

# Inhaler Recycling Scheme Toolkit



This toolkit is divided into the following sections:

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- Introduction
- Why we need to recover and recycle inhalers
- Insights and methods from the pilot
- Guidance for local implementation
- Evaluation overview
- Supporting materials templates



This toolkit has been funded and written by Chiesi Limited and has been developed for use by the NHS. The toolkit aims to aid the NHS to independently set up its own recycling schemes by utilising the insights presented throughout.

**This document is not related to the Take AIR Postal Inhaler Recycling Scheme.** The data and lessons included which are specific to the Leicestershire, Leicester and Rutland Inhaler Recycling Scheme has been used solely to inform and support the creation and use of this toolkit.

# Introduction

This toolkit provides information for NHS organisations to support the design and implementation of a local or regional inhaler postal recycling scheme. The information and supplementary documents provided are based on the '*Take AIR*' (Take Action for Inhaler Recycling) scheme set up by Chiesi Ltd (Chiesi) and piloted in the Leicestershire, Leicester and Rutland (LLR) area from January 2021 with the support of Leicestershire and Rutland Local Pharmaceutical Committee (LPC) and University Hospitals of Leicester NHS Trust (UHL).

The pilot scheme has operated with the continued support of many of the community pharmacies in the LLR area and the pharmacy team at UHL at a time of great challenge to the UK healthcare system. Our thanks go to them for helping to make the scheme a success and working with the project team to capture and analyse the data needed to enable replication.

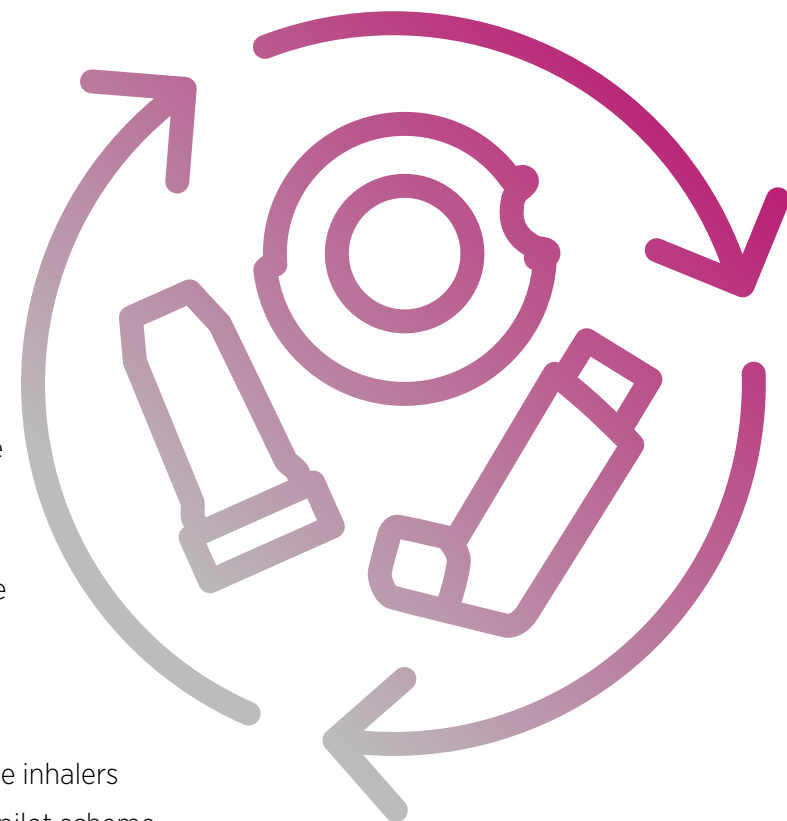
This toolkit is divided into the following sections:

- Understanding why we need to recover and recycle inhalers
- Insights and methods from the LLR inhaler postal pilot scheme
- Guidance for local replication and implementation
- Evaluation overview
- Templates for local adaptation (annex)

## A note about *Take AIR*

The name '*Take AIR*,' used for the LLR pilot was kindly provided by University Hospitals of Leicester. The branding and logo were designed by Chiesi Ltd for use in the pilot scheme.

Neither Chiesi Ltd nor UHL hold a trademark licence to use the name '*Take AIR*'.



