long-term condition with multiple evidence based interventions. In the UK, the NICE accepted cost-effectiveness 'threshold', over which treatments are less likely to be recommended for use in the NHS, is £20,000 per Quality Adjusted Life year (QALY).⁸ This diagram, therefore, provides a guide for how value for patients and the healthcare system for COPD can be optimised.

1.2 The COPD Value Pyramid for Wales 2014-15

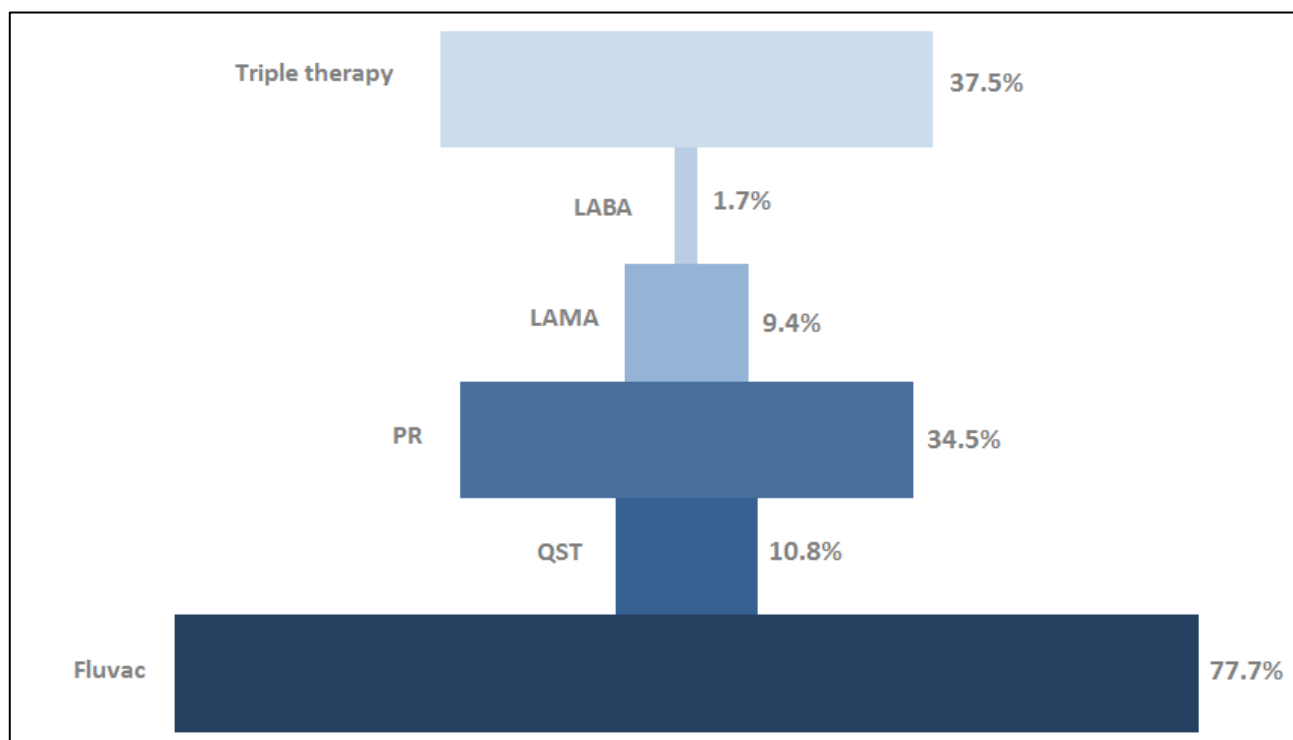
In this section a pyramid, based on the one in Figure 1, has been designed to provide a representation of the proportion of people who were receiving value-based interventions for COPD in Wales in 2014-15. A 'better value' pyramid would show that a higher proportion of people with COPD are having the highly cost effective interventions (found at the base of the pyramid), and fewer of the less cost effective interventions (found at the top of the pyramid).

The numerators and denominators for the pyramid are outlined below. Please note, data was not collected on the use of telehealth and, consequently, this has not been included. By using a combination of commonly used Read Codes (extracted for the audit) and publically available data (QOF), the aim is to provide organisations with an *indication* (rather than a definitive result) of their performance that can be easily replicated. The current picture suggests that there is still a need to make care more cost-effective and, therefore, an opportunity for improving the experience for people with COPD.

Value	Analysis methodology	Rationale
Triple therapy	Numerator = Inhaled Corticosteroid + Long-acting muscarinic antagonist (LAMA) + Long-acting beta2 agonist (LABA) in last 6 months Denominator = Total COPD population Source = audit data	NICE CG101 ⁹ recommends inhaled steroids for COPD (no asthma) only in combination with long-acting bronchodilators and only if the patient's disease is severe (predicted FEV1 score of <50%) and associated with frequent flare-ups. The time period of 'the last six months' is pragmatic and is used to be consistent with approaches used in prescribing incentive schemes that tend to analyse data from the last one or two quarters of the financial year. ¹⁰
LABA	Numerator = LABA alone in last 6 months (not in combination with ICS or LAMA) Denominator = Total COPD population Source = audit data	NICE guidance ⁹ recommends that LAMAs and LABAs be prescribed in isolation for people with stable COPD who remain breathless or have exacerbations despite using short-acting bronchodilators, in the first instance. If breathlessness remains and exacerbations continue then combined therapy can be considered. The time period is set as per the explanation provided under triple therapy.
LAMA (aka Tiotropium)	Numerator = LAMA alone in last 6 months (not in combination with ICS or LABA) Denominator = Total COPD population Source = audit data	NICE guidance ⁹ recommends that LAMAs and LABAs be prescribed in isolation for people with stable COPD who remain breathless or have exacerbations despite using short-acting bronchodilators, in the first instance. If breathlessness remains and exacerbations continue then combined therapy can be considered. The time period is set as per the explanation provided under triple therapy.
PR	Numerator = Referred for PR ever Denominator = COPD population with MRC Score 3-5 Source = audit data	It is recommended that all COPD patients with MRC breathlessness scores of 3, 4, or 5 be referred for Pulmonary Rehabilitation. ⁹ Given the variation in referral to and attendance at PR services, ⁴⁵ 'ever' is used in the numerator so as to include as large a cohort as possible.
Quit Smoking Therapy (QST)	Numerator = Tobacco pharmacotherapy code or varenicline, nicotine or bupropion is ingredient prescribed in last year Denominator = Latest 137 tobacco status Read code consistent with current smoker Source = audit data	Stop smoking therapy is recommended for COPD patients who smoke, as per NICE guidance. ⁹ The numerator of the last year has been chosen to capture the relapsing nature of tobacco addiction.
Flu	Numerator = The percentage of eligible	People with COPD are recommended to have

vaccination	<p>patients with COPD who have had influenza immunisation in the preceding 1 August to 31 March</p> <p>Denominator = Total COPD population (including those that were exception reported)</p> <p>Source = QOF data</p>	<p>the influenza vaccination. It has been shown to be a cost-effective and high value intervention for patients with COPD. The denominator includes those that were exception reported, as the COPD value pyramid takes that position that all patients are eligible for flu vaccination.⁷ Exception reporting will predominantly include patients who have declined the vaccine, which may indicate that appropriate behaviour change mechanisms have not been used in practice.</p>
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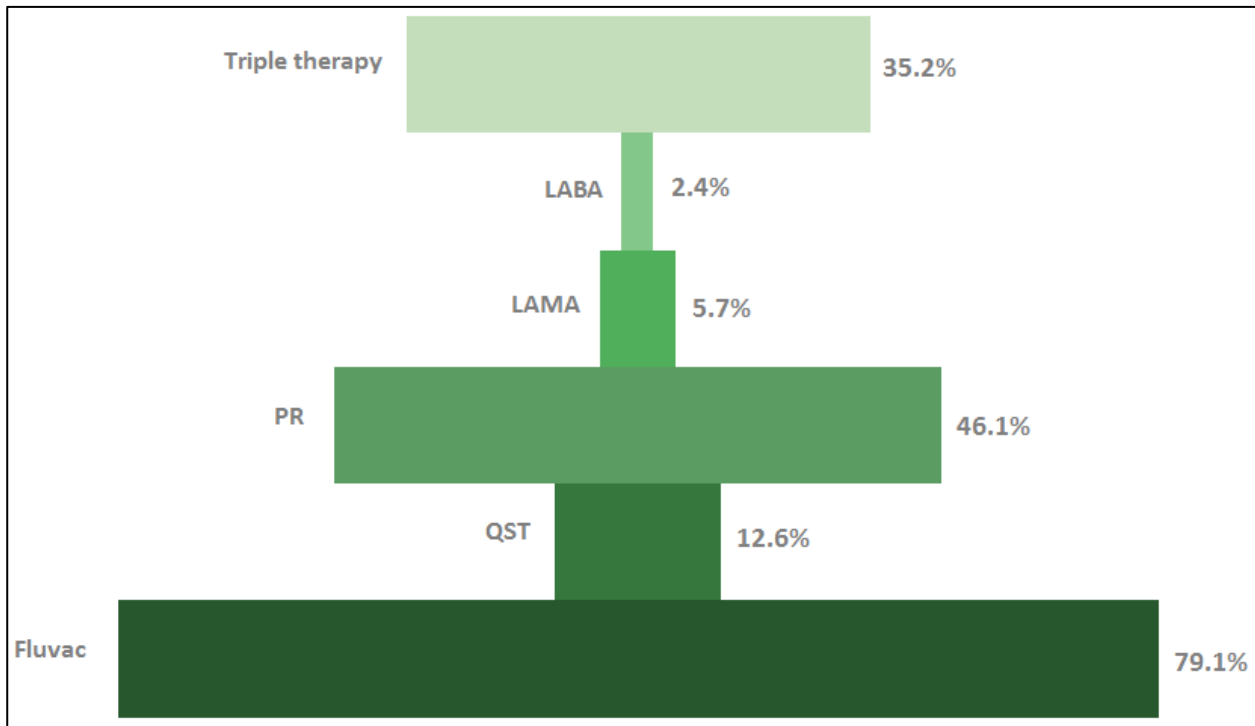
Fig. 2. The value pyramid for COPD interventions for Wales. The values from the tables above are represented here.



