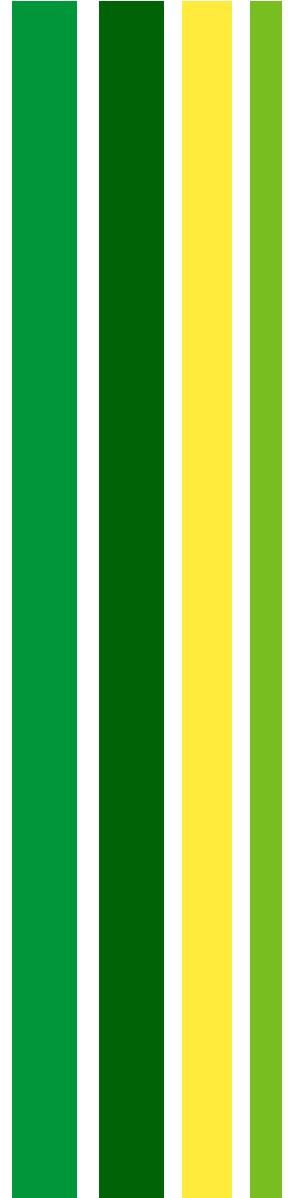




# Greener Somerset – Overprescribing and Carbon Footprint workstream

Prescribing Leads Meeting  
22 November 2022

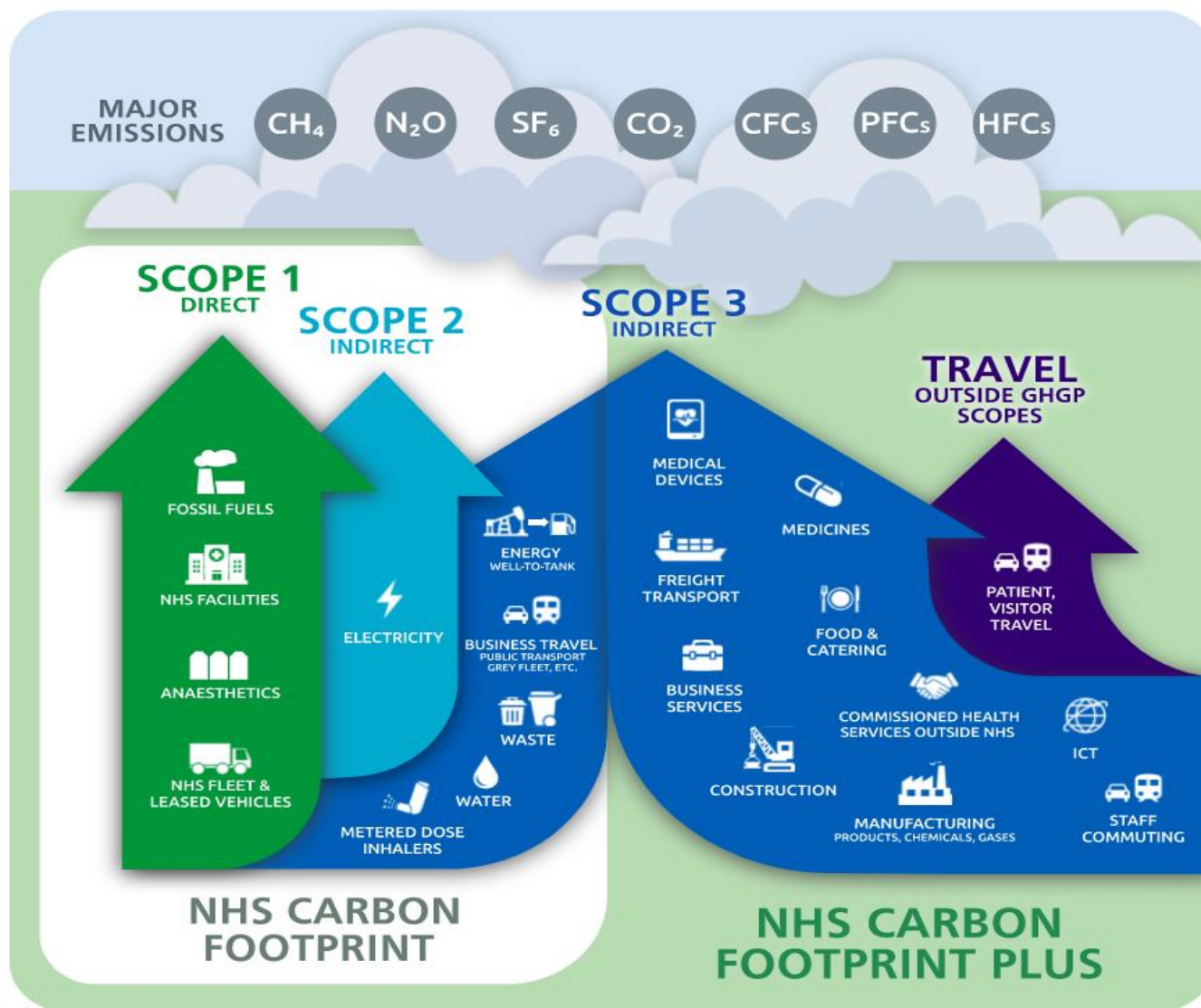


## The NHS in England is responsible for an estimated 4.6% of the country's carbon footprint

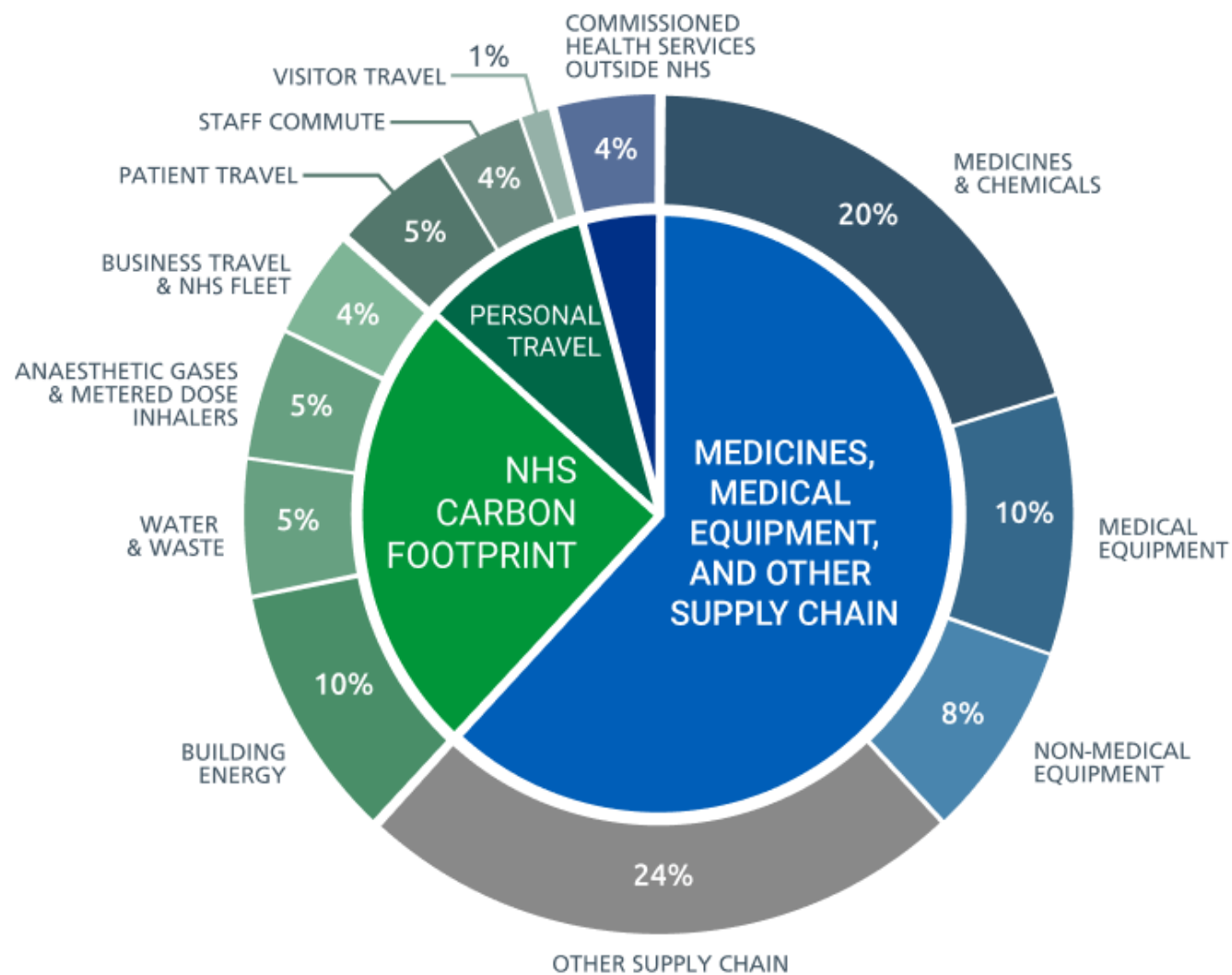


**The key to stopping overprescribing is medicines optimisation: ensuring that patients are prescribed the right medicines, at the right time, in the right doses.**

# Carbon Footprint



# Carbon Footprint



# Carbon Footprint

**AIM: To achieve long term sustainable reductions to overprescribing via delivery of systemic and cultural improvements within the NHS**

Objectives	1. Work with <b>patients, carers and the system</b> to tackle overprescribing	2. Improve and implement <b>prescribing processes, reviews and guidance</b>	3. <b>Utilise digital technologies</b> to address overprescribing	4. Improve <b>data for feedback to clinicians and commissioners</b> to guide prioritisation and monitor success	5. Update <b>training and development</b> to reflect the growing understanding of overprescribing	6. Assess and support system action to <b>address the carbon impact of unnecessary prescribing and medicines waste</b>	7. Strengthen the <b>evidence base</b> for overprescribing and enhance the process of getting evidence into practice

**EVALUATION FRAMEWORK: Effectively measure and monitor programme impact**

Address health inequalities

## Overprescribing consequences and solutions

- Patient harm from increased risk of both adverse drug reactions and drug dependency
- **Problematic** polypharmacy (increased prescribing which the patient doesn't clinically need or want causing harm or increased carbon footprint for no benefit)
- Increased wastage of **medicines; undermining NHS financial efficiency and efforts to address environmental impact of medicines use**