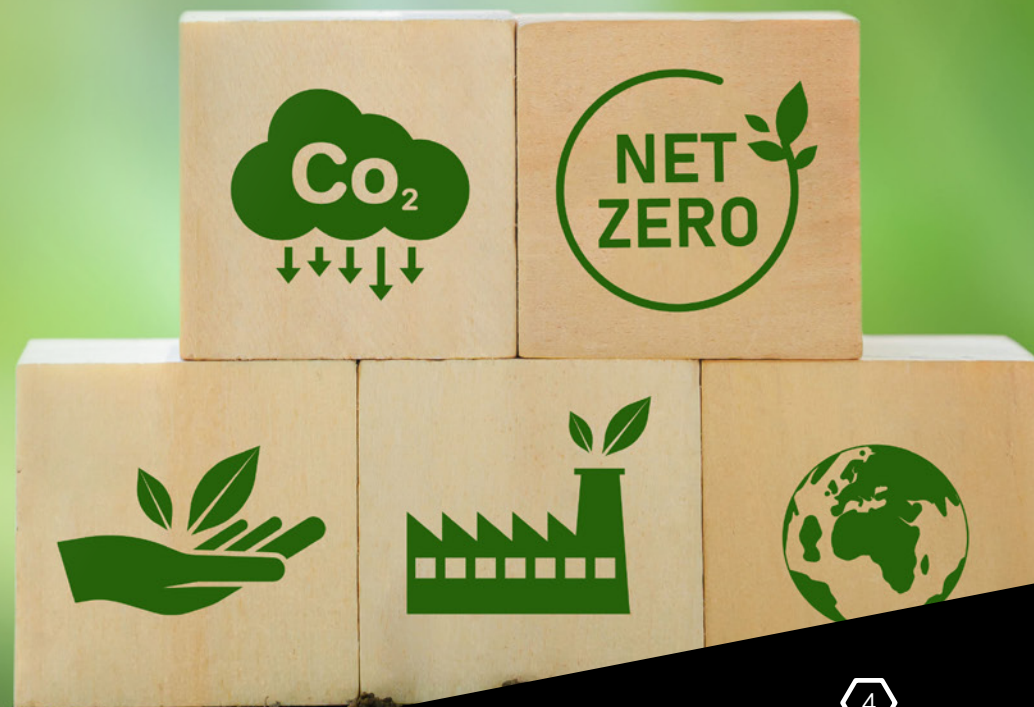


# Why we need to recover and recycle inhalers

1.1 Why is it important to recover and recycle inhalers?

1.2 What is the problem we need to solve?

1.3 The link between inhaler recycling and NHS Net Zero targets



## ■ Why we need to recover and recycle inhalers

### 1.1 Why is it important to recover and recycle inhalers?

Inhalers are the mainstay of treatment for a range of lung conditions such as asthma and chronic obstructive pulmonary disease (COPD) in the UK.<sup>1</sup>

There are different types of inhaler devices including pressurised metered dose inhalers (pMDI), dry powder inhalers (DPI), and soft mist inhalers (SMI). The composition of inhaler devices can vary across the three main types. In general, DPIs are plastic units, and the medicine is delivered in the form of a dry powder,<sup>2</sup> whilst pMDIs use a propellant to deliver a fixed volume of liquid solution or suspension to the patient in the form of an aerosol.<sup>2</sup>

pMDIs contain a hydrofluoroalkane gas (HFA) which acts as a propellant to deliver the medicine to the patient's lungs. The propellant most commonly used in inhalers is HFA-134a, with a smaller proportion using HFA-227ea in the UK.<sup>3</sup> The HFAs currently used in inhalers are known greenhouse gases which have a global warming potential (GWP).<sup>4</sup>

The measurement of GWP was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 tonne of a gas will absorb over a given period of time, relative to the emissions of 1 tonne of carbon dioxide (CO<sub>2</sub>). The

larger the GWP, the more that a given gas warms the Earth compared to CO<sub>2</sub> over that time.<sup>5</sup> As well as the propellant, inhalers also contain plastics which cause harm to the environment if disposed of incorrectly.

Therefore, reducing the environmental impact of inhalers is an important action in the global challenge against climate change.

Across a respiratory pathway there are multiple opportunities to reduce carbon emissions. Organisations such as the Primary Care Respiratory Society have provided an interactive tool which aims to help clinicians work with patients to identify a greener approach to delivering high quality, patient centred respiratory care.<sup>6</sup> Inhaler recycling is included as one of those elements.

### 1.2 What is the problem we are trying to solve?



Some of these inhalers may be out of date, no longer wanted or seem empty to the patient i.e., the dose counter is at zero. Most pMDIs are manufactured with a small amount of extra contents known as the 'overage'.<sup>9</sup> Even when the inhaler seems empty to patients, there can still be some propellant remaining.

The propellant contained in pMDIs, when disposed of through domestic waste, can be released into the atmosphere where it can remain for up to 270 years.<sup>3,8</sup> In 2018, the UK Parliament Environmental Audit Committee (EAC) recommended that either medical companies or the NHS should establish a pharmacy recycling system to ensure that inhaler propellants are recycled rather than ending up in landfill and the propellant released into the atmosphere.<sup>8</sup>

### 1.3 The link between inhaler recycling and NHS Net Zero targets

The NHS has declared its intention to be the world's first 'net zero' national health service, by reducing the carbon emissions it controls directly and indirectly, known as scope 1 and scope 2, aiming to reach an 80% reduction by 2028–2032.<sup>10</sup> For all emissions, including all other indirect carbon emissions (scope 3), the NHS aims to be net zero by 2045, with an ambition to reach an 80% reduction by 2036–2039.<sup>10</sup>

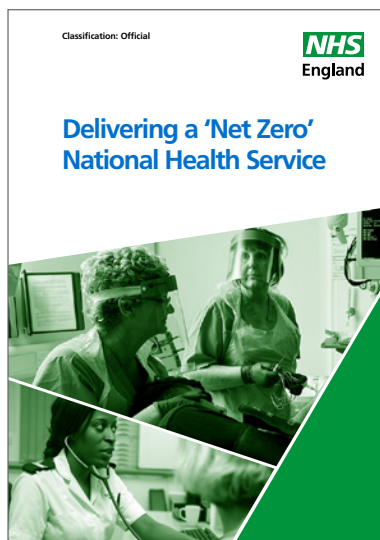
# Why we need to recover and recycle inhalers

One area of focus in the NHS net zero targets is reducing the use of short-acting bronchodilator inhalers and switching to dry powder where clinically appropriate, which uses significantly less fluorinated gases than traditional metered dose inhalers.<sup>11</sup>

The pharmaceutical sector has acknowledged the need to develop inhalers that will be sustainable for the future and a number of companies have publicly announced investments in low-carbon propellants for 2025.<sup>12,13,14</sup> In the meantime, prescribers and patients can play a part in helping to reduce the carbon impact of inhalers when their devices are no longer needed or used.