1.3 The COPD Value Pyramid for Powys Teaching Health Board 2014-15

In this section, another pyramid has been produced based on Figure 1, to provide a representation of the proportion of people who were receiving value-based interventions for COPD within your Local Health Board. As above in Figure 2, a 'better value' pyramid would show that a higher proportion of people with COPD are having the highly cost effective interventions (found at the base of the pyramid), and fewer of the less cost effective interventions (found at the top of the pyramid).

Fig. 3. The value pyramid for COPD interventions for Powys Teaching Health Board



Subsequent sections of this report will look in detail at the availability of the interventions depicted above. It will also consider how people with risk factors for COPD are being diagnosed. Failure to diagnose accurately or in a timely way has an impact on all three elements of quality – it is unsafe, it results in clinically ineffective therapy and, inevitably, it will undermine the experience for people with COPD.^{11 12} Each section will reflect on the results obtained and suggest opportunities for Quality Improvement.

Section 2: Diagnosis

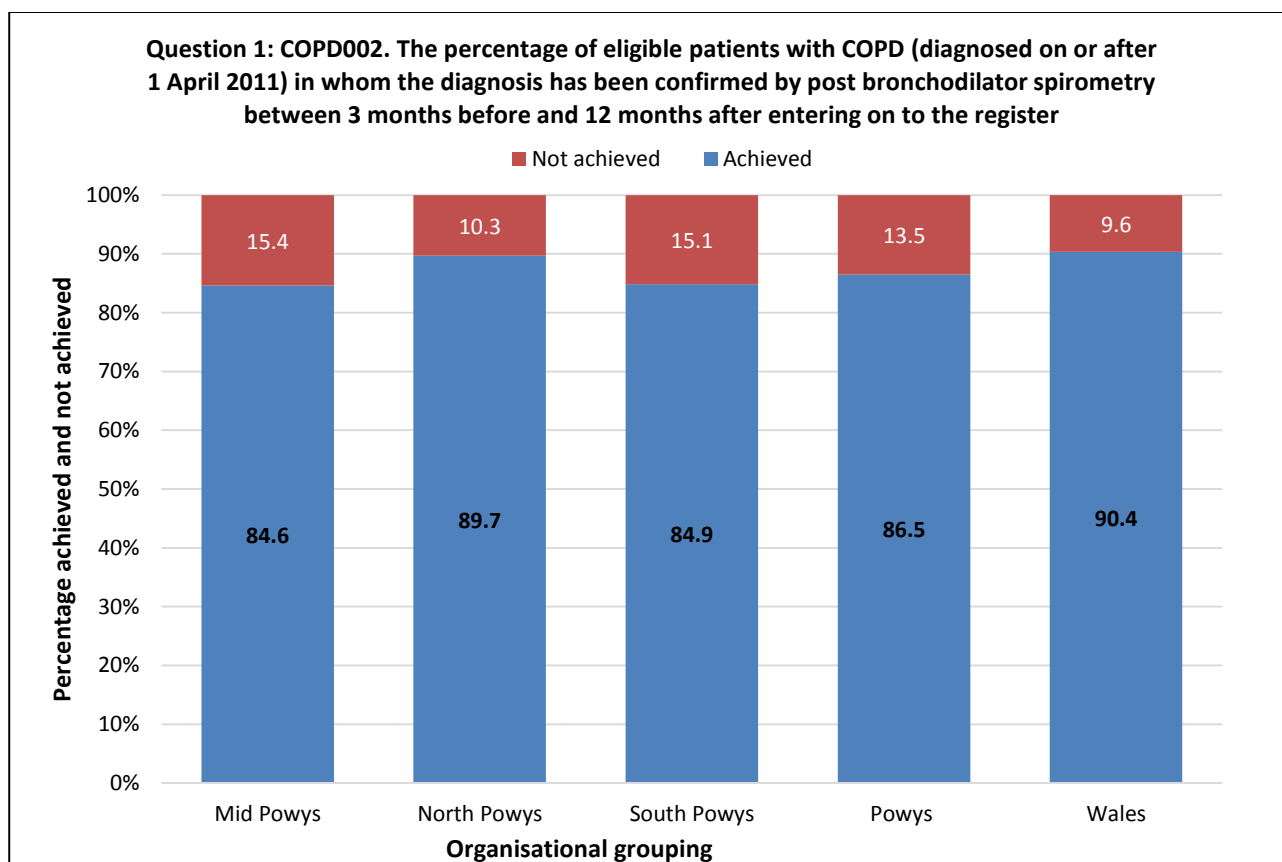
2.1 Is the diagnosis of COPD accurate in Powys Teaching Health Board?

Question 1: COPD002. The percentage of eligible patients with COPD (diagnosed on or after 1 April 2011) in whom the diagnosis has been confirmed by post bronchodilator spirometry between 3 months before and 12 months after entering on to the register

Rationale: People with COPD have one or more indicative symptoms recorded, and have the diagnosis confirmed by post-bronchodilator spirometry carried out on calibrated equipment by healthcare professionals competent in its performance and interpretation. (NICE Quality statement: <http://www.nice.org.uk/guidance/QS10/chapter/Quality-statement-1-Diagnosis>).¹³

Source: These data were taken from the published Quality Outcomes Framework (QOF) for Wales, which is detailed at the following website: <http://gov.wales/statistics-and-research/general-medical-services-contract/?lang=en>.¹⁴ QOF indicators are chosen following a robust evidence and expert opinion-based process that takes into account clinical and cost effectiveness.

It is important to look for variation between providers in terms of how many of their patients with COPD are exception reported. Variation in the number of patients who are exception reported may indicate that practices with higher levels of 'exception reported' patients need to examine whether they are providing sufficient care to the most acute people in their COPD cohort. For an explanation on exception reporting, please refer to this report's glossary.



Exception rate for question 1		
Organisational grouping	Included %	Excluded %
Mid Powys	93.6	6.4
North Powys	87.5	12.5

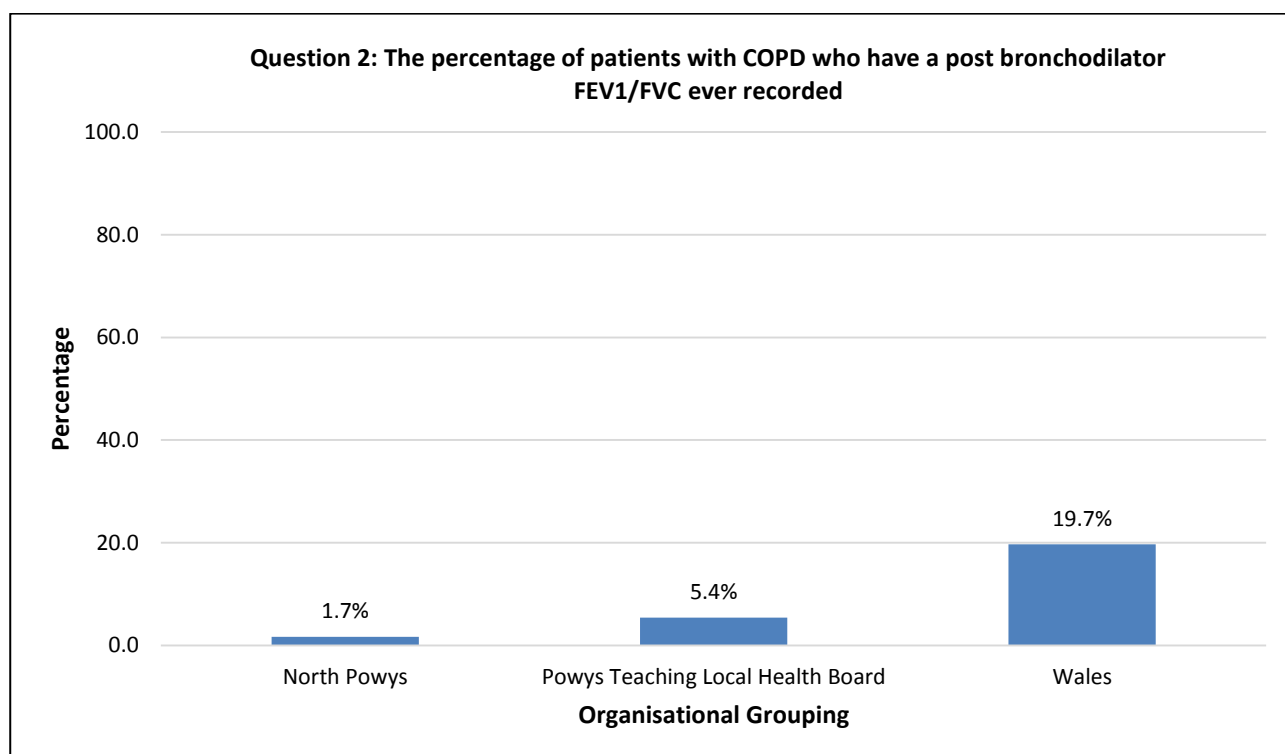
South Powys	91.3	8.7
Powys	90.5	9.5
Wales	88.5	11.5