Sharing records and discharge letters standards	Medicine reconciliation at care transitions	Digital decision support tools	Align professional standards and training with programme
Revised prescribing competency framework	National toolkit for repeat prescriptions	Implementation programme and NCD for prescribing	Pharmacist initial training reforms
Review treatment guidelines	Expand use of structured medication reviews in primary care	Industry transparency	Educational framework for pharmacists
Information and insights for deprescribing	Awareness and behavioural change	Strengthen overprescribing evidence base	Improve data analytics capability
Templates for referrals for alternatives to medicines	Patient engagement and cultural competence	Research on overprescribing and health inequalities	Sustainability

## Somerset Deliverables

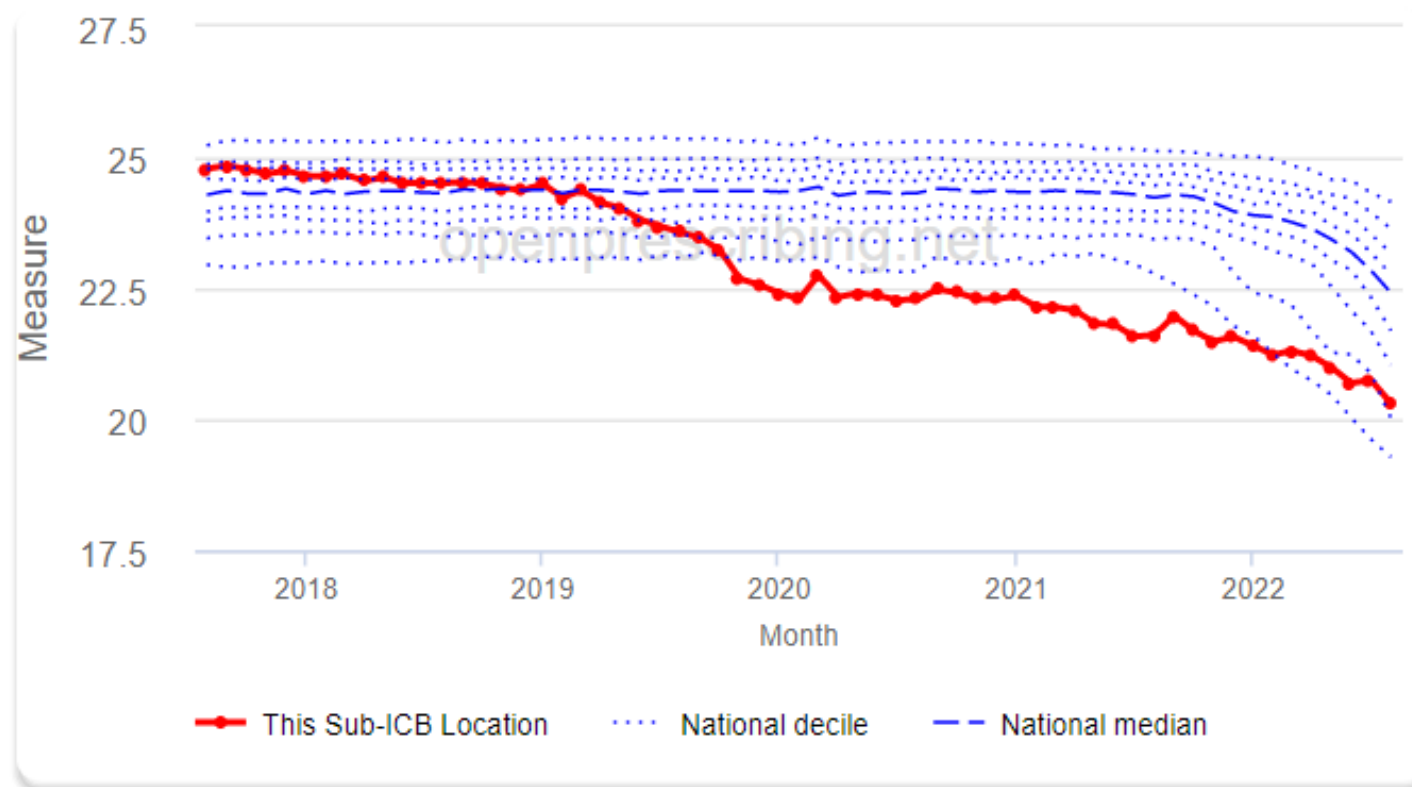
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- Reducing the CO<sub>2</sub>e impact of inhalers, 50% reduction by 2028 and a 13% reduction in 2022/23 on a 2019/20 baseline, by:
  - Supporting the achievement of the four inhaler indicators as part of the [investment and impact fund \(IIF\)](#), through:
    - Decreasing the proportion of metered dose inhalers prescribed to 25% of all non-salbutamol inhalers prescribed.
    - Increase prescribing of less carbon-intensive MDIs, in order to reduce the mean life-cycle carbon intensity of salbutamol inhalers prescribed to 13.4kg CO<sub>2</sub>e by March 2024.



