Pan London Respiratory Dashboard: Metric descriptions and specifications

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The Pan-London Respiratory Dashboard links up-to-date information in relation to the diagnosis and medicines optimisation for people with Asthma and COPD from across the region, which can be visualised at a practice, Primary Care Network (PCNs) or Integrated Care System (ICS) level.

The Pan-London Respiratory Dashboard brings together Quality Outcome Framework (QOF), Hospital Episode Statistics (HES), and ePACT2 prescribing data together for the first time, enabling healthcare professionals and commissioners to track, monitor and compare key metrics.

The dashboard has been developed by Imperial College Health Partners and Telstra Health UK with support from North West London ICS and clinical colleagues from London Clinical Respiratory Group and local PCNs.

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Problem statement and aim

System problem statement: There are inaccurate diagnoses and poor care management practice for asthma and COPD in London, resulting in patients being given the wrong treatment and/or being placed on the wrong treatment pathway. Primary care clinicians do not have appropriate data on their performance or the expertise to improve in these areas.

Dashboard problem statement: Professionals in the respiratory care system do not review data about the variability of diagnosis and care management for COPD and asthma. Current dashboards that are available on respiratory care are not easy to interpret or apply to care delivery. No dashboard link diagnosis with care management data and it is not easy to compare performance between other localities or over time.

Aim: To create a single dashboard which integrates both diagnosis and care management progress measures for use by professionals at the practice, PCN and ICS level.

NHSBA acknowledgement

This specification has been modified from an existing specification written by the NHSBA. This can be found here. The only reason for an additional single specification is to reflect the different collection of metrics for this dashboard. All content is replicated in accordance with the Open Government Licence. With specific files referenced available here:

- Respiratory Dashboard supportive guidance, NHSBA Copyright 2021
- Specification, NHSBA Copyright 2021
- Appendix 2, NHSBA Copyright 2021

Limitations

ePACT2 data: Historically, primary care prescribing information was derived from the reimbursement processes for dispensed medicines. However, the NHSBSA is now able to capture extra information that undoubtedly adds value to prescribing measures. The NHS number of the recipient of a medicine prescribed in primary care can now be linked to items prescribed. This development enables the data to show how many patients are prescribed a medicine or group of medicines (rather than presentation of drugs prescribed by each GP practice). In this way, we are able to demonstrate much better the quality of prescribing in key areas.

NHS number is routinely captured through the Electronic Prescription Service (EPS) with complete accuracy. Therefore, CCGs are encouraged to drive up the uptake of EPS. To support this improvement, EPS levels will be included alongside the comparators.

Information governance is very important and in the preparation of these comparators all data protection legislation and patient confidentiality has been carefully considered and adhered to. While the comparators are derived from patient level records, personal identifiable data will not be included within the reports.

Each comparator has a full specification outlining the evidence base behind the comparator; the rationale for inclusion and the data source (see Table 1 for list of comparators).

This comparator specification document is NOT a prescribing guideline. It simply shows how the comparators were developed and the rationale behind each comparator.

HES data: We adhere to strict statistical disclosure control in accordance with the NHS Digital protocol, to all published HES data. This suppresses small numbers to stop people identifying themselves and others, to ensure that patient confidentiality is maintained.

QOF data: The QOF information is collected at an aggregate level for each practice and does not refer to specific patients.

Participation in the QOF is voluntary – no data are available for those practices that do not choose to participate in the QOF.