Disposing of inhalers in the most environmentally friendly way, recovering the propellant gas and reusing in other industries (e.g., refrigeration and air conditioning), can help to reduce carbon emissions and support the ambitions to achieve net zero.

Currently there is a disposal route for all medicines through community pharmacies in the UK (known as the NHS Unwanted Medicines Service),<sup>15</sup> which disposes of medicines similar to other forms of healthcare waste via incineration.<sup>16</sup> However evidence suggests that patients are most likely to dispose of their inhaler in their domestic waste.<sup>17,18</sup>



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# Insights and methods from the pilot

2.1 Preliminary research

2.2 Options appraisal for inhaler return and recycling schemes

2.3 Decision on right framework for the scheme

2.4 Set up challenges

2.5 The 'Take-AIR' Inhaler Postal Recycling Process

2.6 Evaluating the impact

2.7 Chiesi's response to FAQs regarding the Inhaler Recycling Postal Scheme



## 2.1 Preliminary research

Prior to initiating the recycling scheme, research was undertaken to inform action for next steps. Chiesi research followed two routes:<sup>1</sup>

### a) Patient opinion survey

487 patients were surveyed and asked what they knew about the services available for handling inhalers that are no longer needed or used. They were also asked what services they would like to have to support them with inhaler recycling. Patient responses were anonymised to prevent patient identification.

### b) Review of other industries

Recycling schemes from different industries were analysed, such as those for printer ink cartridges, coffee capsules, batteries, water filters and contact lenses.

| Lessons learnt from patient survey   | Lessons learnt from other industries   |
|--|--|
| <p>Many patients would:</p> <ul style="list-style-type: none"> <li>■ feel able to contribute towards climate change by recycling their used inhalers</li> <li>■ recycle if they knew more about what recycling options are available to them</li> <li>■ recycle their used inhalers on a more regular basis if they could just post them to a recycling centre or drop them off somewhere convenient</li> </ul> <p>The survey also showed there was:</p> <ul style="list-style-type: none"> <li>■ concern by patients about the carbon footprint of their inhalers</li> <li>■ limited awareness amongst HCPs about local inhaler recycling options</li> <li>■ limited awareness of what happens when medicines are returned to pharmacies</li> </ul> | <ul style="list-style-type: none"> <li>■ For unregulated industries the options of local drop-off sites provide an accessible alternative</li> <li>■ Consumers engage in a take-back/drop-off scheme when the scheme is easy to follow and with limited inconvenience</li> <li>■ For products that may be valuable or potentially harmful if used incorrectly, one-way receptacles are used</li> </ul> |

## Key messages from research:

- Patients want to play their part, but the scheme should be easy and convenient
- Clear communication about 'take back/drop off' available services for waste medicines
- Communications campaigns should target both HCPs and patients
- Schemes using existing well-used and easily accessible infrastructure seem preferable



## 2.2 Options appraisal for inhaler return and recycling schemes

All the potential options for inhaler return and recycling schemes were scoped and scored using an unweighted scoring matrix, including options that may have seemed unsuitable. From this 'long list', a short priority list was formed using the following criteria (in alphabetical order):

- Alignment with patient opinions
- Carbon emissions reduced
- Estimated costs of service
- Feasibility of upscaling
- Known providers of services
- Maximum opportunity for recycling of materials
- Minimal additional carbon emissions from scheme process (e.g., additional transport)
- Regulatory barriers (medicines regulations/waste regulations/other relevant regulations)

## 2.3 Decision on right framework for the scheme

For the LLR pilot, Chiesi were keen to recycle as much of the returned material as possible, following guidance from the Department for Environment, Food and Rural Affairs (DEFRA).<sup>3</sup>

### Summary of findings from options appraisal

- The use of community pharmacy locations for 'drop-off' had already been tested<sup>2</sup>
- Patient opinion indicated local 'drop-off' points were the preferred choice however without secure storage arrangements in place, these locations would be unsuitable for inhalers
- Secure storage arrangements could be considered
- Discussions with commercial providers and regulators would be required
- A number of patients favoured a postal option
- Additional carbon emissions for transport routes appeared negligible in comparison to the carbon emissions saved by recovering and recycling the propellant in inhalers

Applying the waste hierarchy ranks waste management options according to what is best for the environment. The guidance prioritises prevention of waste. Once waste is created, the guidance ranks preparation for re-use, then recycling, then recovery, and lastly disposal (e.g., landfill).<sup>3</sup>

Chiesi, with support from external waste management experts, concluded that it would be beneficial to test a model for the recovery and recycling of inhalers using the established UK postal system. From the research, it was decided that a request would be made to the community pharmacies to assist the scheme by providing an envelope at the point of dispensing to each patient and providing patients with materials which Chiesi had provided.