# Inhalers (Aug 2022)

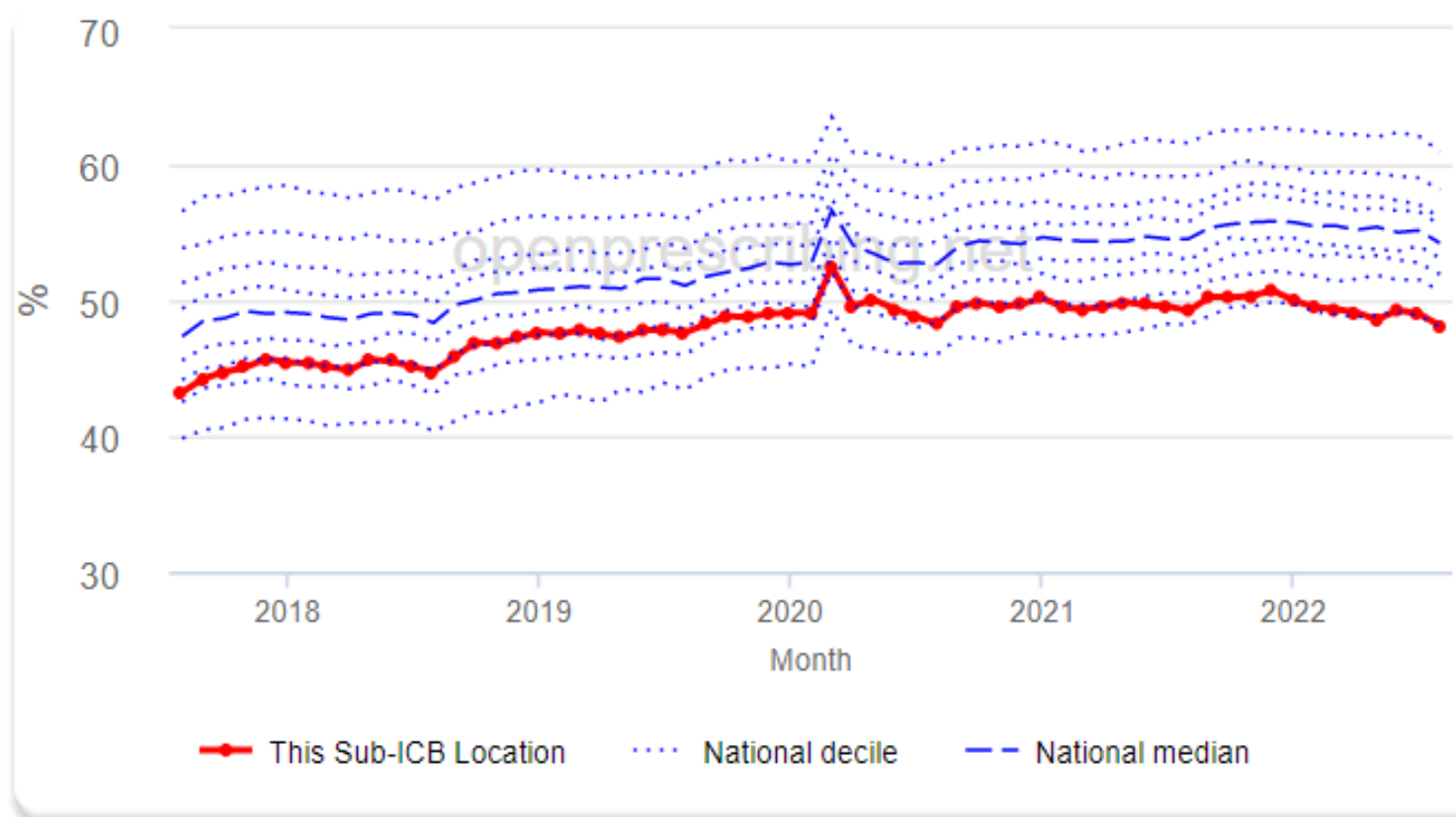
Mean carbon impact (kg CO<sub>2</sub>e) per salbutamol inhaler prescribed