Table 1: List of metrics

Metrics	Source	Methodology alignment
1) Diagnosis		
1.1) Asthma reported prevalence	QOF	Methodology aligned with QOF metric
1.2) COPD reported vs estimated prevalence	QOF	Methodology aligned with QOF metric
1.3) Asthma emergency admission rate per 1,000 asthma patients on the QOF register	QOF & HES	Methodology as per detail below
1.4) COPD emergency admission rate per 1,000 COPD patients on the QOF register	QOF & HES	Methodology as per detail below
1.5) Proportion of people with an Asthma diagnosis on or after April 2020 with a record of spirometry and one other objective test	QOF & HES	Methodology as per detail below
1.6) Proportion of patients on the Asthma QOF register aged 19 or under with either a smoking status or second-hand smoke exposure recorded	QOF	Methodology aligned with QOF metric
2) Medicines Optimisation		
2.1) Carbon Impact – MDI prescribing as a proportion of all inhaler prescribing	ePACT 2	Methodology to be aligned with carbon impact metrics being developed by NHSBSA
2.2) Carbon Impact – Prescribing rate of high carbon ICS/LABA inhalers	ePACT 2 & PrescQ IPP	Methodology to be aligned with carbon impact metrics being developed by NHSBSA
2.3) Carbon Impact – Prescribing rate of high carbon SABA inhalers	ePACT 2 & PrescQ IPP	Methodology to be aligned with carbon impact metrics being developed by NHSBSA
2.4) Proportion of high dose ICS items	ePACT 2 & PrescQ IPP	Methodology aligned with NHSBSA ePACT2 metric

2.5) Proportion of patients receiving 5 or fewer inhalers for ICS products	ePACT 2	Methodology aligned with NHSBSA ePACT2 metric
2.6) Prescribing volume of prednisolone tablets	ePACT 2	Methodology aligned with NHSBSA ePACT2 metric

Prescribing data used in NHSBSA ePACT2 comparators

Users of these comparators must be aware of the following parameters:

- Covers all items prescribed in primary care by practices and cost centres linked to CCGs. It includes acute and repeat items.
- Does not include hospital prescribing.
- Does not include medicines supplied over the counter.
- Does not include medicines supplied by NHS community services.
- Data restricted to prescription items where the NHS number could be identified for the patient.

Each comparator is derived using prescribing data and reported by month, although some figures may be based on a 12 month rolling period. Historic data is available to allow CCGs and Practices to chart their progress in addressing a particular comparator area.

All of the comparators show monthly data at Practice level (aggregated to CCG level) and are available for all patients.

Patient counts: Some comparators are based on a number of unique patients. This has been determined from prescriptions where the NHSBSA has been able to obtain details regarding patient NHS number and age at practice location. Where the same patient appears in the data for more than one practice location they will be counted as one patient for each of the practice locations they appear in.

NB: While NHS numbers are used to formulate these comparators, no personal identifiable data will be released through these comparators.

How to use these comparators

We envisage that the comparators will be used by PCNs and CCGs/ICSs in collaboration with local GP practices and with the relevant and appropriate education and training support in place.

Data Source:

ePACT2: NHS Business Services Authority - based on data from the NHSBSA's data warehouse system which contains all NHS prescription data, with the exception of prescriptions which are dispensed in prisons, hospitals and private prescriptions.

Analysis is based on drugs that were reimbursed by the NHSBSA. It excludes items not dispensed and disallowed. If a prescription was issued, but not presented for dispensing or was not submitted to NHS Prescription Services by the dispenser, then it is not included in the data provided.

HES: HES Hospital Episode Statistics (HES) is a database containing details of all admissions, A and E attendances and outpatient appointments at NHS hospitals in England.
Initially this data is collected during a patient's time at hospital as part of the Commissioning Data Set (CDS). This is submitted to NHS Digital for processing and is returned to healthcare providers as the Secondary Uses Service (SUS) data set and includes information relating to payment for activity undertaken. It allows hospitals to be paid for the care they deliver.
This same data can also be processed and used for non-clinical purposes, such as research and planning health services. Because these uses are not to do with direct patient care, they are called 'secondary uses'. This is the HES data set.

HES data covers all NHS Clinical Commissioning Groups (CCGs) in England, including:

- private patients treated in NHS hospitals
- patients resident outside of England
- care delivered by treatment centres (including those in the independent sector) funded by the NHS

Each HES record contains a wide range of information about an individual patient admitted to an NHS hospital, including:

- clinical information about diagnoses and operations
- patient information, such as age group, gender and ethnicity
- administrative information, such as dates and methods of admission and discharge
- geographical information such as where patients are treated and the area where they live

QOF: NHS Digital has developed the Quality Outcomes Framework online database to allow patients and the public easy access to the latest annual QOF data. The QOF contains four main components, known as domains. The four domains are: Clinical; Public Health and Public Health – Additional Services and Quality Improvement. Each domain consists of a set of achievement measures, known as indicators, against which practices score points according to their level of achievement. The 2020-21 QOF measured achievement against 68 indicators; practices scored points based on achievement against each indicator, up to a maximum of 567 points.