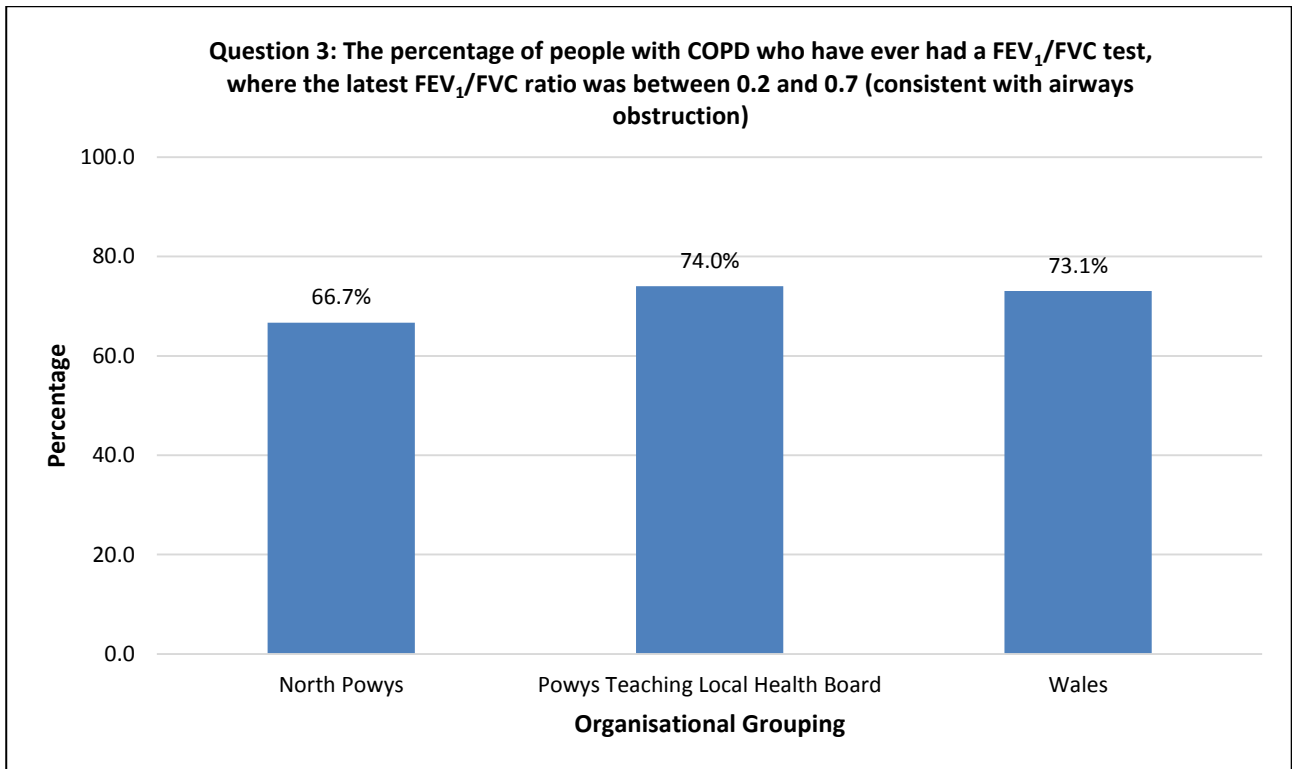
Question 2: The percentage of patients with COPD who have a post bronchodilator FEV₁/FVC ever recorded

Question 3: The percentage of people with COPD who have ever had a FEV₁/FVC test, where the latest FEV₁/FVC ratio was between 0.2 and 0.7 (consistent with airways obstruction)

Rationale: A post bronchodilator FEV₁/ VC or FVC < 0.7 is required to make a diagnosis of COPD, according to NICE COPD QS1.⁹

Methodology: Only the most appropriate and accurate Read code (339m - post bronchodilator FEV₁/FVC ratio) was extracted. These results, therefore, do not include other potentially recorded Read codes (e.g. 339: M, O1, 9, j, k, l, R, T, U, r), which capture spirometric ratios using both FVC and VC as denominators, as well as tests conducted pre and post bronchodilator (and non-specified). As a result, if any clusters have a 0% (or considerably lower than expected) result, this may not be an accurate reflection of practice, but does suggest that coding needs to be reassessed as a matter of priority.



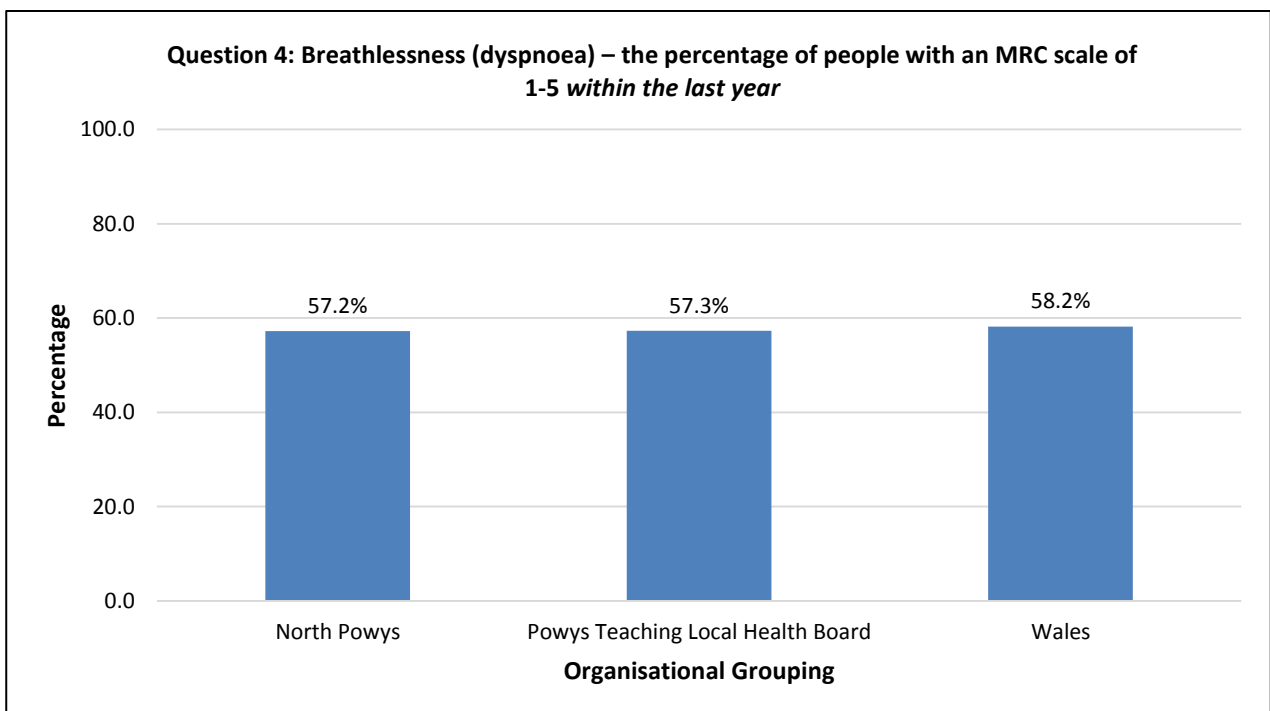


2.2 Is diagnosis being reviewed for multi-morbidity and severity?

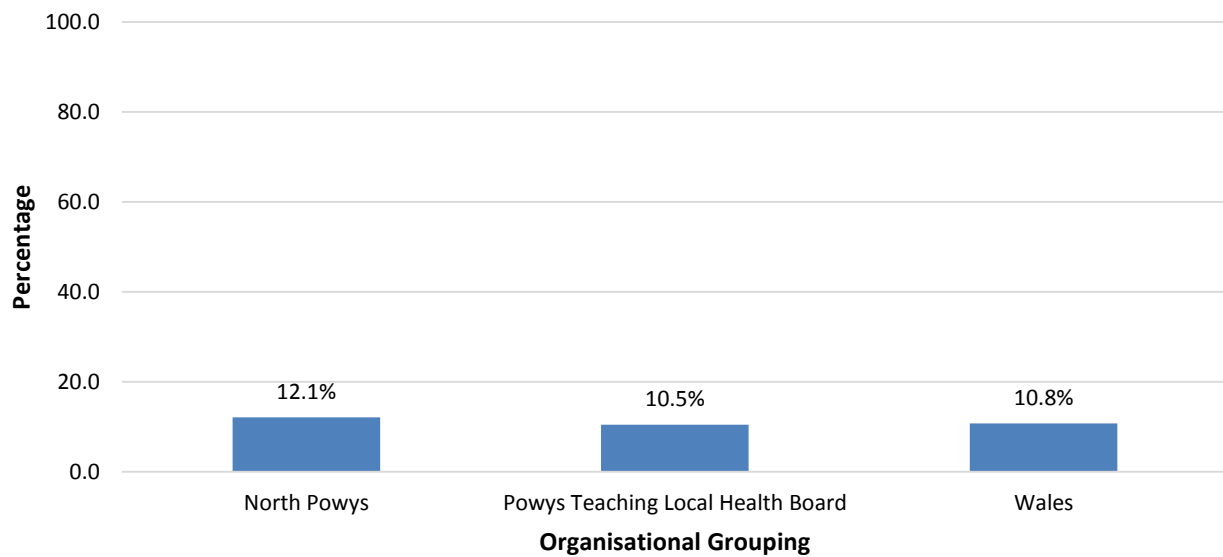
Question 4: Breathlessness (dyspnoea) – the percentage of people with an MRC scale of 1-5 *within the last year*