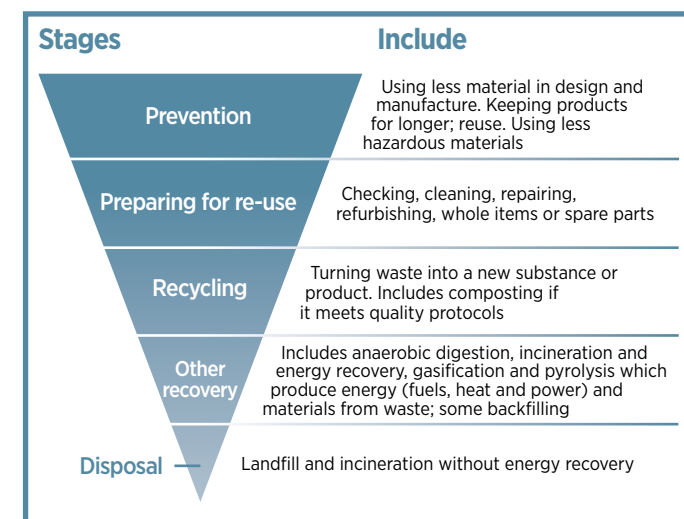


Figure 1: Waste hierarchy, adapted from the DEFRA model

## 2.4 Set up challenges

This next section highlights some of the regulatory and supplier/partner considerations that needed to be worked through for set-up of the Chiesi postal scheme.

### Regulatory barriers

Disposal of any waste is subject to legislation and regulated by the Environment Agency; disposal of medicines waste adds further complexity.

The following three sets of regulations require consideration for the postal inhaler recycling scheme:

#### a) Medicines Legislation

The Human Medicines Regulations 2012 provides the main legal framework for the prescribing, supply, storage, and administration of medicines. The Regulations classify medicines into three categories (Prescription-Only-Medicine (POM), pharmacy, and general sales list).<sup>4</sup>

Inhalers fall within the POM classification<sup>5</sup> and as such are required to be stored securely with controlled access.<sup>6</sup> This should also apply to the storage of unwanted POMs once a patient has 'discarded' the medicine.<sup>7</sup>

#### b) UK Waste Legislation

The nature and classification of the waste being handled will determine the requirements for anyone disposing of that waste. Whilst inhalers containing propellants are not classed as flammable waste (due to the low volumes of propellant),<sup>8,9</sup> they are classed as clinical waste and therefore certain requirements for documenting the waste are necessary.<sup>10,11</sup>


For the Chiesi scheme, it was essential that patients should not have to provide personal details or complete any form of documentation. To ensure this was acceptable by the regulator, contact and agreement with the Environment Agency was essential.

To enable the postal scheme to operate within the requirements of the waste regulations, Chiesi registered as a Waste broker and dealer with the Environmental Agency. This placed a duty of care on Chiesi to ensure the waste is appropriately collected and managed in accordance with the regulations.

#### c) Mail Carriage Regulations

Chiesi chose to partner with Royal Mail, though other partners were available, for the provision of the pre-payment of carriage of small parcels of inhalers and the transportation of the parcels from local letter boxes to a named waste management provider. In practice, this meant that the inhalers were put into pre-paid envelopes and returned through the post to the waste management company. Royal Mail required that the content of the envelopes complied with their terms of carriage.

The propellant within the inhalers was initially considered a concern because of the potentially flammable nature of propellants HFA-134a and HFA-227ea. These propellants are considered non-flammable but given unsatisfactory conditions could explode.<sup>12</sup> Chiesi provided clarification of the volumes of propellant likely to be included in the parcels posted by patients. The information enabled Royal Mail to assess the risk as low and make appropriate arrangements for the parcels to be transported through their network by road and rail, avoiding transport via aviation.



**This is a key consideration** for those involved in a local recycling scheme who may be storing the used inhaler devices. In general, POMs for disposal need to be securely stored with controlled access, until they are collected by a registered waste provider via an agreed route.<sup>7,8</sup>

**Table 1:** Summary of regulatory requirements for inhaler recycling scheme

|                          | Responsible Government Department                          | Responsible Regulatory Agency                              | Recommended considerations for introduction of inhaler recycling scheme   |
|--------------------------|--|--|---|
| UK Waste Regulations     | Department for Environment, Food and Rural Affairs (DEFRA) | Environment Agency (EA)                                    | <ul style="list-style-type: none"> <li>■ Identify local EA office/contact point</li> <li>■ Discuss and agree patient anonymity</li> <li>■ Discuss and agree completion of waste documentation by another party (not patient) – ideally, waste management company (final recipient of waste inhalers)</li> </ul> |
| Medicines Regulations    | Department of Health and Social Care (DHSC)                | Medicines and Healthcare Products Regulatory Agency (MHRA) | <ul style="list-style-type: none"> <li>■ Determine if storage requirements of waste inhalers likely to need regulatory considerations e.g., if drop-off location is a supermarket</li> <li>■ Identify appropriate contact to seek agreement/advice</li> </ul>   |
| Mail Carrier Regulations | Commercial terms of carriage                               | Royal Mail/other mail or courier provider                  | <ul style="list-style-type: none"> <li>■ Provide details of content of packages to be transported</li> <li>■ Receive appropriate assurance of safe storage during transit</li> </ul>  |

## 2.5 The ‘Take AIR’ Inhaler Postal Recycling Process

### Overview of the process

The Take AIR scheme launched at the end of January 2021, initially as a 12-month pilot across LLR with the support of University Hospitals of Leicester NHS Trust (UHL), Leicestershire and Rutland Local Pharmaceutical Committee (LPC).

The scheme enabled patients to collect pre-paid, pre-addressed envelopes from their local pharmacy. It was expanded in October 2021 to include inhaler users who were discharged from one of UHL’s three hospitals. The patient (or carer) can then, in their own time, insert empty, unwanted, or out-of-date inhalers of any brand or type into the pre-paid envelope, and post them via a Royal Mail post box directly to the waste management provider.

The envelope can hold up to a maximum of 4 inhalers. The instructions with the envelope encourage the patient to wait until they had 3–4 inhalers before sealing the envelope and posting it.