NHS Digital is working to make information more relevant and accessible to patients and the public, regulators, health and social care professionals and policy makers, leading to improvements in knowledge and efficiency.

PrescQIPP: Bulletin 295: Inhaler carbon footprint. This resource supports the NHS objective for lowering the inhaler carbon footprint and has been endorsed by NHSEI Inhaler Working Group. Inhaler carbon emissions data for each inhaler are provided.

The data tool provides comparative inhaler prescribing data at all levels

Data quality assurance

EPACT2 data: NHS Prescription Services have their own internal quality process to assure the data they provide matches what was originally submitted as part of the prescription processing activity. Some processes are complex and manual therefore there may be random inaccuracies in capturing prescription information which are then reflected in the data but checks are in place to reduce the chance of issues occurring. The processes operate to a number of key performance indicators, one of which is the percentage Prescription Information Accuracy, the target being 99.3% and as of December 2018 prescribing, the accuracy level achieved over the latest 12 month rolling period was 99.68%.

The comparators take advantage of the developments linking the NHS number to prescription items. Currently, nearly 95% of all paper prescription items can be linked to an NHS number with an accuracy of over 99%. Age and date of birth can be linked to 73% of paper prescription items with an accuracy of 97%. As the utilisation of EPS increases, the coverage and accuracy of this data will increase.

HES & QOF data will undergo quality assurance during refreshes by Telstra Health UK.

Respiratory Diagnosis metrics

1.1) Asthma reported prevalence

Section 1: Introduction / Overview		
1.1	**Title**	Asthma reported prevalence
1.2	**Definition**	Identifying the number of patients diagnosed with Asthma as a percentage of all registered patients.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Count of patients diagnosed with Asthma as captured in QOF
1.5	**Denominator**	Count of all registered patients
1.6	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.7	**RAG**	No RAG rating for prevalence but national average to be plotted on overview tab for easy comparison to London level data.
Section 2: Rationale		
2.1	**Purpose**	
2.2	**Evidence and Policy Base**	

1.2) COPD reported vs estimated prevalence

Section 1: Introduction / Overview		
1.1	**Title**	COPD reported vs estimated prevalence
1.2	**Definition**	Identifying the number of patients diagnosed with COPD as a percentage of the estimated prevalence.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Count of patients diagnosed with COPD as captured in QOF
1.5	**Denominator**	2015 modelled COPD prevalence estimate
1.6	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.7	**RAG**	No RAG rating for prevalence but national average to be plotted on overview tab for easy comparison to London level data.
Section 2: Rationale		
2.1	**Purpose**	
2.2	**Evidence and Policy Base**	

1.3) Asthma emergency admission rate per 1,000 asthma patients on QOF register

Section 1: Introduction / Overview		
1.1	**Title**	Asthma emergency admission rate per 1,000 asthma patients on the QOF register
1.2	**Definition**	Number of patients admitted for Asthma related complications expressed as a numerical rate of QOF prevalence.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients admitted for asthma complications as captured in HES. The ICD-10 codes used for HES would be: • J45 (Asthma) and J46 (status asthmaticus) • Principal diagnosis only Source: Nuffield Trust
1.5	**Denominator**	Asthma prevalence as captured in QOF / 1,000
1.6	**Methodology**	Numerator divided by denominator, presented as a numerical value.
1.7	**RAG**	
Section 2: Rationale		
2.1	**Purpose**	To understand how often complications/escalations are occurring in order to identify where care management for patients needs improving.
2.2	**Evidence and Policy Base**	

