**Respiratory - Carbon Impact Dashboard**

**Comparator Descriptions and Specifications**

**Version: 1**

**Spring 2023**

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# Background

In line with the NHS Long Term Plan, Greener NHS initiative, and to support the ambition for a net zero NHS, there is a drive to reduce CO2 emissions produced by the prescribing of inhalers for respiratory conditions.

Estimates suggest that around 3% of CO2 emissions generated by the NHS can be attributed to the prescribing of respiratory inhalers[[1]](#footnote-2), primarily metered-dose inhalers (MDI) which rely on an aerosol propellant to deliver their active chemical ingredient. Prescribing of lower-carbon devices (dry powder inhalers (DPI) or soft-mist inhalers (SMI)), or lower-CO2 MDI variants, is recognised as a more sustainable approach and a way to mitigate the carbon impact of respiratory prescribing, without a deleterious impact on patient outcomes.

# Purpose

The Respiratory - Carbon Impact dashboard sits alongside the existing Respiratory dashboard in ePACT2, providing prescribers and commissioners the insight necessary to understand the impact of respiratory prescribing in the context of sustainability, and a means to monitor and promote better prescribing practice in the respiratory space, with the aim of reducing CO2 emissions.

# Rationale and Evidence Base

The dashboard is intended to support and reflect trends in the greener prescribing of respiratory inhalers. The National Institute for Health and Care Excellence (NICE) has produced a [decision aid](https://www.nice.org.uk/guidance/ng80/resources/inhalers-for-asthma-patient-decision-aid-pdf-6727144573) to help people with asthma make informed decisions about their choice of inhaler in relation to its contribution to climate change, and NHS England have implemented guidance and incentives for practitioners to prescribe lower-carbon inhaler products, where possible. The dashboard is not intended to provide guidance to prescribers, or to establish targets around the proportion or volume of CO2 emissions attributed to prescribing of inhalers.

# Limitations

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 can 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, sub ICB locations are encouraged to drive up the uptake of EPS.

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.

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

# Table 1: List of comparators

|  |
| --- |
| **Comparator Title** |
| Prescribing of low carbon SABA inhalers as a proportion of all SABA inhaler prescribing |
| Prescribing of a lower carbon SABA MDI inhaler as a proportion of all SABA MDI prescribing |
| Prescribing of low carbon preventer inhalers as a proportion of all preventer inhaler prescribing |
| Prescribing of very high carbon preventer inhalers as a proportion of all preventer prescribing |

# Prescribing data used in these 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 sub ICB locations. 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.

Each comparator is derived using prescribing data and reported by month. Historic data is available to allow sub ICB locations and practices to chart their progress in addressing a particular comparator area.

All the comparators show monthly data at practice level (also aggregated to PCN sub ICB location) and are available for all patients.

No personal identifiable data will be released through these comparators.

# How to use these comparators

We envisage that the comparators will be used by commissioners in sub ICB locations in collaboration with local GP practices and with the relevant and appropriate education and training support in place.

**Data Source:** NHS Business Services Authority -based on data from the NHSBSA’s data warehouse system which contains all NHS prescription data, except for 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.

**Data owner & contact details:** DataServicesSupport@nhsbsa.nhs.uk

**Periodicity:** Refreshed monthly

# Data quality assurance

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 99.8%; as of November 2022 prescribing, the accuracy level achieved over the latest 12 month rolling period was 99.91%.

The comparators take advantage of the developments linking the NHS number to prescription items. Currently[[2]](#footnote-3), nearly 97% of all prescription items can be linked to identified patients, and age and date of birth can be linked to 97.5% of all prescription items.

# Comparator Specifications

## Prescribing of low carbon SABA inhalers as a proportion of all SABA inhaler prescribing

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| --- |
| **Section 1: Introduction / Overview** |
| 1.1 | **Title** | Prescribing of low carbon SABA inhalers as a proportion of all SABA inhaler prescribing |
| 1.2 | **Definition** | The proportion of MDI and DPI prescribing for SABA (short-acting beta agonist) inhalers. |
| 1.3 | **Reporting Level** | Practice level (also aggregated to PCN and sub ICB location). |
| 1.4 | **Numerator** | The total quantity of all SABA DPI inhalers prescribed. |
| 1.5 | **Denominator** | The total quantity of all SABA inhalers prescribed. |
| 1.6 | **Methodology** | Numerator divided by denominator, presented as a percentage. |