## What happens to the inhaler parts during the Take AIR Scheme?

Once the inhalers reached the recycling centre, they were sorted and separated into two waste streams:

- Metered dose inhalers containing propellant (pMDIs)
  - Aluminium canisters are crushed together to form solid blocks
  - During the crushing process, propellant gas is extracted to be reused in items such as fridges and air conditioning units
  - Any recyclable plastic is made into pellets and recycled
- Other remaining inhalers
  - Similar to some components of pMDIs, any recyclable plastic is made into pellets and recycled
  - Non-recyclable materials are converted into energy through a process called energy-from-waste

## 2.6 Evaluating the impact

To evaluate the scheme, qualitative and quantitative evaluations with pharmacies and patients who participated in the scheme were conducted. The reduction in carbon emissions as a result of the scheme was also calculated. All feedback given can be found in the Evaluating the Process document. Chiesi

would suggest the consideration of the following points for local replication, based on the qualitative feedback collected.

### The qualitative feedback was gathered utilising:

- Feedback calls by the third-party pharmacy service provider to the pharmacies within LLR
- Questionnaires sent out to pharmacies involved in the scheme
- Questionnaire responses from anonymised patient feedback

## Improvement suggestions from pharmacies

- Any launch event should be recorded and made available for those who may not have been able to attend
- Ensure a sufficient number of envelopes are available in welcome packs
- Provide additional copies of stickers and patient leaflets
- Utilising social media and the creation of electronic materials specifically for this such as banners or graphics might help highlight the scheme within a wider locality to the patients

## Improvement suggestions from patients

- There could be a list of all the participating pharmacies or sites available within the public domain, either online or hard copy, so patients can know where they are able to access the scheme locally
- There should be an option for individuals to send back large quantities if they wish, as a pharmacy may want to recycle lots of inhalers at one time

### Quantitative feedback was gathered utilising:

- Reports from the third-party service provider, outlining the number of pharmacies signed up, the number of envelopes ordered by pharmacies and those which were delivered
- Reports from the waste management company on the number of envelopes and inhalers returned via Royal Mail
- Reports from Royal Mail for the number of tracked envelopes per month through their system

### Improvement suggestions from data gathering

- From the outset, ensure that you monitor how often accounts are re-ordering envelopes to appropriately target sites which may have joined the scheme but have limited involvement or activity
- Contact sites who are actively providing envelopes to patients and understand how they are enabling the scheme to be a success
- Find ways to differentiate between sites i.e., different coloured envelopes or sizes, alternative stickers to recognise which areas or stakeholder sites might not be using the scheme as efficiently as they could. For example, if patients are only filling up envelopes with two inhalers or are including other forms of medicines when posting, further support can be given to sites to ensure explanation of the scheme is improved
- Having the waste management company categorise inhalers by types and brands before recycling or environmentally friendly disposal also makes calculating any reductions in carbon emissions easier, as the estimates will be more accurate

The quantitative data was used for the basis of our carbon emissions calculation. The calculation required researching the proportion of the propellant added to the pMDI in manufacturing to ensure the correct number of labelled doses are available to the patients. This is known as the overage. The overage will differ by brand, device, and dosage. For the calculation, it was assumed that all pMDIs will be returned when the patient had used all the labelled doses and therefore, the amount remaining will be the overage.

From the weight data provided by our waste management provider, we know that many inhalers returned weighed more than an empty inhaler and therefore the calculation from the overage is only a base-case. In reality, the amount of carbon emissions saved from the scheme might be greater.

The exact breakdown of the methodology will be available in a separate publication.

### Reduced carbon emissions calculation – inhaler propellant

The carbon equivalence calculation was developed using guidance from DEFRA and the Environmental Agency.<sup>13</sup>

The amount in tonnes of CO<sub>2</sub> equivalent is the mass (in tonnes) of fluorinated gas multiplied by the GWP of that F gas.

For example the global warming potential of (hydrofluorocarbon) HFC 404A is 3,922. Therefore the tonnes CO<sub>2</sub> **equivalent of 10kg of HFC 404a is calculated as follows:**

1. Mass (in tonnes) of F gas multiplied by GWP of F gas
2. = (10/1,000) \* 3,922
3. = 39.2 tonnes CO<sub>2</sub> equivalent



## 2.7 Chiesi's response to Inhaler Recycling FAQs

### Q. How is 'Take Air' paid for?

All the costs of the scheme, from materials, postage, and waste management were covered by Chiesi. Pharmacies and the hospitals of UHL took part in the scheme on a voluntary basis.

### Q. Were pharmacies paid to be involved?

No. Community pharmacies signed up to the scheme on a voluntary basis.

### Q. How did Chiesi track which envelopes came from which pharmacy?

A number of ways to track the envelopes was considered. A contract with the Royal Mail for the 'Track 48' product was chosen due to a combination of cost and time constraints. This provides sequential bar codes that can be printed on to envelopes together with the address of the waste management company. The envelopes were then distributed to pharmacies.

The third-party service provider managed the supply and distribution of envelopes to pharmacy as outlined earlier.

When the envelopes are posted, they are scanned so the postage can be paid which also indicated how many envelopes are returned by patients.

The third-party service provider was also able to track which pharmacies were ordering more envelopes. This has enabled activity level tracking from the participating pharmacies.