Question 5: Exacerbations – the percentage of people with COPD with at least one exacerbation recorded *within the last year*

Rationale: Severe breathlessness and frequent exacerbations predict worse outcomes and are associated with more rapid lung decline. Recording the parameters for this score *each year* is essential in order to target individual care plans of people with COPD.¹⁵



Question 5: Exacerbations – the percentage of people with COPD with at least one exacerbation recorded *within the last year*



DIAGNOSIS

KEY FINDINGS FOR WALES

Accuracy of diagnosis

- Overall, 90.4% of eligible people on COPD registers have a code entered to record spirometric confirmation of diagnosis; and 11.5% were exception reported for this indicator.
- 1 in 5 people do not have a code recorded to confirm their diagnosis of COPD.
- In total, 19.7% of people on the COPD register in Wales have an electronic record of the post bronchodilator FEV₁/FVC ratio (Read code 339m). Therefore four out of five people do not have an appropriate record of the principle diagnostic test for COPD.
- Where people on the COPD register did have this test, 26.9% had a value that was not consistent with COPD; with 76.9% of people who had the appropriate test had a value consistent with COPD.
- There is variation between health boards both for the presence of the diagnostic code and accuracy of the diagnosis based on the value within this code.
- This extracted data is at odds from that collected for QOF COPD002: *“The percentage of patients with COPD (diagnosed on or after 1 April 2011) in whom the diagnosis has been confirmed by post bronchodilator spirometry between 3 months before and 12 months after entering on to the register”* For this QOF indicator, practices recorded confidence in diagnosis in over 90% of cases using a non-numeric code. However when the extracted numeric code data are searched for, they are present in only 14.4% of diagnoses (73.1%: people with post bronchodilator FEV₁/FVC ratio >0.2 and <0.7) of (19.7%: have a code for post bronchodilator FEV₁/FVC ratio).
- In order to further understand the figures presented above, analyses of an additional 10 Read codes (339: M, O1, 9, j, k, l, R, T, U, r), which capture spirometric ratios using both FVC and VC as denominators, as well as tests conducted pre and post bronchodilator (and non-specified), were conducted. These additional codes are not able to provide assurance of diagnostic accuracy; however, they can provide an indication of the degree of coding error versus diagnostic error or inaccuracy. The analysis of these additional codes showed that 58% (68% of 85%) of people on COPD registers have a ratio code and a value consistent with airways obstruction ever recorded. This is a considerably more reassuring result than the 14.4% outlined above (which was computed using the most appropriate and accurate Read code). However, these analyses still show that 32% of those who have a spirometry code do not have a value consistent with airways obstruction and that 15% have been given a diagnosis of COPD despite no ratio ever having been recorded.

Review of diagnosis

- The MRC breathlessness score results are at odds with the QOF declarations for annual review where MRC breathlessness score should be recorded; 91.1% (QOF COPD 003) vs. 58.2% from extracted data.
- The airways obstruction score results show that 50.1% have had a spirometry result coded in the last year.
- In total, 10.8% of people had at least one COPD exacerbation coded in the last year. The 'total number of exacerbations in the last year' (Read code 66yf) could not be calculated for technical data extraction reasons.

AREAS IDENTIFIED AS NEEDING IMPROVEMENT

Accuracy of diagnosis

- System leaders should look for variation between practices and clusters to see what factors prevent people from receiving a diagnosis supported by spirometry. Where this cannot be done sufficiently to confirm the diagnosis, has an alternative test been used?
- Practices should review their registers and consider whether they have sufficient evidence to have added a patient to the COPD register.
- As a matter of urgency, system leaders and practices should review people on existing COPD registers to check and ensure the correct recording of spirometry using agreed Read or SNOMED codes.
- Where accuracy is a concern, a re-evaluation of cause of breathlessness or other respiratory system will be required. People without an FEV₁/ (F) VC ratio of <0.7 cannot have a conclusive diagnosis of COPD without further testing and assessment. Consequently, at best 42% of the COPD registered population (using the figures obtained from the re-analysis of multiple potentially used Read codes) and at worst 85.6% (using the figures obtained from analysis of the most appropriate Read code; 339m); will require diagnostic re-evaluation to confirm COPD.

QUALITY IMPROVEMENT PLANS

Accuracy of diagnosis

- It is well understood that not all patients can perform the spirometry tests. In addition, they may have equivocal results that need further confirmation through computerised tomography (CT) scan or gas exchange tests in a lung physiology unit. A 100% result was not expected for this indicator but patients and commissioners should feel confident that they have had a recognised diagnostic test completed by a trained and competent individual who can then make a decision based on the clinical history and result.
- The primary care audit group would ask that providers and commissioners aspire to ensure that all patients who have COPD can 'know their number' if they want to, in other words, the number that tells them they have COPD (FEV₁/VC or FVC ratio) and the degree of their airways obstruction (predicted FEV₁ percentage score).
- Practices and leaders in the system should ensure that those making a diagnosis of COPD are trained and competent to perform this task.
- We recommend an 'All Wales' template for spirometry data entry with agreed codes so that localities and regions are accurately recording what they are measuring, in order to attend to any unwarranted variation. Furthermore, a template front page entirely devoted to diagnosis may enhance accuracy.
- If the spirometry does not confirm COPD, reassess the cause of the patient's breathlessness using a recognised structured assessment. If COPD remains the most likely diagnosis after assessment, the patient should be referred for gas transfer analysis at a lung function unit or for CT confirmation of emphysema. It is not possible to diagnose COPD with a chest X-ray – it can show hyperinflation but this does not confirm a COPD diagnosis.

- Practices and lung physiologists may have correctly decided to use the relaxed VC to confirm the ratio. Future cycles of audit will ensure that where VC has been selected as the denominator it will be included in the final result, as long as a post bronchodilator code is also recorded.
- The Wales Respiratory Health Implementation Group (RHIG) is currently planning to train all primary care nurses to deliver spirometry up to Association for Respiratory Technology and Physiology (ARTP) standards.⁶ All practices now have a spirometer linked to desktop software that can be uploaded onto the Welsh clinical information portal.

Review of diagnosis

- NICE recommends a chest x-ray at diagnosis of COPD to exclude co-morbidities.⁹
- Decision support tools that link with primary care IT systems could ensure that all elements of a suspected COPD assessment are considered and (if ordered or tested) are automatically coded within notes, so that their presence or absence is visible to patients and their healthcare professionals.

RESOURCES:

- Primary Care Commissioning. *Improving the quality of diagnostic spirometry in adults: the National Register of certified professionals and operators*. London: PCC, 2016 <http://www.pcc-cic.org.uk/article/quality-assured-diagnostic-spirometry>
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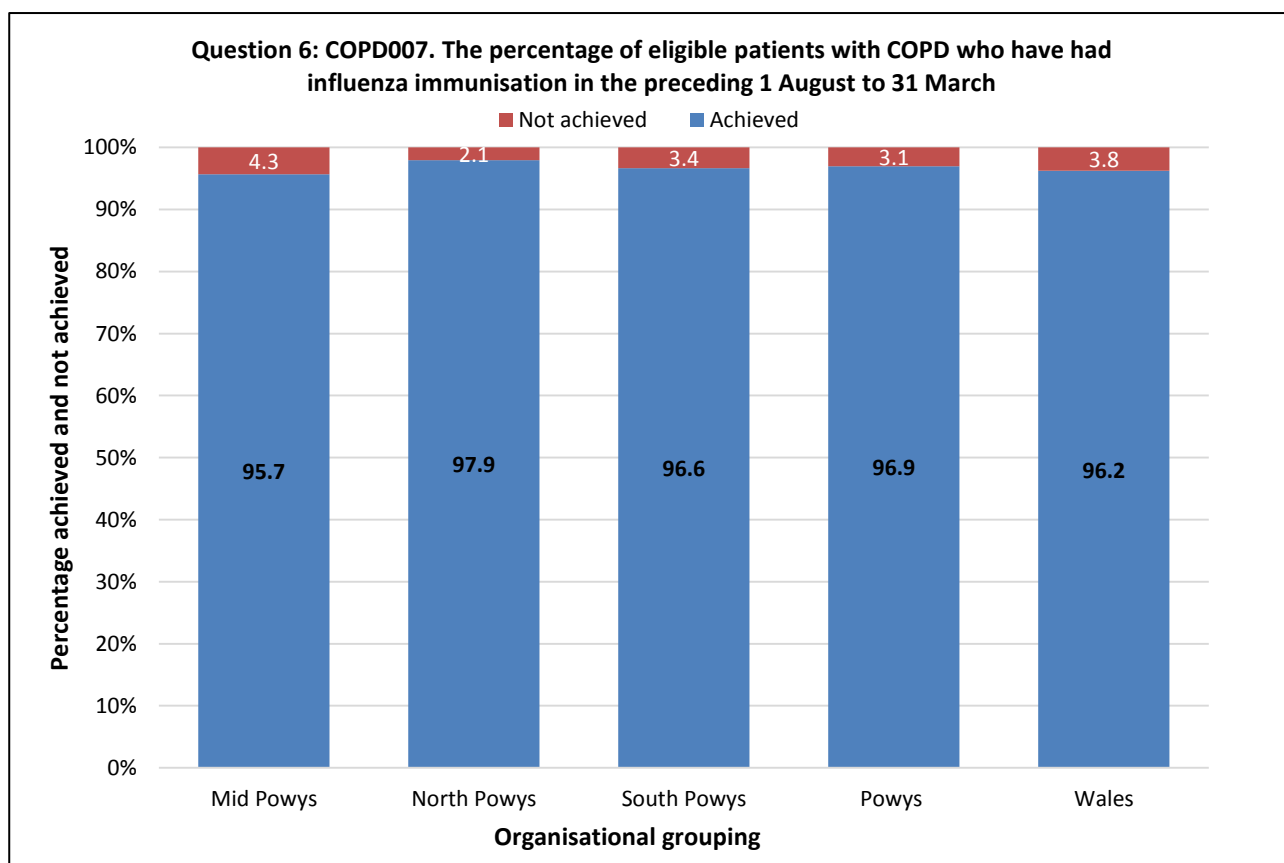
Section 3: Value based treatment

3.1 Vaccination

Question 6: COPD007. The percentage of eligible patients with COPD who have had influenza immunisation in the preceding 1 August to 31 March

Rationale: People with chronic respiratory illness who are infected with the influenza virus have more serious illness and are at higher risk of mortality. The influenza vaccine has variable effectiveness, according to the season and the patient's current health status when the vaccine is given. The vaccine is safe and the highest value intervention for the treatment of COPD, but it is used less than some other COPD interventions that have less value.