## Prescribing of a lower carbon SABA MDI inhaler as a proportion of all SABA MDI prescribing

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| --- |
| **Section 1: Introduction / Overview** |
| 1.1 | **Title** | Prescribing of a lower carbon SABA MDI inhaler as a proportion of all SABA MDI prescribing |
| 1.2 | **Definition** | The proportion of prescribing of lower-carbon salbutamol MDI inhalers, from all salbutamol MDI prescribing. |
| 1.3 | **Reporting Level** | Practice level (also aggregated to PCN and sub ICB location). |
| 1.4 | **Numerator** | The total quantity of Airomir and Salamol inhalers prescribed. |
| 1.5 | **Denominator** | The total quantity of all salbutamol MDI inhalers prescribed. |
| 1.7 | **Methodology** | Numerator divided by denominator, presented as a percentage. |

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## Prescribing of low carbon preventer inhalers as a proportion of all preventer inhaler prescribing

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| --- |
| **Section 1: Introduction / Overview** |
| 1.1 | **Title** | Prescribing of low carbon preventer inhalers as a proportion of all preventer inhaler prescribing |
| 1.2 | **Definition** | The proportion of the combined prescribing of dry-powder inhalers (DPI) and soft mist inhalers (SMI), based on prescribing of all preventer inhalers. |
| 1.3 | **Reporting Level** | Practice level (also aggregated to PCN and sub ICB location). |
| 1.4 | **Numerator** | The total quantity of DPI and SMI preventer inhalers prescribed. |
| 1.5 | **Denominator** | The total quantity of all preventer inhalers prescribed. |
| 1.6 | **Methodology** | Numerator divided by denominator, presented as a percentage  |

## Prescribing of very high carbon preventer inhalers as a proportion of all preventer prescribing

|  |
| --- |
| **Section 1: Introduction / Overview** |
| 1.1 | **Title** | Prescribing of very high carbon preventer inhalers as a proportion of all preventer prescribing |
| 1.2 | **Definition** | The proportion of inhalers with a RAG rating classification of ‘High’ (indicating high carbon), based on prescribing of all preventer inhalers. |
| 1.3 | **Reporting Level** | Practice level (also aggregated to PCN and sub ICB location). |
| 1.4 | **Numerator** | The total quantity of preventer inhalers with a ‘High’ RAG rating. |
|  1.5 | **Denominator** | The total quantity of all preventer inhalers. |
| 1.6 | **Methodology** | Numerator divided by denominator, presented as a percentage. |

## Appendices

## 1. Working group

|  |  |  |
| --- | --- | --- |
| **Name** | **Organisation** | **Role** |
| Vince Mak | Imperial College Healthcare NHS Trust | Consultant in Respiratory and Critical Care Medicine |
| Grainne d’Ancona | Guy's and St Thomas' NHS Foundation Trust | Consultant Pharmacist, Respiratory and Sleep Medicine |
| Margaret Dockey | NHS Business Services Authority | Data and Insight Senior Manager - Prescriptions |
| Mark Gordon | NHS Business Services Authority | Senior Information Analyst - Prescriptions |

## 2. Drug Lists

The drug lists for each metric are provided in a separate document available from our website at <https://www.nhsbsa.nhs.uk/access-our-data-products/epact2/dashboards-and-specifications/respiratory-carbon-impact-dashboard>

## 3. Glossary

**MDI**: Pressurised Metered Dose Inhaler; a type of inhaler that uses a pressurised gas (CO2) to deliver a set dose of medicine.

**DPI**: Dry Powder Inhaler; a type of inhaler that uses a dry powder to deliver a dose of medicine, which is breathed in by the patient, and contains no propellant gases.

**SMI**: Soft Mist Inhaler; a type of inhaler that delivers medicine through a mist that is breathed in. Contains no propellants, but not appropriate for all respiratory conditions.

**SABA**: Short-Acting Beta Agonist; also known as bronchodilators, relievers or rescue treatments, SABA inhalers are used for short-term control of symptoms, typically if a patient is having an exacerbation (e.g. an asthma attack), or to pre-empt an exacerbation occurring. SABAs are the most commonly prescribed inhaler in primary care in England.

**Preventer**: refers to the group of inhalers used for longer-term management of respiratory conditions, such as inhaled corticosteroid inhalers (ICS) and long-acting beta agonist inhalers (LABA). Usually taken in combination, often in a single device, preventer inhalers are the next most often prescribed type of inhaler, after SABAs.

**RAG Rating**: a rating system applied to inhalers based upon the volume of CO2 contained in a typical device. Based upon research commissioned by NHS England and carried out by PrescQIPP (available from <https://www.prescqipp.info/our-resources/bulletins/bulletin-295-inhaler-carbon-footprint/>).

1. https://www.england.nhs.uk/greenernhs/whats-already-happening/improving-health-outcomes-for-respiratory-patients-while-reducing-carbon-emissions [↑](#footnote-ref-2)
2. Based on analysis of NHSBSA prescribing data for all prescribing in English primary care settings between December 2021 and November 2022. [↑](#footnote-ref-3)