### Q: How has Chiesi assessed the return rate of inhalers?

The inhaler return rate is a useful proxy measure to see how many inhalers were being returned to our waste management company, and how many inhalers were being included in each envelope. To work this out we:

- Assessed the number of inhalers prescribed in a region in a 12-month period (A) using business intelligence data
- Number of inhalers returned to the waste management provider over the course of a year (B)

#### For the Leicestershire region:<sup>1</sup>

$$\begin{aligned}
 & \blacksquare \text{ Average return rate } B/A \times 100 \\
 & \quad = (20,050 / 1,049,338) \times 100 \\
 & \quad = 0.01910 \times 100 \\
 & \quad = 1.9\%
 \end{aligned}$$

52 weeks of the LLR scheme  
(19<sup>th</sup> February 2021 – 18<sup>th</sup> February 2022)

| Item   | Amount        |
|--|---------------|
| Number of inhalers returned by patients                      | <b>20,050</b> |
| Number of envelopes delivered to pharmacies                  | <b>14,800</b> |
| Number of envelopes posted by patients                       | <b>5,600</b>  |
| Average number of inhalers per envelope                      | <b>3.8</b>    |
| Total CO <sub>2</sub> equivalent savings (tonnes) (52 weeks) | <b>119</b>    |





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# Guidance for local implementation

## 3.1 Introducing inhaler postal recycling in your area

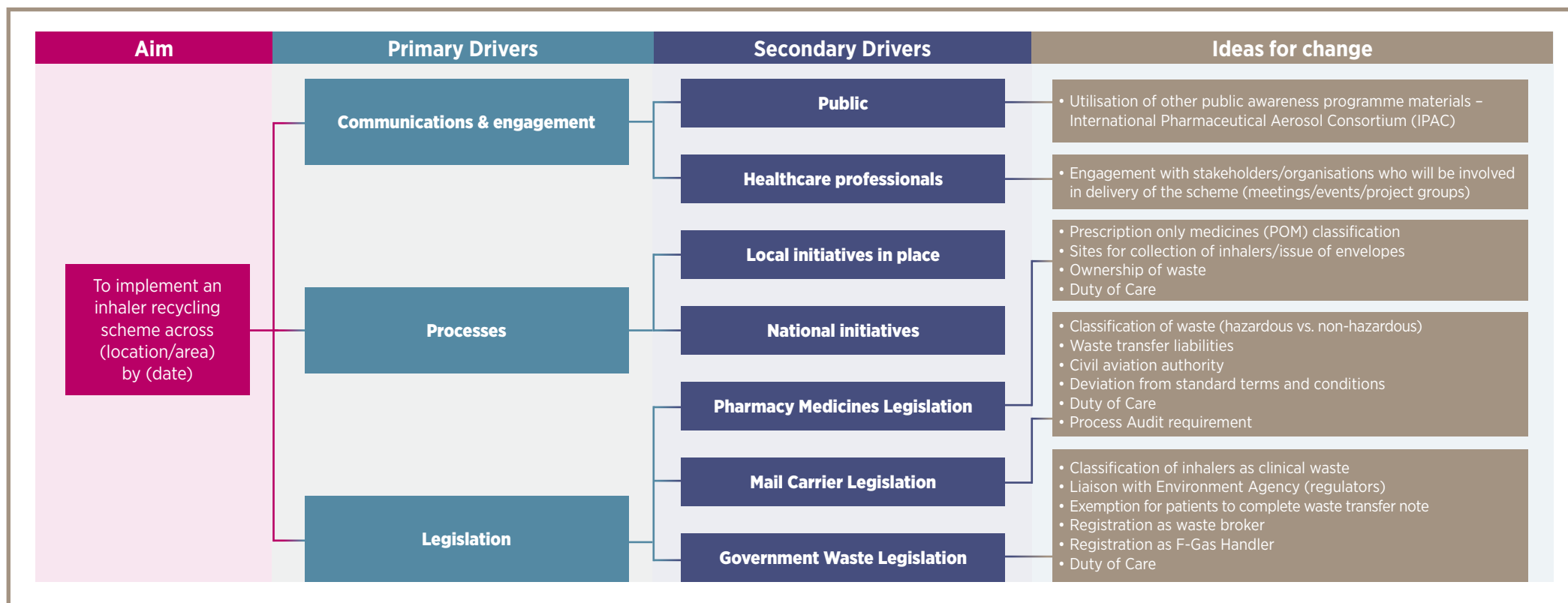


## 3.1 Introducing inhaler postal recycling in your area

This section of the toolkit is to help support local implementation of a postal inhaler recycling scheme.

The section is made up of several steps that, based on our experience, should be considered to achieve a successful implementation. However, an alternative approach may be needed depending on your local requirements. The annex contains useful editable templates to suit local needs.

**Figure 2:** A driver diagram example, highlighting the key drivers for implementing a scheme locally and activities to consider. Produced by Chiesi as a visual support for local consideration.





### Communication and engagement

For a recycling project to be successful, there will be interested and relevant stakeholders who will need to be a part of early discussions and/or to have awareness of the programme. Below is a list of suggested stakeholders who you may want to involve in discussions regarding a recycling scheme:

- Budget holder
- NHS staff involved in the scheme, such as GPs, Consultants, Pharmacists, Specialist Nurses, Physiotherapist, Pharmacy Team members and anyone else involved in managing or prescribing inhalers
- Local Pharmaceutical Committee (LPC and or Pharmacy Teams)
- Project management support relevant to your organisation. This support should include a Project Lead, Project Manager, Communications Lead and others as applicable
- Patient representative

It is important for any project to have a shared aim and vision. This can be achieved through a comprehensive external communications plan, whilst also creating relevant branded resource materials which make the scheme easy to set up for the pharmacists and accessible to the patients.