1.4) COPD emergency admission rate per 1,000 COPD patients on the QOF register

Section 1: Introduction / Overview		
1.1	**Title**	COPD emergency admission rate per 1,000 COPD patients on the QOF register
1.2	**Definition**	Number of patients admitted for COPD related complications expressed as a numerical rate of QOF prevalence.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients admitted for COPD complications as captured in HES. The ICD-10 codes for COPD-related hospitalisation are as follows:

ICD-10 code	Description
J40	Bronchitis, not specified as acute or chronic Incl: Bronchitis: NOS Catarrhal With tracheitis NOS Tracheobronchitis NOS
J41	Simple and mucopurulent chronic bronchitis
J41.0	Simple chronic bronchitis
J41.1	Mucopurulent chronic bronchitis
J41.8	Mixed simple and mucopurulent chronic bronchitis
J42	Unspecified chronic bronchitis Incl: Chronic: Bronchitis NOS Tracheitis Tracheobronchitis
J43	Emphysema
J43.0	MacLeod syndrome Unilateral: Emphysema Transparency of lung
J43.1	Panlobular emphysema Panacinar emphysema
J43.2	Centrilobular emphysema
J43.8	Other emphysema
J43.9	Emphysema, unspecified Emphysema (lung) (pulmonary): NOS Bullous Vesicular Emphysematous bleb
J44	Other chronic obstructive pulmonary disease Incl: Chronic: Bronchitis: Asthmatic (obstructive)

		Emphysematous With: Airways obstruction Emphysema Obstructive: Asthma Bronchitis Tracheobronchitis	
		J44.0	Chronic obstructive pulmonary disease with acute lower respiratory infection
		J44.1	Chronic obstructive pulmonary disease with acute exacerbation, unspecified
		J44.8	Other specified chronic obstructive pulmonary disease Chronic bronchitis: Asthmatic (obstructive) NOS Emphysematous NOS Obstructive NOS
		J44.9	Chronic obstructive pulmonary disease, unspecified chronic obstructive: Airway disease NOS Lung disease NOS
		J47	Bronchiectasis Incl: Bronchiolectasis
		J80	Adult respiratory distress syndrome Incl: Adult hyaline membrane disease
		Source: Merinopoulou et al., 2021	
1.5	**Denominator**	COPD prevalence as captured in QOF / 1,000	
1.6	**Methodology**	Numerator divided by denominator, presented as a numerical value.	
1.7	**RAG**		
Section 2: Rationale			
2.1	**Purpose**	To understand how often complications/escalations are occurring in order to identify where care management for patients needs improving.	
2.2	**Evidence and Policy Base**		

1.5) Proportion of people with an Asthma diagnosis on or after April 2020 with a record of spirometry and one other objective test

Section 1: Introduction / Overview		
1.1	**Title**	Proportion of people with an Asthma diagnosis on or after April 2020 with a record of spirometry and one other objective test
1.2	**Definition**	Proportion of patients with an asthma diagnosis on or after April 1st 2020 with either: 1) A record of spirometry and one other objective test between 3 months before and 6 months after diagnosis OR 2) If newly registered in the preceding 12 months with a diagnosis of asthma recorded on or after 1 April 2020 but no record of objective tests performed before the date of registration with a record of spirometry and other objective test recorded within 6 months of registration.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Count of patients with 1) A record of spirometry and one other objective test between 3 months before and 6 months after diagnosis OR 2) If newly registered in the preceding 12 months with a diagnosis of asthma recorded on or after 1 April 2020 but no record of objective tests performed before the date of registration with a record of spirometry and other objective test recorded within 6 months of registration.
1.5	**Denominator**	Count of patients diagnosed with asthma
1.6	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.7	**RAG**	
Section 2: Rationale		
2.1	**Purpose**	
2.2	**Evidence and Policy Base**	

1.6) Proportion of patients on the Asthma QOF register aged 19 or under with either a smoking status or second-hand smoke exposure recorded