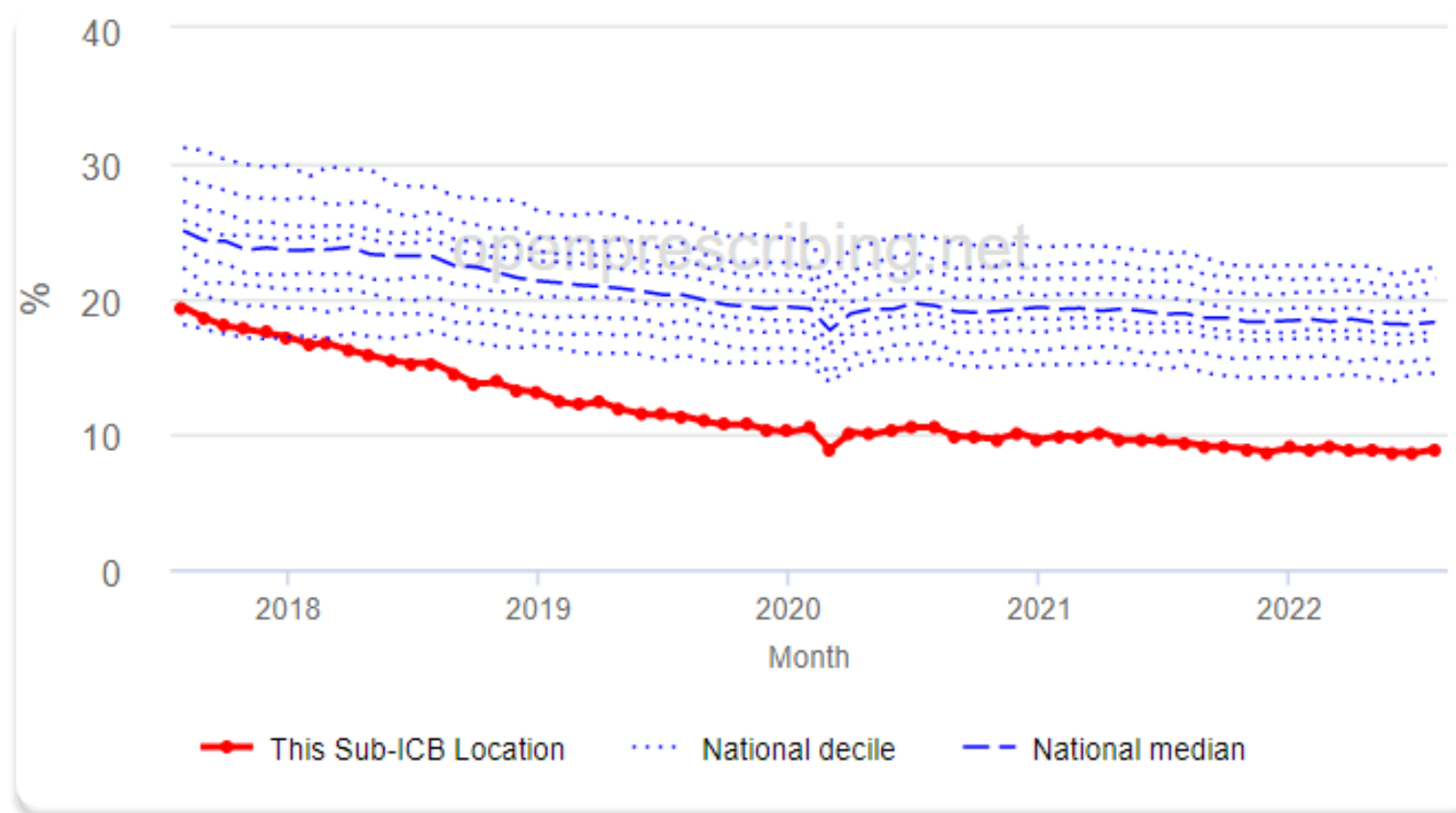
## Inhalers (Aug 2022)

*MDIs prescribed as a proportion of all inhalers in BNF Chapter 3, excluding salbutamol*



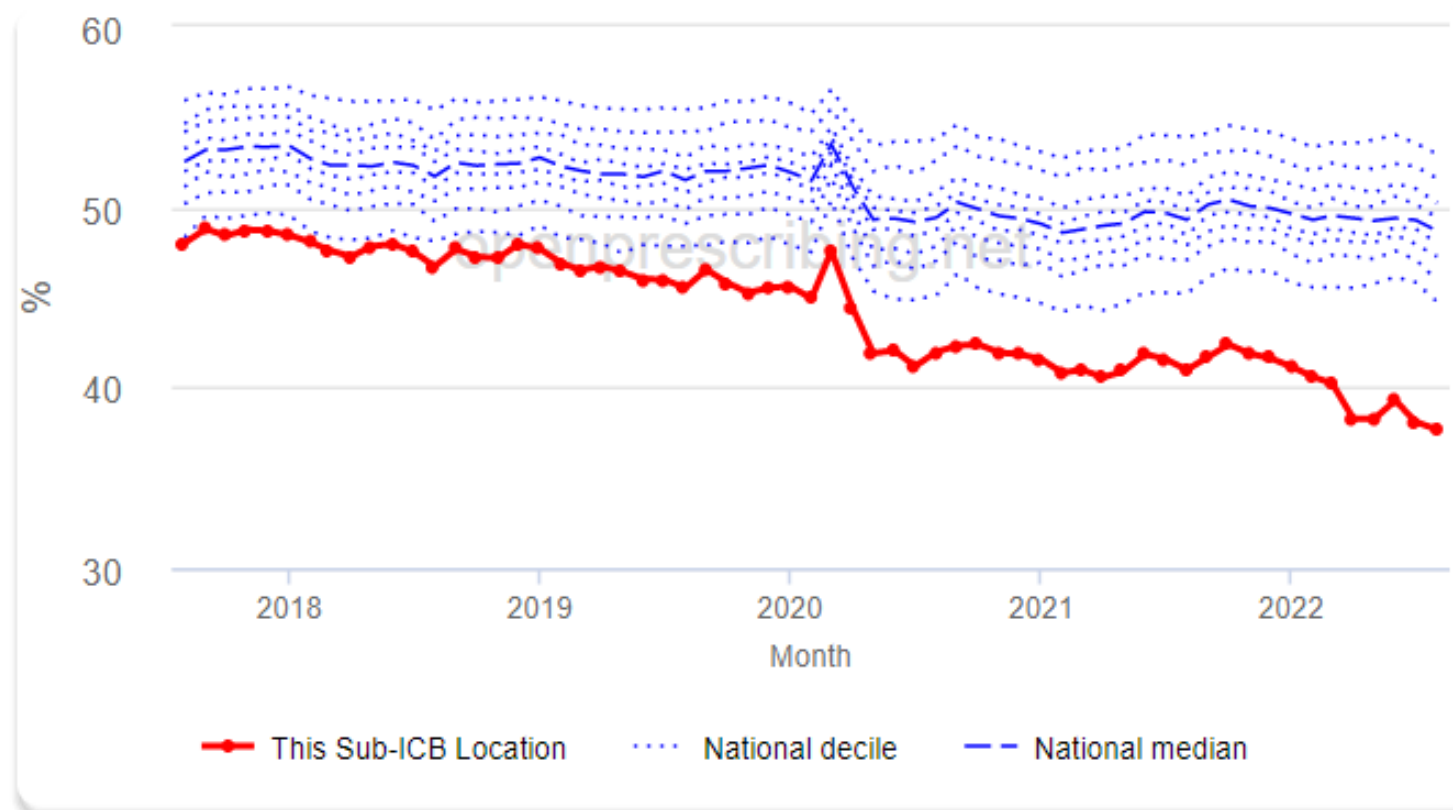
## Inhalers (Aug 2022)