Source: These data were taken from the published Quality Outcomes Framework (QOF) for Wales, which is detailed at the following website <http://gov.wales/statistics-and-research/general-medical-services-contract/?lang=en>.¹⁴ For an explanation on exception reporting, please refer to this report's glossary.



Exception rate for question 6		
Organisational grouping	Included %	Excluded %
Mid Powys	83.3	16.7
North Powys	81.4	18.6
South Powys	80.6	19.4
Powys	81.6	18.4
Wales	80.8	19.2

3.2 Treating tobacco dependency

Question 7: People with COPD where *last smoking code* indicated current tobacco smoking

Question 8: People with COPD where last smoking code indicated current tobacco smoking and *in the last year* a code was used that suggests the person has been referred for smoking cessation

Question 9: People with COPD where last smoking code indicated current tobacco smoking and *in the last year* a code (prescription code or quit smoking pharmacotherapy code) was used that suggests the person received pharmacology for tobacco dependency

Question 10: People with COPD where the last smoking status code was recorded *within the last year*

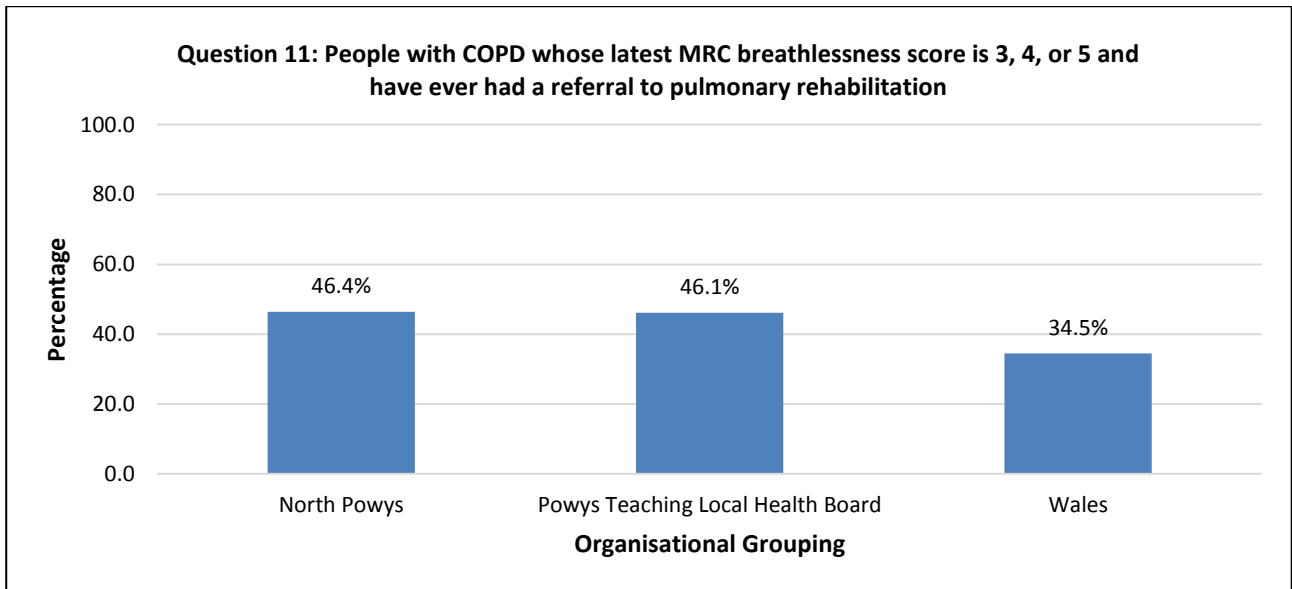
Rationale: Tobacco smoking is the cause of COPD in the vast majority of people. Stopping smoking reduces the rate of decline of lung function and reduces exacerbations. Other treatments for COPD work better if tobacco use has ceased. Treatment of tobacco dependency as part of a COPD management plan is recommended in NICE guideline CG101,⁹ and details of what constitutes an evidence-based approach are contained in NICE guidelines PH45 and PH10.^{16 17}

	Question 7: People with COPD where <i>last smoking code</i> indicated current tobacco smoking (%)	Question 8: People with COPD where last smoking code indicated current tobacco smoking and in the last year a code was used that suggests the person has been referred for smoking cessation (%)	Question 9: People with COPD where last smoking code indicated current tobacco smoking and in the last year a code (prescription code or quit smoking pharmacotherapy code) was used that suggests the person received pharmacology for tobacco dependency (%)	Question 10: People with COPD where the last smoking status code was recorded <i>within the last year</i> (%)
North Powys	27.5	82.6	11.8	73.4
Powys Teaching Health Board	28.4	81.7	12.6	73.2
Wales	33.5	74.3	10.8	71.7

3.3 Referral to good quality and accessible pulmonary rehabilitation

Question 11: People with COPD whose latest MRC breathlessness score is 3, 4, or 5 and have ever had a referral to pulmonary rehabilitation

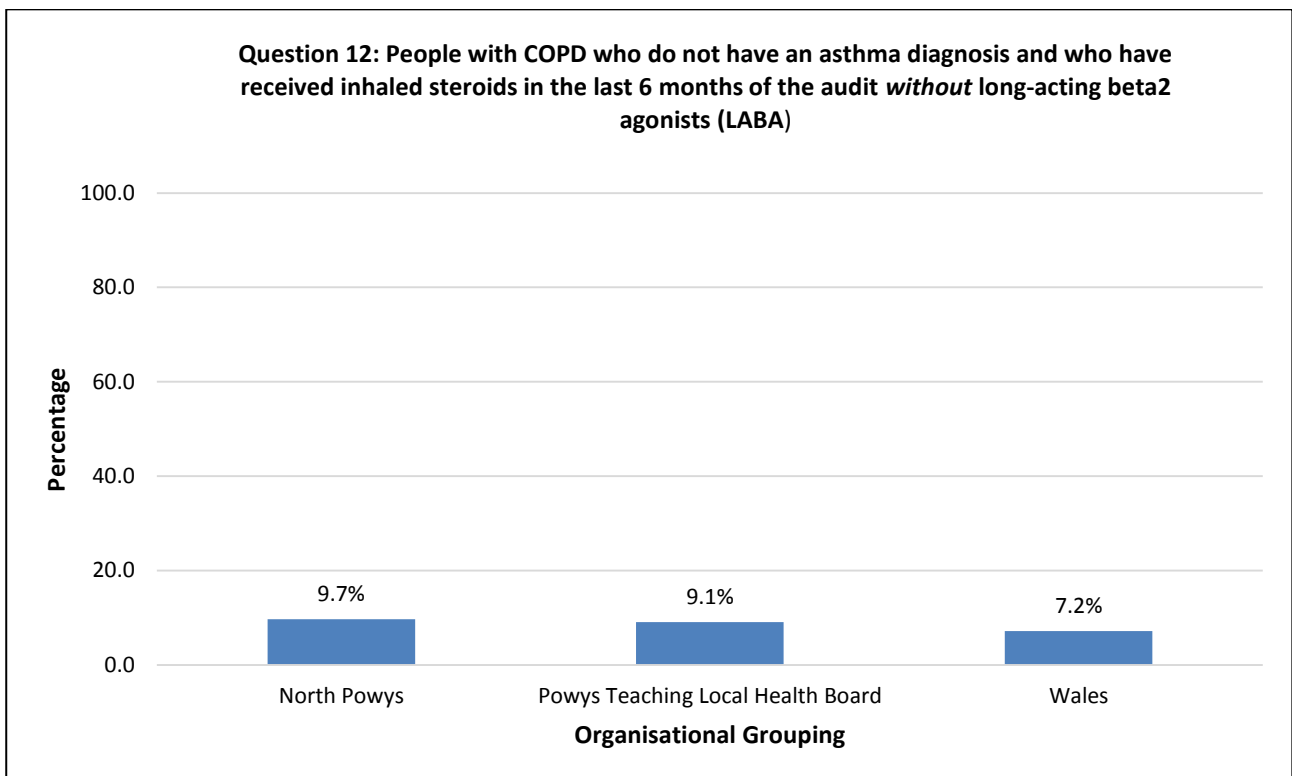
Rationale: Pulmonary rehabilitation should be recommended to anyone who has COPD and a functional MRC breathlessness score of 3, 4 or 5. It is an intervention with a strong evidence base for improving breathlessness, activity levels and tolerance, and improving quality of life, depression and anxiety scores. NICE CG101⁹⁹ recommends pulmonary rehabilitation referral for these patients.



