

National Chronic Obstructive Pulmonary Disease (COPD) primary care audit (Wales) 2015

Analysis Methodology

Introduction

Data from two sources was used for the production of the report.

The first source is the published Quality and Outcomes Framework (QoF) for Wales which is detailed at the following website - <http://gov.wales/statistics-and-research/general-medical-services-contract/?lang=en>.

The second source is an extract from participating Welsh GP's which is detailed in the document [DN insert name here]. Data from each participating GP was provided to the HSCIC in Comma separated value files which were processed to create the report.

The final day of the audit period was the 31 March 2015 and this date is used at the Audit Date for analysis.

Data Cleaning

The following cleaning was undertaken on the provided files

Dates

Invalid dates were removed and replaced with a null value.

For example: 32/13/2015 would be replaced with a null value.

Postcodes

Postcodes were placed into the 8 character format and if no valid 8 character format was possible then the submitted value was replaced by a null value.

For example XX1 would be replaced with a null value.

Latest FEV1/FVC ratio after bronchodilator

Values over 1 were divided by 100.

Values under 0.2 or over 1 were replaced by a null value.

For example a value of 70 would be changed to 0.7 and then retained. A value of 10 would be changed to 0.1 and then replaced by a null value.

Events after Audit Date

The data file contained all events of the specified type regardless of the date. All events that occurred after the audit date were removed from the database. This would not affect the patient file as that information was restricted to events occurring before the audit date.

For example a line of data with an event date of the 10/5/2015 would be removed and not feature in the analysis.

Analysis Definitions

Question 1 Percentage of patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the Medical Research Council dyspnoea scale in the preceding 15 months

Source: Qof 2015 Wales

Denominator: [COPD003 Denominator]

Achieved: [COPD003 Numerator]

Not Achieved: [COPD003 Denominator] – [COPD003 Numerator]

Question 1a Exception rate for Question 1

Source: Qof 2015 Wales

Denominator: [COPD003 Denominator] + [COPD003 Exceptions]

Included: [COPD003 Denominator]

Excluded: [COPD003 Exceptions]

Questions 2 Percentage of patients with COPD and an MRC breathlessness score greater than or equal to 3 in the preceding 15 months who also have a record of FEV1 in the preceding 15 months. Patients with MRC dyspnoea scoring less than 3 will be monitored according to an agreed management plan.

Source: Qof 2015 Wales

Denominator: [COPD004 Denominator]

Achieved: [COPD004 Numerator]

Not Achieved: [COPD004 Denominator] – [COPD004 Numerator]

Question 2a Exception rate for Question 2

Source: Qof 2015 Wales

Denominator: [COPD004 Denominator] + [COPD004 Exceptions]

Included: [COPD004 Denominator]

Excluded: [COPD004 Exceptions]

Questions 3 Percentage of patients with COPD and Medical Research Council breathlessness grade ≥ 3 at any time in the preceding 15 months, with a record of oxygen saturation value within the preceding 15 months.

Source: Qof 2015 Wales

Denominator: [COPD005 Denominator]

Achieved: [COPD005 Numerator]

Not Achieved: [COPD005 Denominator] – [COPD005 Numerator]

Question 3a Exception rate for Question 3

Source: Qof 2015 Wales

Denominator: [COPD005 Denominator] + [COPD005 Exceptions]

Included: [COPD005 Denominator]

Excluded: [COPD005 Exceptions]

Questions 4 Percentage of patients with COPD who have had influenza immunisation in the preceding 1 August to 31 March.

Source: Qof 2015 Wales

Denominator: [COPD007 Denominator]

Achieved: [COPD007 Numerator]

Not Achieved: [COPD007 Denominator] – [COPD007 Numerator]

Question 4a Exception rate for Question 4

Source: Qof 2015 Wales

Denominator: [COPD007 Denominator] + [COPD007 Exceptions]

Included: [COPD007 Denominator]

Excluded: [COPD007 Exceptions]

Questions 5 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.