*Prescribing of high dose inhaled corticosteroids compared with prescribing of all inhaled corticosteroids*



## Inhalers (Aug 2022)

*Prescribing of short acting beta agonist (SABA) inhalers - salbutamol and terbutaline compared with prescribing of inhaled corticosteroid inhalers and SABA inhalers*



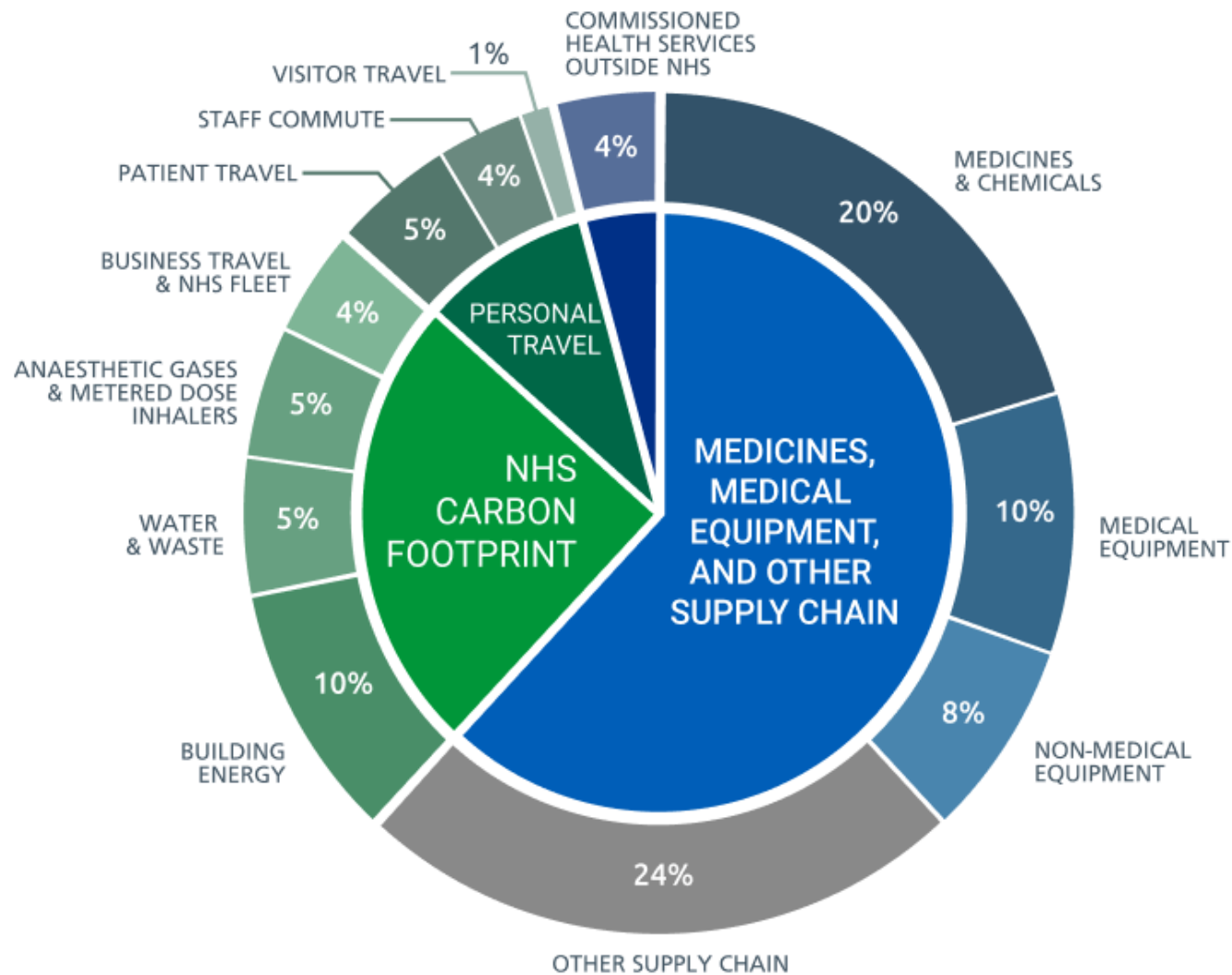
## Inhalers (Aug 2022)