There are several templates available to download as supporting materials that may be useful in enabling a scheme to be launched. Included in the supporting material templates are the following:

- Introduction letter to pharmacies – providing the background and overview of the scheme
- Welcome letter for pharmacies – further information if they agree to join the scheme
- Healthcare professional checklist – 1-pager to help healthcare professionals introduce the scheme to patients
- A guide for a counter-top display unit – visible place in the pharmacy to store envelopes

### Public Awareness

Patients will need to be aware of your scheme and how they can take part.

Consideration is required to link in any existing national or local return schemes that may be running.

A range of supporting materials for local adaptation are available within the annex.

The following are included:

- Scheme information leaflet – to be given to patients when they collect their medication to inform them of the scheme

- Scheme information posters – highlight the scheme
- Stickers – attached on medication bags to remind patients of the scheme

### Processes

Awareness of local medicines returns processes is essential. As part of national schemes, unused and unwanted medicines should be returned by patients to community pharmacies. Understanding how your inhaler recycling scheme aligns is important as it will help you understand the local route for disposal for medicines. It will also help you to consider what current waste disposal methods are in place locally i.e., energy from waste process or a recycling service.

Process mapping can be useful in trying to understand the steps required to implement an inhaler recycling postal scheme.

### Legalisation

As mentioned in previous sections, understanding current legislation, and identifying roles and remits within a recycling scheme is essential. Section 2 highlights this point further.

# Evaluation Overview



## Evaluation Overview<sup>1</sup>

**Qualitative evaluation** Calls to pharmacists for feedback and to help improve uptake – take aways.

### Positives

- Common feedback that the patient's compliance with recycling their inhalers was likely to increase when they were not required to plan and return the inhalers to a pharmacy
- Pharmacies generally agreed that the postal based scheme was ideal for remote, vulnerable and isolated patients where regular visits to the pharmacy were unlikely
- This recycling project appears to have relatively low administration and time footprint
- Positive staff/team engagement – several pharmacists stated that their broader team engagement on the service has been positive, and they are happy to discuss proactively with patients
- The community pilot scheme was adapted into existing delivery services for vulnerable patients i.e., providing envelopes when home deliveries take place
- Utilising a third party during the envelope delivery process to pharmacies helps to prevent packs and materials being misplaced
- Providing pharmacies with step-by-step instructions and all the materials they need during the welcome packs allows the scheme to be implemented successfully



### Negatives

- Due to staff pressures and the on-going pandemic, several pharmacies were not in the current position to engage in any non-direct business-related schemes
- Differences in the number of inhalers dispensed in relation to the number of envelopes available for pharmacies to distribute meant that there was concern for larger pharmacies due more frequent re-ordering
- There were occasional process issues with ordering envelopes to the participating pharmacies, resulting in shortages of envelopes to give to patients
- Due to the size of the envelopes, it was only possible to fit four inhalers inside; some pharmacists fed back that it could have been better to enable more inhalers to be posted at once





## Pharmacist Survey Responses (n=26)

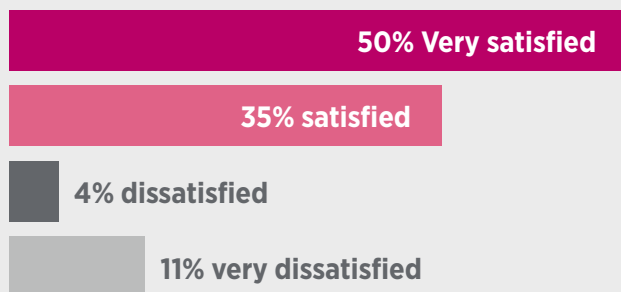


**38%** of respondents said that before the scheme they did not know how to recommend the correct form of disposal (i.e., returned to the local pharmacy) of used inhalers to patients.



**65%** of the pharmacists who responded said that they would agree that the scheme has encouraged them to engage in more frequent conversations about inhaler use with their customers/patients. **31%** stated they strongly agree.

### How satisfied were the responding pharmacists with the scheme?



**All respondents said that the scheme should be available across the UK. All respondents chose 'yes' when asked if the pharmacy joined the scheme because they were concerned about the environment.**

**34%** of pharmacists who responded stated not enough envelopes were provided initially when asked 'what do you think the inhaler recycling scheme could do to be improved?' **12%** stated no improvement was required and **12%** stated they would like more information explaining how the scheme works. **12%** stated they would like more information about the benefits of the scheme. The remaining **30%** stated 'others' as an option.

## HCP Survey Responses (n=7)



**71%** of respondents believed it was 'very easy' to follow the instructions around implementing the scheme in their ward or department. The remaining **29%** stated it was 'easy'.



**86%** of respondents stated that these kinds of postal-based inhaler recycling schemes are very important for reducing waste. **14%** stated that they are fairly important.

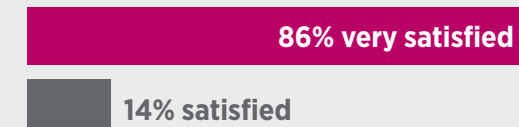
### When answering the question of how much the scheme encouraged them to engage in more frequent conversations about inhaler use with their patients...



**57%** of HCPs stated that the proportion of people they spoke to, who use inhalers, that were willing to participate in the Take AIR scheme was **100%**. The other **43%** responded that **80%** of people were interested.