Source: Qof 2015 Wales

Denominator: [COPD002 Denominator]

Achieved: [COPD002 Numerator]

Not Achieved: [COPD002 Denominator] – [COPD002 Numerator]

Question 5a Exception rate for Question 5

Source: Qof 2015 Wales

Denominator: [COPD002 Denominator] + [COPD002 Exceptions]

Included: [COPD002 Denominator]

Excluded: [COPD002 Exceptions]

Question 6 Percentage of COPD patients with a Fev1/Fvc test

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of FEV1/FVC ratio after bronchodilator] is not null

Question 6a Percentage of COPD patients with latest FEV1/FVC ratio >0.7

Source: COPD audit Wales 2015

Denominator: Number of patients where [Date of FEV1/FVC ratio after bronchodilator] is not null

Numerator: Number of patients in the denominator where [Latest FEV1/FVC ratio after bronchodilator] > 0.7

Question 7 Percentage of COPD patients with a chest x-ray between 3 months before their first diagnosis and 6 months after their first diagnosis

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Latest chest x-ray] between Earliest COPD Diagnosis – 60 days and Earliest COPD Diagnosis + 180 days.

Question 8 Percentage of COPD patients with asthma

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator with [Date of asthma diagnosis] > [Date of latest asthma resolution]

Question 9 Percentage of COPD patients with MRC scale grouped by score 1-5

Source: COPD audit Wales 2015

Grouping: [Latest Medical Research Council (MRC) Breathlessness test scale] (values 1 to 5 and Unknown)

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator with [Latest Medical Research Council (MRC) Breathlessness test scale]

Question 10 DOSE (Dyspnoea, Obstruction, Smoking, Exacerbations) component review

Question 10a D - the percentage of COPD patients with an MRC scale of 1- 5 within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of MRC Breathlessness test scale] > Audit Date – 365 days

Question 10b O - the percentage of COPD patients with a spirometry test within a year.

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of other spirometry test] > Audit Date – 365 days or [Date of FEV1/FVC ratio after bronchodilator] > Audit date - 365

Question 10c S - the percentage of COPD patients with a smoking status recorded within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of smoking status] > Audit Date - 365 days

Question 10d E - the percentage of COPD patients with at least one exacerbation recorded in the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where count of [Code of each exacerbation diagnosis] > 0 and [Date of each exacerbation diagnosis] > Audit date – 365 days.

Question 11 Percentage of patients with COPD who are current smokers

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Latest smoking status] in Smoker Code list (see appendix A)

Question 12 Percentage of current smokers with any smoking cessation activity within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract where [Latest smoking status] in Smoker Code list (see appendix A)

Numerator: Number of patients in the denominator where [Date of declined smoking cessation advice] > audit date – 365 days or [Date of smoking cessation activity] > audit date – 365 days or [Date of smoking cessation medication (non drug codes)] > audit date – 365 days or [Date of smoking cessation medication (drug codes)] > audit date – 365 days.

Question 12a Percentage of current smokers referred for smoking cessation activity within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract where Latest smoking status in Smoker Code list (see appendix A)

Numerator: Number of patients in the denominator where [Date of declined smoking cessation advice] > audit date – 365 days.

Question 12b Percentage of current smokers with smoking cessation medicine (drug and non drug codes) activity within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract where [Latest smoking status] in Smoker Code list (see appendix A)

Numerator: Number of patients in the denominator where [Date of smoking cessation medication (drug codes)] > audit date – 365 days or [Date of smoking cessation medication (non drug codes)] > audit date – 365 days

Question 12c Percentage of current smokers who declined referral for smoking cessation activity within the last year

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract where Latest smoking status in Smoker Code list (see appendix A)

Numerator: Number of patients in the denominator where [Date of declined smoking cessation advice] > audit date – 365 days.

Question 13 Percentage of patients with COPD with smoking status recorded in last 12 months

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of smoking status] > audit date – 365 days

Question 14 Percentage of patients with COPD and MRC scale 3, 4 or 5 referred to pulmonary rehabilitation

Source: COPD audit Wales 2015

Denominator: Number of patients with [Latest Medical Research Council (MRC) Breathlessness Scale test] between 3 and 5

Numerator: Number of patients in the denominator where [Latest referral for pulmonary rehabilitation] is not null

Question 15 Percentage of COPD patients with oxygen therapy in the last 6 months

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where [Date of oxygen therapy activity] > audit date – 180 days.