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<b>MDI/dry powder combination</b> Patients with mix of MDI and Dry powders issued in last 90 days.	23/10/2022	<b>2075</b>
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[NG80 Asthma inhalers and the environment patient decision aid \(nice.org.uk\)](https://www.nice.org.uk/guidance/ng80)

# Carbon Footprint



## Medicines and chemicals (20%) – Systems and processes

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11,173,622 Items dispensed for Somerset patients in 2021/22

Imagine carbon footprint if they were still all paper !

Increase uptake of EPS

Increase uptake of electronic repeat dispensing for stable patients

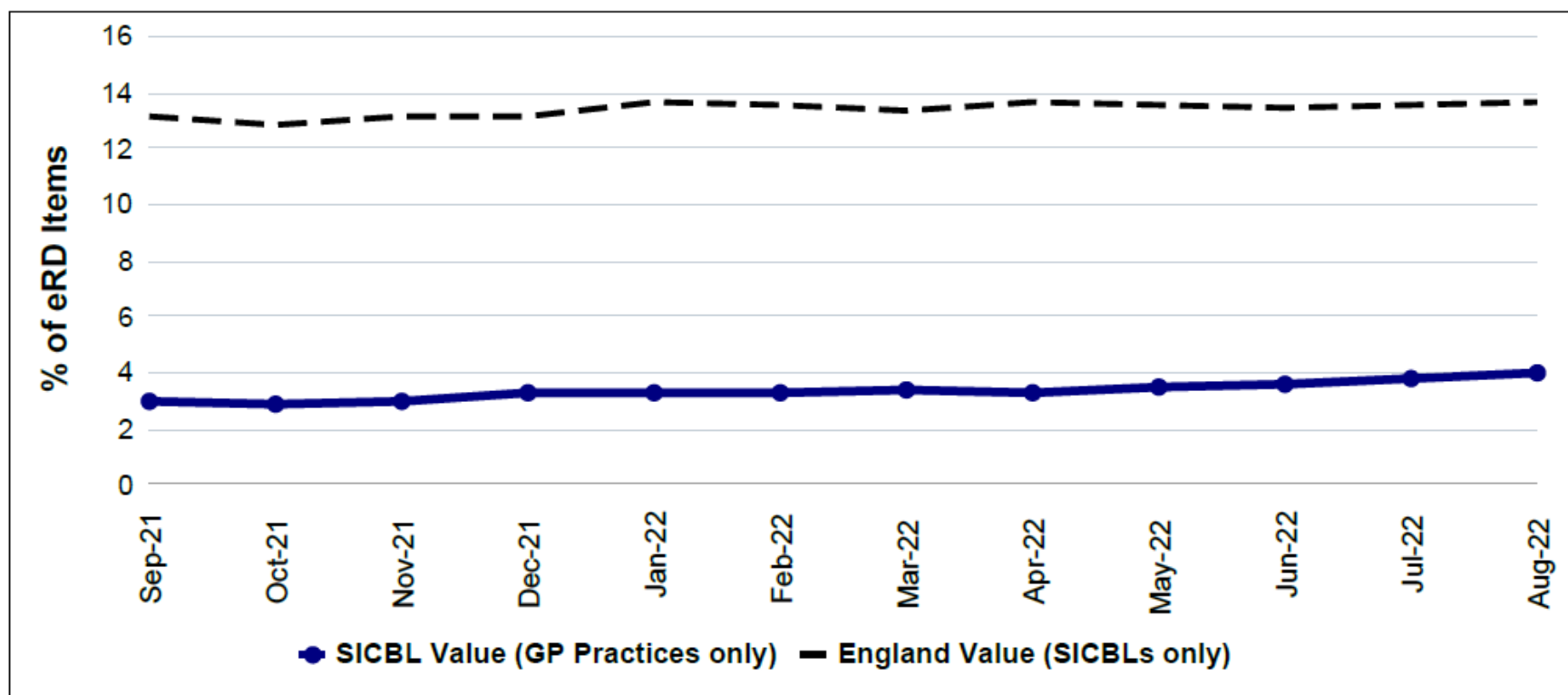
Decrease use of 7 day prescribing – see ICB guidance