Section 1: Introduction / Overview		
1.1	**Title**	Proportion of patients on the Asthma QOF register aged 19 or under with either a smoking status or second-hand smoke exposure recorded
1.2	**Definition**	The percentage of patients with asthma on the register aged 19 years or under, in whom there is a record of either personal smoking status or exposure to secondhand smoke in the preceding 12 months.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients on QOF asthma register aged 19 or under with a record of either personal smoking status or exposure to secondhand smoke in the preceding 12 months.
1.5	**Denominator**	Number of patients on QOF asthma register aged 19 or under.
1.6	**Methodology**	Numerator divided by denominator expressed as a percentage
1.7	**RAG**	• Red: < 95% • Green: >= 95%
Section 2: Rationale		
2.1	**Purpose**	Ensure all patients with asthma have a smoking status recorded. Identify areas where further smoking cessation measures could be effective.

Medicines Optimisation metrics

2.1) Carbon Impact – MDI prescribing as a proportion of all inhaler prescribing

Section 1: Introduction / Overview		
1.1	**Title**	MDI prescribing as a proportion of all inhaler prescribing
1.2	**Definition**	Identifying prevalence of prescribing of MDI inhalers as a proportion of all inhaler prescribing.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Total amount of metered dose inhalers prescribed by the organisation. Please refer to https://www.prescqipp.info/media/5932/attachment-1-inhaler-carbon-footprint-data-2101.xlsx for the drug list for this numerator.
1.5	**Denominator**	Total number of all inhalers, including metered dose inhalers, dry powder in halers and soft mist inhalers, prescribed by the organisation. Dry powder inhalers prescribed with a quantity of capsules have been divided by their pack size in order to give a more accurate figure for the number of inhaler devices prescribed.
1.6	**Methodology**	Numerator divided by denominator displayed as a percentage.
1.7	**RAG**	• Red >50% • Amber 26-50% • Green <=25%
Section 2: Rationale		
2.1	**Purpose**	The propellants in Meter Dose Inhalers are potent greenhouse gases, up to 3,350 times greater in impact than CO2. In the region of 96% of the carbon impact of MDI is from these propellants. Overall propellants from MDIs in England alone contribute up to the equivalent of 850,000 tonnes of CO2 emissions each year; constituting around 4% of the entire NHS footprint. In the NHS Long Term Plan there is a commitment to address this, that will require halving these emissions by 2030.To reduce the footprint, where clinically appropriate, GPs can prescribe lower volume propellant MDIs (eg generic salbutamol inhalers have a far lower volume than Ventolin); prescribe non-propellant inhalers such as DPIs and SMIs or educate patients to use every dose in their inhalers to reduce the number inhalers needed.
2.2	**Evidence and Policy Base**	

2.2) Carbon Impact – Prescribing rate of high carbon ICS/LABA inhalers

Section 1: Introduction / Overview		
1.1	**Title**	Prescribing rate of high carbon ICS/LABA inhalers
1.2	**Definition**	Identifying the proportion of patients prescribed a high carbon inhaler
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients prescribed a 'high carbon' ICS/LABA inhaler. Please refer to https://www.prescqipp.info/media/5932/attachment-1-inhaler-carbon-footprint-data-2101.xlsx for the drug list for this numerator, including the potential GHG content of constituent inhalers * *NB: Currently this numerator includes all inhalers deemed 'high' carbon as per PrescQIPP This is defined as anything with an indicative carbon footprint per inhaler >6,000 g CO2e
1.5	**Denominator**	Total number of ICS/LABA inhalers prescribed
1.7	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.8	**RAG**	• Red >50% • Amber 26-50% • Green <=25%
Section 2: Rationale		
2.1	**Purpose**	To ensure patients receiving highest carbon ICS/LABA inhalers are prioritised for a review
2.2	**Evidence and Policy Base**	The propellants in Meter Dose Inhalers are potent greenhouse gases, up to 3,350 times greater in impact than CO2. In the region of 96% of the carbon impact of MDI is from these propellants. Overall propellants from MDIs in England alone contribute up to the equivalent of 850,000 tonnes of CO2 emissions each year; constituting around 4% of the entire NHS footprint. In the NHS Long Term Plan there is a commitment to address this, that will require halving these emissions by 2030.To reduce the footprint, where clinically appropriate, GPs can prescribe lower volume propellant MDIs (eg generic salbutamol inhalers have a far lower volume than Ventolin); prescribe non-propellant inhalers such as DPIs and SMIs or educate patients to use every dose in their inhalers to reduce the number inhalers needed.