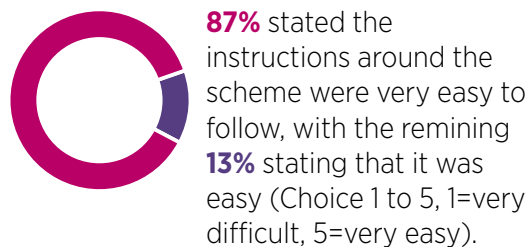
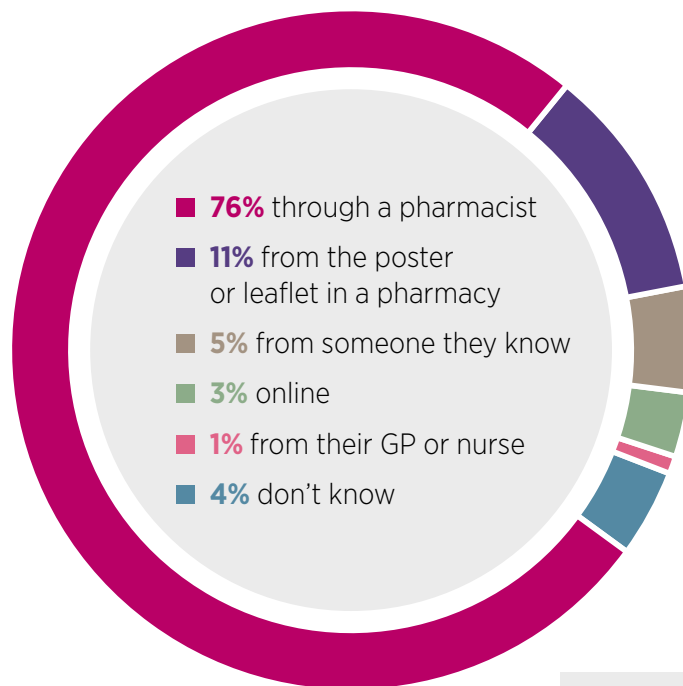
### How satisfied were HCPs with how the scheme works?



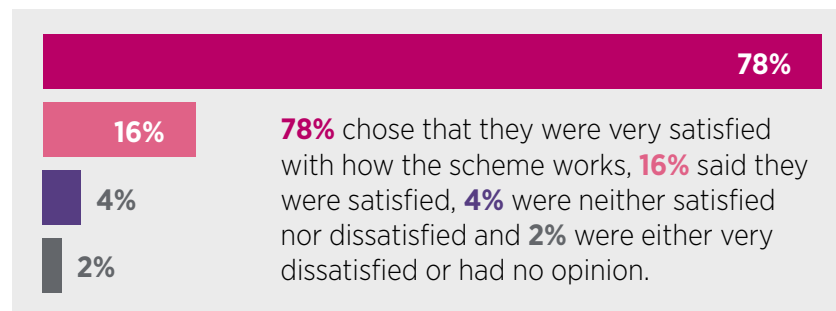
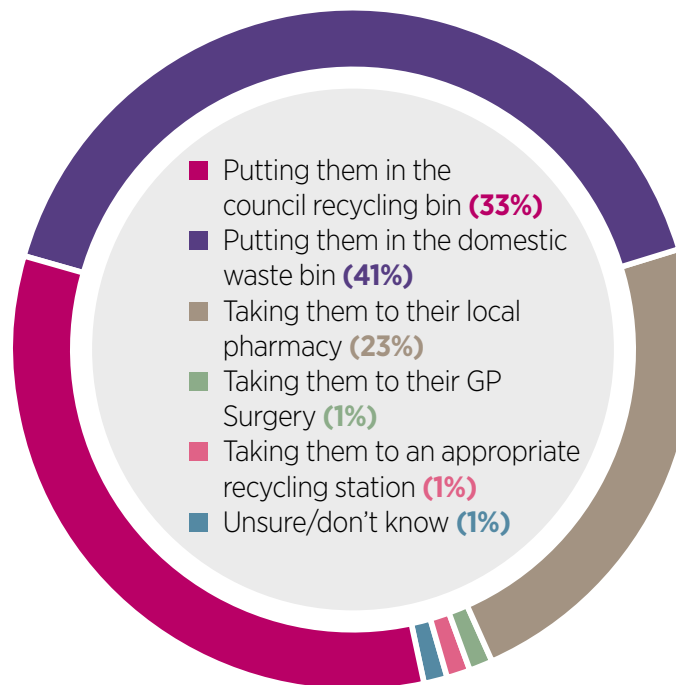
## Evaluation overview

### Patient Survey Responses (n=77)

How did patients hear about the scheme?



Before the scheme, patients would normally dispose of their used inhalers by:



**96%** responded 'Yes' to the question 'did they take part in the scheme because they were concerned about the environment'.

**91%** of respondents stated that schemes like this are very important, **3%** fairly important, and **6%** important (1= not important, 5 = very important).



All the patients agreed that they think the scheme should be **available across the UK.**



### Reference

1 Chiesi data on File

# Supporting material templates and examples



## Supporting material templates and examples

Template materials that can be used to support the rollout of an inhaler recycling scheme can be downloaded by clicking the various icons below.

Elements highlighted in yellow throughout the collection of supporting materials can be adapted to local based inhaler scheme details and branding.

1 Project Charter

2 Welcome Letter for Pharmacies

3 Invitation Letter to Pharmacies

4 Healthcare Professional Checklist

5 Guide for a Counter-top Display Unit

6 Sticker

7 Information Poster

8 Information Leaflet