3.4 Responsible respiratory prescribing

Question 12: People with COPD who do not have an asthma diagnosis and who have received inhaled steroids in the last 6 months of the audit *without* long-acting beta2 agonists (LABA)

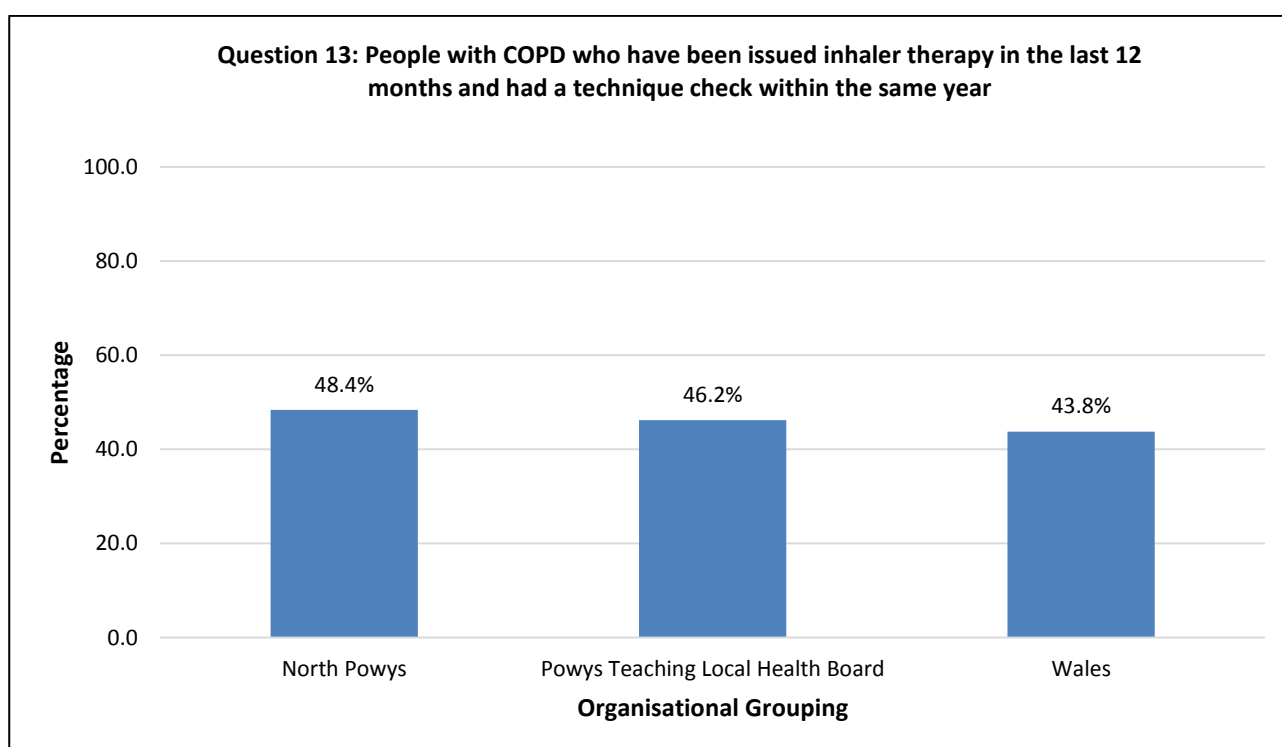
Rationale: NICE CG101⁹ recommends inhaled steroids for COPD (no asthma) only in combination with long-acting bronchodilators and only if the patient’s disease is severe (predicted FEV₁ score of <50%) and associated with frequent flare-ups.



Question 13: People with COPD who have been issued inhaler therapy in the last 12 months and had a technique check within the same year

Rationale: NICE CG101⁹ states:

Number	Quality statement
1.2.2.11	In most cases, bronchodilator therapy is best administered using a hand-held inhaler device (including a spacer device if appropriate).
1.2.2.12	If the patient is unable to use a particular device satisfactorily, it is not suitable for him or her, and an alternative should be found.
1.2.2.13	Inhalers should be prescribed only after patients have received training in the use of the device and have demonstrated satisfactory technique.
1.2.2.14	Patients should have their ability to use an inhaler device regularly assessed by a competent healthcare professional and, if necessary, should be re-taught the correct technique.



VALUE BASED TREATMENT

KEY FINDINGS FOR WALES

Vaccination

- One in five people on the COPD register were not recorded as having the influenza vaccine in the 2014–15 season.

Tobacco dependency

- In total, 71.7% of people on COPD registers in Wales were asked about their smoked tobacco use in 2014–15.
- Where the latest tobacco use code is 'current smoker', there is evidence that in most cases there was some discussion or action (77.6%) and in 74.3% a referral was made.
- Overall, 33.5% of people with COPD are currently smokers, based on the latest collected data.
- In total, 10.8% of people who are recorded as current smokers had received a stop smoking drug in 2014–15.

- 71.7% of people with COPD were asked about their smoking status and had it recorded in the last year.

Pulmonary Rehabilitation

- Overall, 34.5% of people on COPD registers in Wales with a severity of breathlessness that would indicate suitability for referral for pulmonary rehabilitation have ever been referred.
- 92.8% of people with COPD who do not have an asthma diagnosis and who received ICS in the last 6 months of the audit also appropriately received a LABA.

Responsible respiratory prescribing

- Overall, 43.8% of people who have COPD and are using inhaler therapy received an inhaler technique check in the last year.
- In total, 91.3% have had an inhaler check ever.

AREAS IDENTIFIED AS NEEDING IMPROVEMENT

Vaccination

- Influenza vaccine is a high-value intervention for COPD but is currently underutilised (i.e. a high number of people are exception reported). It is part of the core treatment of COPD.

Tobacco dependency

- Tobacco dependency is a relapsing long-term condition, and NICE CG101⁹ advises that a review should happen every year. Not all patients' smoking status was recorded in the last year.
- NICE recommends pharmacotherapy and behavioural support to help people quit smoking. A high proportion of smokers have been referred for pharmacotherapy and behavioural support, but only a small proportion receive a stop smoking prescription and therefore the full therapeutic intervention.

Pulmonary Rehabilitation

- The system needs to ensure that health professionals know who and when to refer to pulmonary rehabilitation so that more people can access this well-evidenced intervention.

Responsible respiratory prescribing

- People on the COPD register without asthma using standalone inhaled steroids will require a diagnostic and severity review to determine whether they are indicated, and therapeutic replanning according to NICE CG101.⁹
- It is clear that practices are recording inhaler technique checks; however the frequency of checks could be improved. The fact that >90% had an inhaler check ever suggests that it is not a coding issue.
- Regular review of a care plan should include a check on understanding, adherence and technique with inhaled therapies, as underuse and misuse are common and regular checks ensure that the right devices are being used and any errors can be corrected.

QUALITY IMPROVEMENT PLAN

Vaccination

- Do systems support primary care recording of influenza vaccine where it has happened elsewhere, for example, a pharmacy?
- Where variation exists between clusters or health boards, is there a difference in implementation of the national influenza campaign?
- Do health professionals show leadership in relation to the influenza vaccine by having it themselves?

Tobacco dependency

- Health professionals should receive behaviour change training that enables them to feel confident to have the right conversation about tobacco smoking and that empowers them to feel effective in helping someone quit smoking (through both behavioural and pharmacological means).
- Training is available for primary care health professionals to provide a short evidence-based intervention lasting 30 seconds that can help to elicit behaviour change. Health professionals who care for people with COPD should have this training.
- Consider using an exhaled carbon monoxide (CO) monitor at each review. This can motivate people to quit and can reassure and encourage them when CO values fall.
- Accessing a stop smoking service increases the chances of quitting. The system should ensure that there is adequate provision of services so that when primary care refers motivated patients there is an accessible and responsive service.
- Primary care prescribers should encourage the use of pharmacotherapy to help people quit and ensure that they have sufficient knowledge of the available nicotine replacement devices and modes of delivery so that they can be supportive of advice provided by stop smoking specialists.
- People with current or past mental health problems should be offered varenicline as part of a quit smoking attempt and they should be advised that it is safe. They require close monitoring and are at higher risk of relapse, and so regular review and motivational support is required.
- The RHIG is developing innovative new referral tools for stop smoking services and encouraging the use of validated 1-year quit rates across primary and secondary care.

Pulmonary Rehabilitation

- Variation in referral for pulmonary rehabilitation between health boards and clusters should be reviewed and conversations with referrers, patients and patient charities should aim to understand the reasons for this.
- For those who are unwilling or unable to attend, consider providing appropriate information regarding the importance of physical activity. Local health providers/commissioners need to actively explore interventions that would enhance referral and uptake of pulmonary rehabilitation. This is both a culture change at referrer level and requires adequate provision of accessible services.
- Wales has a mixed geography with rural areas historically being less well serviced by rehabilitation services. The RHIG has developed a programme with Cardiff Metropolitan University to train exercise instructors to provide a National Exercise Referral Scheme (NERS) level 4 in hard-to-reach areas. This will be underpinned by data collection on outcomes, to monitor its effectiveness.