2.3) Carbon Impact – Prescribing rate of high carbon SABA inhalers

Section 1: Introduction / Overview		
1.1	**Title**	Prescribing rate of high carbon SABA inhalers
1.2	**Definition**	Identifying the proportion of patients prescribed a high carbon SABA inhaler
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients prescribed Ventolin (highest carbon SABA inhaler) and generically prescribed Salbultamol. Please refer to https://www.prescqipp.info/media/5932/attachment-1-inhaler-carbon-footprint-data-2101.xlsx for the drug list for this numerator, including the potential GHG content of constituent inhalers.* Generically prescribed salbutamol is included here as 80% of these prescriptions are fulfilled as Ventolin.
1.5	**Denominator**	Total number of SABA inhalers prescribed, plus generically prescribed salbutamol.
1.7	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.8	**RAG**	• Red: > 50% • Amber: 26-50% • Green: <=25%
Section 2: Rationale		
2.1	**Purpose**	Encourage lower carbon rescue (SABA) inhalers
2.2	**Evidence and Policy Base**	The propellants in Meter Dose Inhalers are potent greenhouse gases, up to 3,350 times greater in impact than CO2. In the region of 96% of the carbon impact of MDI is from these propellants. Overall propellants from MDIs in England alone contribute up to the equivalent of 850,000 tonnes of CO2 emissions each year; constituting around 4% of the entire NHS footprint. In the NHS Long Term Plan there is a commitment to address this, that will require halving these emissions by 2030.To reduce the footprint, where clinically appropriate, GPs can prescribe lower volume propellant MDIs (eg generic salbutamol inhalers have a far lower volume than Ventolin); prescribe non-propellant inhalers such as DPIs and SMIs or educate patients to use every dose in their inhalers to reduce the number inhalers needed.

2.4) Proportion of high dose ICS items

Section 1: Introduction / Overview		
1.1	**Title**	Proportion of high dose ICS items
1.2	**Definition**	Identifying the level of 'high dose' ICS prescribing as a percentage of prescribing for all ICS products.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Total number of 'high dose' ICS items prescribed during a single month. Please refer to **Appendix 2** (provided in a separate document) for the drug list for this numerator.
1.5	**Denominator**	Total number of all ICS items prescribed during a single month. Please refer to **Appendix 2** (provided in a separate document) for the drug list for this denominator.
1.6	**Methodology**	Numerator divided by denominator, presented as a percentage.
1.7	**RAG**	• Red = Above London average • Green = Below London average
Section 2: Rationale		
2.1	**Purpose**	Inhaled corticosteroids (ICS) are commonly prescribed for patients with COPD and asthma, although the risk of systemic side effects is greater when higher doses are used. Sometimes it is appropriate to continue this high dose long-term, but often patients can be 'stepped-down' again if clinically appropriate. This metric highlights the variation in the number of patients in each CCG / GP practice who are prescribed a high dose steroid, allowing commissioners and prescribers to see how much variation exists.
2.2	**Evidence and Policy Base**	National guidelines from NICE and BTS for asthma and COPD state that the patient should be maintained on the lowest effective dose of ICS.