Question 16 Percentage of COPD patients (without asthma) receiving inhaled steroids within 180 days but not receiving a LABA within 180 days

Source: COPD audit Wales 2015

Denominator: Number of patients where [Date of asthma diagnosis] is null OR [Date of latest asthma resolution] > [Date of asthma diagnosis]

Numerator: Number of patients in the denominator where [Latest inhaled steroid (not combined with LABA)] is > Audit Date – 180 days AND ([Date of LABA Rx prescription] < Audit Date – 180 days AND [Date of latest inhaled steroid (ICS/LABA combination)] < Audit Date – 180 days)

Question 17 Percentage of patients with COPD with MRC scale of 4 scale on triple therapy LAMA, LABA, ICS

Source: COPD audit Wales 2015

Denominator: Number of patients where [Latest Medical Research Council (MRC) Breathlessness Test Scale]= 4

Numerator: Number of patients in the denominator where [Date of LAMA Rx prescription] > Audit Date – 180 days AND ([Date of latest inhaled steroid (ICS/LABA combination)] > Audit date – 180 days OR ([Date of inhaled steroid (not combined with LABA)] > Audit date – 180 days AND [Date of LABA Rx prescription] > Audit Date – 180 days))

Question 18 Percentage of COPD patients prescribed an inhaler within the last 12 months with inhaler technique checked in last 12 months

Source: COPD audit Wales 2015

Denominator: Number of patients where [Date of inhaled steroid (not combined with LABA)] > audit date – 365 days OR [Date of latest inhaled steroid (ICS/LABA combination)] > audit date – 365 days

Numerator: Number of patients in the denominator where [Date of inhaler technique check] > audit date -365 days.

Question 19 Percentage of COPD patients prescribed an inhaler within the last 12 months with inhaler technique checked ever

Source: COPD audit Wales 2015

Denominator: Number of patients where [Date of inhaled steroid (not combined with LABA)] > audit date – 365 days OR [Date of latest inhaled steroid (ICS/LABA combination)] > audit date – 365 days
Numerator: Number of patients in the denominator where [Date of inhaler technique check] is not null

Question 20 Percentage of COPD patients with at least one recorded exacerbations in last 12 months (coded 66Yf.)

Source: COPD audit Wales 2015

Denominator: Number of patients in the extract

Numerator: Number of patients in the denominator where count of [Code of each exacerbation diagnosis] > 0 and [Date of each exacerbation diagnosis] > Audit date – 365 days.

Question 21 Percentage of COPD patients with at least one recorded exacerbations in last 12 months treated with oral steroids

Source: COPD audit Wales 2015

Denominator: Number of patients where count of [Code of each exacerbation diagnosis] > 0 and [Date of each exacerbation diagnosis] > Audit date – 365 days.

Numerator: Number of patients in the denominator where [Date of each short-term oral steroid prescription] > audit date – 365 days.

Question 22 Percentage of COPD patients with recording of number exacerbations in last 12 months treated with antibiotics

Source: COPD audit Wales 2015

Denominator: Number of patients where count of [Code of each exacerbation diagnosis] > 0 and [Date of each exacerbation diagnosis] > Audit date – 365 days.

Numerator: Number of patients in the denominator where [Date of each short-term antibiotic used in respiratory illness prescription] > audit date – 365 days.

Appendix A – Current Smoker Codes

If Latest smoking status is in the list of codes below the patient is considered to be a current smoker.

SmokingStatusCode	Description
137	Tobacco consumption
1372	Trivial smoker - < 1 cig/day
1373	Light smoker - 1-9 cigs/day
1374	Moderate smoker - 10-19 cigs/d
1375	Heavy smoker - 20-39 cigs/day
1376	Very heavy smoker - 40+cigs/d
137a	Pipe tobacco consumption
137b	Ready to stop smoking
137C	Keeps trying to stop smoking
137c	Thinking about stopping smoking
137d	Not interested in stopping smoking
137e	Smoking restarted
137G	Trying to give up smoking
137H	Pipe smoker
137J	Cigar smoker
137M	Rolls own cigarettes
137m	Failed attempt to stop smoking
137o	Waterpipe tobacco consumption
137P	Cigarette smoker
137Q	Smoking started
137R	Current smoker
137V	Smoking reduced
137X	Cigarette consumption
137Y	Cigar consumption
137Z	Tobacco consumption NOS