Responsible respiratory prescribing

- People with COPD who are on long-term inhaled steroids of greater than 1000 BDP equivalent per day should be reviewed as a priority and provided with a steroid safety card (as advised by the Medicines and Healthcare Products Regulatory Agency (MHRA)) if a decision is made that the indication and dose are appropriate.
- People on inhaled steroids outside of the indication should be reviewed and stepped down; this could be with the support of a respiratory pharmacist. Potential harms that are associated with long-term inhaled steroid use include increased risk of pneumonia and, with higher doses, adrenal suppression. Local guidelines or support from specialists should be available to support concerns that primary care health professionals may have about reducing inhaled steroids in people who may have underlying asthma.
- Ensure that health professionals have received up-to-date training on inhaler device use. Many new devices have emerged in recent years and evidence suggests a lack of confidence and skill among health professionals in primary and secondary care when teaching patients to use new devices.
- A standard template and decision support software working with IT systems could encourage inhaler technique checking and training.

RESOURCES:

Vaccination

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Tobacco dependency

- National Centre for Smoking Cessation and Training. *A short training module on how to deliver very brief advice on smoking*. Dorchester: NCSCT. www.ncsct.co.uk/publication_very-brief-advice.php [accessed July 2016]
- London Clinical Senate. *Helping smokers quit: The expired Carbon Monoxide (CO) test – guidance for health professionals*. www.londonsenate.nhs.uk/wp-content/uploads/2015/04/Helping-Smokers-Quit-Programme-The-expired-carbon-monoxide-CO-test.pdf [accessed July 2016]
- London Clinical Senate. *Helping smokers quit: Why and how to prescribe varenicline in hospital*. Advice on prescribing varenicline for unwell smokers. www.londonsenate.nhs.uk/wp-content/uploads/2016/01/Why-and-how-to-prescribe-varenicline-in-hospitals.pdf [accessed July 2016]
- British Thoracic Society. *British Thoracic Society Recommendations for Hospital Smoking Cessation Services for Commissioners and Health Care Professionals* <https://www.brit-thoracic.org.uk/document-library/clinical-information/smoking-cessation/bts-recommendations-for-smoking-cessation-services/> [accessed August 2016]
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Pulmonary Rehabilitation

- British Lung Foundation. *Exercising with a lung condition*. Patient guide. www.blf.org.uk/Page/Exercise-with-a-lung-condition [accessed July 2016]
- National COPD Audit Programme: pulmonary rehabilitation workstream. www.rcplondon.ac.uk/projects/national-copd-audit-programme-pulmonary-rehabilitation-workstream [accessed July 2016]

Responsible respiratory prescribing

- National Institute for Health and Care Excellence. *Chronic obstructive pulmonary disease quality standard (QS10)*. London: NICE, 2016. www.nice.org.uk/guidance/qs10
- GOLD guidance on COPD <http://goldcopd.org/Guidelines/guidelines-resources.html> and <http://goldcopd.org/gold-reports/> [accessed July 2016]
- London Respiratory Team. *Inhaled corticosteroids in adults: prescribing guidance for healthcare professionals*. Inhaled steroid safety card and prescriber guideline. London: London Respiratory Network. www.networks.nhs.uk/nhs-networks/london-respiratory-network/key-documents/responsible-respiratory-prescribing/LRT%20Inhaled%20steroid%20clinician%20guidance.pdf [accessed July 2016]
- PCRS-UK. *Stepping down triple therapy in COPD*. https://pcrs-uk.org/sites/pcrs-uk.org/files/SteppingDownTripleRxinCOPD_FINALMay2015.pdf [accessed August 2016]
- PCRS-UK table of inhaled drugs. www.pcrs-uk.org/resource/Guidelines-and-guidance/table-inhaled-drugs

Section 4: Are people with COPD reviewed appropriately?

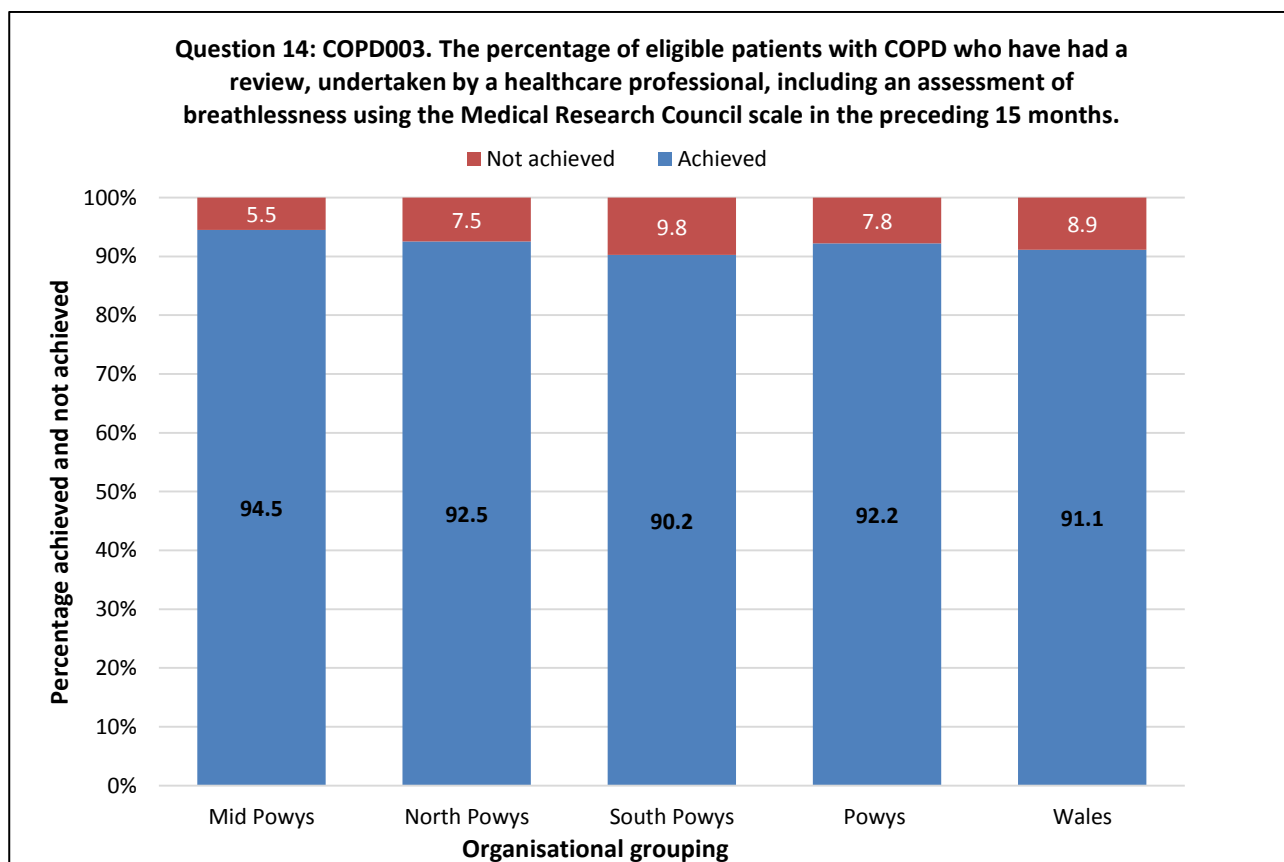
4.1 Is there variation in annual review and exception reporting?

Question 14: COPD003. The percentage of eligible patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the Medical Research Council scale in the preceding 15 months.

Rationale: COPD is increasingly recognised as a treatable disease with large improvements in symptoms, health status, exacerbation rates and even mortality, if managed appropriately. Appropriate management is based on National Institute for Health and Care Excellence (NICE) Clinical Guideline 101 (CG101)⁹. In making assessments of the patient’s condition as part of an annual review and when considering management changes, it is essential that healthcare professionals are aware of a number of factors, including:

- MRC breathlessness scale
- degree of airways obstruction
- smoking status
- number of exacerbations in the last year.

Source: These data were taken from the published Quality Outcomes Framework (QOF) for Wales, which is detailed at the following website: <http://gov.wales/statistics-and-research/general-medical-services-contract/?lang=en>.¹⁴ For an explanation on exception reporting, please refer to this report’s glossary.



Exception rate for question 14		
Organisational Grouping	Included %	Excluded %
Mid Powys	90.3	9.7

North Powys	80.5	19.5
South Powys	85.4	14.6
Powys	84.6	15.4
Wales	84.6	15.4

KEY FINDINGS FOR WALES

- Overall, 91.1% of people who are not exception reported on COPD registers in Wales have an annual review that includes assessment of breathlessness.
- In total, 15.4% of people on COPD registers are exception reported, which can mean that some or all of the review could not be completed either due to patient choice or inappropriateness of the item(s) in the review.

AREAS IDENTIFIED AS NEEDING IMPROVEMENT OR WHERE THINGS ARE GOING WELL

- Individual practices and system leaders should review the reasons why some of their registered COPD population are not getting some or all aspects of an annual review and whether this is having an impact on outcomes.

QUALITY IMPROVEMENT

- Practices should look at the systems used to ensure attendance at annual reviews, especially when monitoring repeat prescriptions. They should also think about the people the practice is perhaps not seeing, for example people with serious mental illness, the housebound and homeless people who may need additional co-working to ensure review.
- If this is a cluster or health board wide problem, does the whole system need to consider whether a service review is required to reach those who are not being seen? Is there a template to ensure that everyone records COPD care in the same way?
- Where it appears that there is variation between practices, could additional measures or resource be used or allocated in those practices where review numbers are lower to improve attendance? For example, could administrative measures such as use of reminder letters, texts and telephone calls the day before patients' appointments or the provision of home visits be used to affect change?
- People with COPD should be asked about their breathlessness using the MRC breathlessness scale because those with higher scores have more serious disease and a need for therapies such as pulmonary rehabilitation and more intensive monitoring or therapy.
- Breathlessness is a cardinal symptom of COPD but people who are breathless are at higher risk of developing other long-term conditions that also cause breathlessness, such as heart failure, anxiety and cancer. Practices should consider implementing a structured annual breathlessness assessment to ensure that other causes of breathlessness are being considered at annual review.
- 82% of people with COPD have another long-term condition. Therefore, those who are not getting reviewed may also be failing to get optimal care for their other conditions. For those with multi-morbidity, could resource be re-allocated and used to help them receive a multi-approach review from a long-term condition health professional?
- Practices should help people with COPD to engage with them better by providing them with the British Lung Foundation (BLF) 'COPD patient passport' <http://passport.blf.org.uk/>.