2.5) Proportion of patients receiving 5 or fewer inhalers for ICS products

Section 1: Introduction / Overview		
1.1	**Title**	Proportion of patients receiving 5 or fewer inhalers for ICS products
1.2	**Definition**	Identifying the proportion of patients receiving 5 or fewer steroid inhalers including ICS LABA products. Figures are reported for a rolling 12 month period.
1.3	**Reporting Level**	Practice level (aggregated to CCG).
1.4	**Numerator**	Number of patients receiving 5 or fewer steroid inhalers including ICS LABA products within a rolling 12 month period. Please refer to **Appendix 2** (provided in a separate document) for the drug list for this numerator.
1.5	**Denominator**	Total number of patients receiving any prescription items for steroid inhalers including ICS LABA products (see numerator for list) within a rolling 12 month period.
1.7	**Methodology**	Numerator divided by denominator, presented as a percentage
1.8	**RAG**	• Red < 58% • Amber 58-89% • Green >=90%
Section 2: Rationale		
2.1	**Purpose**	Steroid-containing inhalers are used as maintenance therapy for COPD and asthma. They are most likely to be effective if taken regularly. This metric shows the number of patients who have collected 5 or fewer prescriptions for preventer medication, and who might benefit from a medication review with respect to adherence.
2.2	**Evidence and Policy Base**	Regular maintenance treatment is recommended by both NICE and BTS.

2.6) Prescribing volume of prednisolone tablets

Section 1: Introduction / Overview		
1.1	**Title**	Prescribing volume of prednisolone tablets
1.2	**Definition**	The total volume of prednisolone prescribed based on prescribing of prednisolone tablets (of any strength), to patients receiving an inhalation medication to treat asthma or COPD (prescribing of non-inhalers is excluded from the analysis). Results identify the total number of identified patients during a rolling 12-month period, where the total volume of prednisolone falls into the bandings described below.
1.3	**Reporting Level**	Data is calculated and reported at practice level as well as aggregated to PCN and CCG.
1.4	**Numerator**	Number of patients who have been prescribed the total volume of prednisolone over a rolling 12-month period, in the following volume bandings: 1-249mg 250-499mg 500-999mg 1000-1999mg 2000-2999mg 3000mg and over. Patients have only been included where they have also been prescribed an inhalation medication to treat asthma or COPD during the reported period. Patients are reported in the following age bands: 0-5 years 6-15 years 16-24 years 25 years and over The lower age bands should be used with the lower prescribing bands to identify children prescribed an amount of prednisolone which could be problematic for their age. Please refer to **Appendix 2** (provided in a separate document) for the drug lists for this numerator. Please note that this drug list is based on the latest information available in the NHSBSA data warehouse, so may be subject to change if new respiratory medicines are introduced to market.
1.5	**Denominator**	n/a

1.6	**Methodology**	There is no denominator for this comparator with results simply being reported based on the numerator. Total volume of prednisolone is calculated by multiplying the total quantity prescribed at each prescription by the strength of the presentation, summed for each patient in the 12-month period.
1.7	**RAG**	n/a
Section 2: Rationale		
2.1	**Purpose**	Recent studies ([1, 2]) into the effects of short course steroids (SCS) suggest an association between excessing prescribing and a number of adverse health outcomes, including diabetes, cardiovascular conditions such as thromboembolism and myocardial infarction, mental health disorders, musculoskeletal disorders such as osteoporosis, among many others. The report suggests that, while the use of SCS is a crucial element in the treatment of acute respiratory illness, clinicians should aim to identify patients who have significant cumulative exposure to SCS as alternative therapies or clinical strategies may be indicated. NB: not all prescriptions for short courses of prednisolone are for respiratory therapy. Some prescribing included in the data may be for the acute treatment of other medical conditions ([3]).
2.2	**Evidence and Policy Base**	This comparator has been developed in partnership with clinical colleagues from Guy's & St. Thomas' Hospital and Oxford ASHN. Studies cited above are: [1] Price D, Castro M, Bourdin A, et al. Short-course systemic corticosteroids in asthma: striking the balance between efficacy and safety. Eur Respir Rev 2020; 29: 190151 [https://doi.org/10.1183/16000617.0151-2019]. [2] https://www.asthma.org.uk/418cbc36/globalassets/campaigns/publications/severe-asthma_report_final.pdf [3] Voorham et al Longitudinal Systemic Corticosteroid Utilisation For Asthma And Other Diseases In The United Kingdom From 1990 To 2018: A Population-based Cohort Analysis. BTS 2021 Virtual Congress. S29