RESOURCES

- Primary Care Respiratory Society. *Diagnosis and management of COPD in primary care: A guide for those working in primary care*. Sutton Coldfield: PCRS-UK, 2014. www.pcrs-uk.org/resource/Guidelines-and-guidance/QGCOPD
- British Lung Foundation. *COPD Patient Passport*. <http://passport.blf.org.uk/> [accessed July 2016]

Appendices

Appendix A

- List of participating practices

Appendix B

- What is the National COPD Audit Programme?

Appendix C

- Glossary of terms, definitions and abbreviations

Appendix D

- References

Appendix A: List of participating practices in your Health Board

For a full list of participating practices in each Health Board, please refer to the national report.¹

Cluster	Practice Code	Practice
Mid Powys	W96006	Rhayader Medical Practice
North Powys	W96005	Arwystli Medical Practice
	W96011	Glantwymyn Health Centre
	W96012	Llanfyllin Medical Practice
	W96014	Machynlleth Health Centre (Church Ds)
	W96001	Montgomery Medical Practice
South Powys	W96016	War Memorial Health Centre (Stoker Cj)

Appendix B

What is the National COPD Audit Programme?

The National COPD Audit Programme is a programme of work that aims to drive improvements in the quality of care and services provided for COPD patients in England and Wales. For the first time in respiratory audit, the programme is looking at COPD care across the patient pathway, both in and out of hospital, bringing together key elements from the primary, secondary and community care sectors.

There are four programme workstreams:

1. Primary care audit: collection of audit data from general practice patient record systems in Wales. Delivered by the RCP and NHS Digital, working with the PCRS-UK, the RCGP, and the NHS Wales Informatics Service.
2. Secondary care audit: in 2014 there were snapshot audits of patients admitted to hospital with COPD exacerbation, plus organisational audits of the resourcing of COPD services in acute units. The 2014 audits were delivered by the BTS, working with the RCP. A continuous audit of admission to hospital with COPD exacerbation will commence in 2017.
3. Pulmonary rehabilitation: audits of COPD patients attending pulmonary rehabilitation (including outcomes at 180 days), plus organisational audits of the resourcing of pulmonary rehabilitation services for COPD patients. The 2015 round of this audit was delivered by the BTS, working with the RCP. Another round of snapshot clinical and organisational audits will commence in 2017.
4. Patient Reported Experience Measures (PREMs): 1-year development work exploring the potential/feasibility for PREMs to be incorporated into the programme in the future. Delivered by the BLF, working with Picker Institute Europe.⁶

The programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Programme (NCA). It is included in the list of national audits for inclusion in NHS trusts' quality accounts and also the NHS Wales Clinical Audit and Outcome Review Plan.

For information about the primary care audit's methodology, the National COPD Audit Programme's governance and the governance of the primary care workstream (including primary care group membership) please refer to the national Wales Report (<https://www.rcplondon.ac.uk/projects/outputs/primary-care-time-take-breath>). For other general information about the audit programme, please visit our website at <https://www.rcplondon.ac.uk/projects/national-copd-audit-programme-primary-care-workstream>.

Appendix C

Glossary of terms, definitions and abbreviations

Asthma	A respiratory condition marked by attacks of spasm in the bronchi of the lungs, causing difficulty in breathing
Audit	A process that measures care against set criteria, to identify where changes can be made to improve the quality of care
Benchmark	An evaluation of something by comparison with a standard
Bronchodilator	A substance that dilates the bronchi and bronchioles, decreasing resistance in the respiratory airway and increasing airflow to lungs
Bupropion	Bupropion is a medication primarily used as an antidepressant and smoking cessation aid.
Chronic obstructive pulmonary disease (COPD)	A collection of lung diseases including chronic bronchitis, emphysema and chronic obstructive airways disease, which cause difficulties with breathing, primarily due to narrowing of the airways
Cluster	A practice cluster is a grouping of GPs and practices locally determined by an individual NHS Wales local health board (LHB)
CXR	Chest X-ray
DOSE score	Dyspnoea (breathlessness), obstruction, smoking, exacerbation (DOSE) index – predictive of mortality in COPD
Dyspnoea	Also known as shortness of breath or breathlessness, is a subjective sensation of breathing discomfort
Exacerbation	A sudden worsening or ‘flare up’ of COPD symptoms (shortness of breath, quantity and colour of phlegm)
Exception Reported	QOF questions provide a result for the ‘eligible’ population and this is not always the entire COPD register. Practices can exclude a patient for an indicator either because the patient declines to take part in the test or measure, or because it would be inappropriate or not possible to include them within the time frame when that indicator should be recorded. This is an exception.
FEV₁	Forced expiratory volume in 1 second
FEV₁%	FEV ₁ /FVC ratio
FVC	Forced vital capacity
GPC Wales	General Practitioners Committee Wales
Health board (HB)	Health boards (HBs) in Wales plan, secure and deliver healthcare services in their areas
Hypoxia	A condition in which the body or a region of the body is deprived of adequate oxygen supply
ICS	Inhaled corticosteroid
Inhaled corticosteroid	Inhaled corticosteroids are medications used to treat asthma. They are taken by using an inhaler.
LABA	Long-acting beta2 agonist
LAMA	Long-acting muscarinic antagonist
Mean	The mean is the average value of the data (ie the data values are added together and then divided by the number of data items)

Median	The median is the middle point of a dataset: half of the values are below this point, and half are above this point
Metric	A system or standard of measurement
MRC breathlessness (dyspnoea) score	Medical Research Council scale – degree of breathlessness related to graded activities
NICE guideline on COPD	Guidance for the care and treatment of people with COPD in the NHS in England and Wales: http://guidance.nice.org.uk/CG101 (NICE, 2010)
NICE quality standard for COPD	Defines clinical best practice within this topic area, covering the assessment, diagnosis and clinical management of COPD in adults: http://guidance.nice.org.uk/QS10 (NICE, 2011)
Nicotine	A toxic colourless or yellowish oily liquid which is the chief active constituent of tobacco. It acts as a stimulant in small doses, but in larger amounts blocks the action of autonomic nerve and skeletal muscle cells.
Non-invasive ventilation (NIV)	Breathing support provided in hospital or at home via a face mask that delivers a slightly pressurised airflow
NWIS	NHS Wales Informatics Service
Palliative care	Treating symptoms at the end of life
Primary care	Local healthcare delivered by GPs, NHS walk-in centres and others, which is provided and managed by CCGs/LHBs
Pulmonary rehabilitation	A programme, typically including patient education, exercise training and advice, which is designed to improve the health of patients with chronic breathing problems including COPD
Pulse oximetry/oximeter	A test used to measure the oxygen level (oxygen saturation) of the blood
QALY	Quality-adjusted life year – a generic measure of disease burden, including both the quality and the quantity of life lived
QI	Quality improvement
QOF	Quality Outcomes Framework – a voluntary annual reward and incentive programme for all GP surgeries in England, detailing practice achievement results
Read Codes	The standard clinical terminology system used in General Practice in the UK
Read Code 339M	FEV1/FVC ratio after bronchodilator
Read Code 339O1	FEV1/vital capacity ratio
Read Code 339j	FEV1/FVC ratio pre steroids
Read Code 339k	FEV1/FVC ratio post steroids
Read Code 339I	FEV1/FVC ratio before bronchodilator
Read Code 339R	FEV1/FVC percent
Read Code 339r	FEV1/VC percent

Read Code 339T	FEV1/FVC > 70% of predicted
Read Code 339U	FEV1/FVC < 70% of predicted
Read Code 3399	FEV1/FVC ratio abnormal
Read Code 66yf	Number of chronic obstructive pulmonary disease exacerbations in past year
RHIG	Respiratory Health Implementation Group
Secondary care	Planned and unplanned care that is provided in hospitals
SNOMED	Systematised Nomenclature of Medicine
Specialist	A clinician whose practice is limited to a particular branch of medicine or surgery, especially one who is certified by a higher educational organisation
Spirometry	A test measuring lung function, specifically the amount (volume) and/or speed (flow) of air that can be inhaled and exhaled, and which is used to diagnose COPD
Varenicline	Varenicline, is a prescription medication used to treat nicotine addiction.
VC	Vital capacity

Appendix D

References

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- ² Stone RA, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. *COPD: Who cares? National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Resources and organisation of care in acute NHS units in England and Wales 2014*. National organisational audit report. London: RCP, November 2014. www.rcplondon.ac.uk/projects/outputs/copd-who-cares-organisational-audit-2014
- ³ Stone RA, Holzhauser-Barrie J, Lowe D, Searle L, Skipper E, Welham S, Roberts CM. *COPD: Who cares matters. National Chronic Obstructive Pulmonary Disease (COPD) Audit Programme: Clinical audit of COPD exacerbations admitted to acute units in England and Wales 2014*. National clinical audit report. London: RCP, February 2015. www.rcplondon.ac.uk/projects/outputs/copd-who-cares-matters-clinical-audit-2014
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