Prescribe appropriate repeat quantity – see ICB guidance

Synchronise quantities

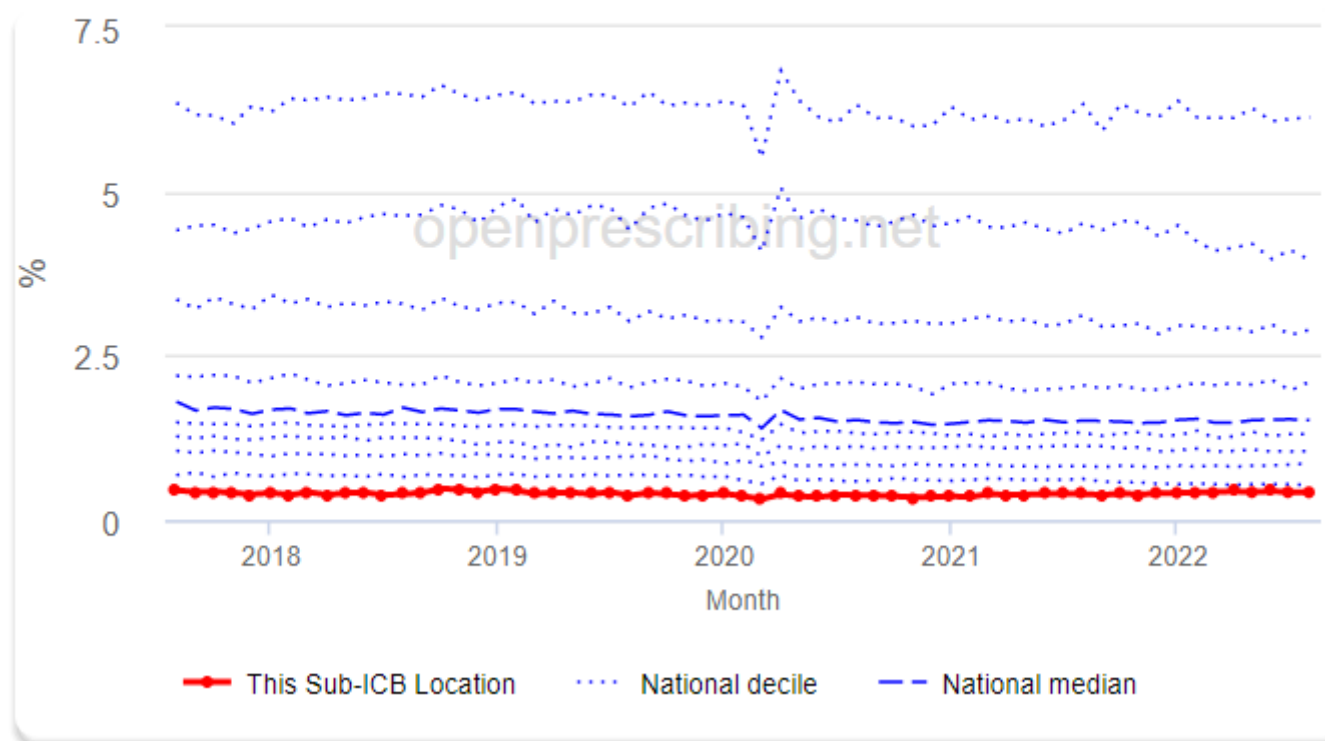
## Electronic Repeat dispensing trend

**Trends in prescribing of eRD items out of all items for NHS SOMERSET ICB - 11X (GP Practices only) compared against England**



## 7 day prescribing

*Total quantity where a prescription is for seven tablets or capsules of common LTC medicines as a proportion of all tablets or capsules for common LTC medicines*





## Electronic Repeat dispensing – new support tools

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The new eRD factsheets and templates cover the following:

- [The benefits of using eRD for contractors, general practice and patients.](#)
- [How the eRD cycle works.](#)
- [How contractors can work with GP practices to rollout eRD and optimise its use.](#) This includes guidance on holding local meetings (business change workshops) to discuss the rollout and optimisation of eRD within a specific locality.
- [A business change workshop actions list template.](#)
- [A repeat medicines synchronisation template.](#)

## Electronic Repeat dispensing – After patients have had SMR and their meds have been optimised

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**Identify when medicines are being overprescribed**

**Targeted and effective Structured Medication Reviews**

**Deliver effective shared-decision making**

**Make more sustainable medicines choices**

## Biggest waste and impact on carbon footprint is prescribing a medicine the patient isn't going to take

Shared Decision Making (SDM), which is a key part of the Comprehensive Model of Personalised Care, is crucial to medicines optimisation.

These patient engagement tools can support SDM:

1. [Show me your meds, please?](#)
2. [Me and My Medicines](#)
3. [Are your medicines working for you?](#)
4. [WHO 5 moments for medicines safety](#)

### What good shared decision making looks like – for the system

Figure 1: NHS England shared decision making Implementation Framework



## Overprescribing – Safer prescribing

Table 1 Environmental impact of avoidable medicines-related admissions<sup>2</sup>

<a href="#">Proportion of non-elective admissions related to adverse drug reactions</a>	6.50%
<a href="#">Proportion of adverse drug reactions that were potentially avoidable</a>	72.00%
Proportion of non-elective admissions related to potentially avoidable adverse drug reactions (6.5% x 72%)	4.68%
Number of non-elective admissions in a year, related to adverse drug reactions <sup>3</sup>	5,764,765
<a href="#">Median number of bed days per adverse drug reaction-related admission</a>	8
Total number of bed days for potentially avoidable adverse drug reaction-related admissions (4.68% x 5,764,765 x 8)	2,997,678

## Overprescribing – Safer prescribing

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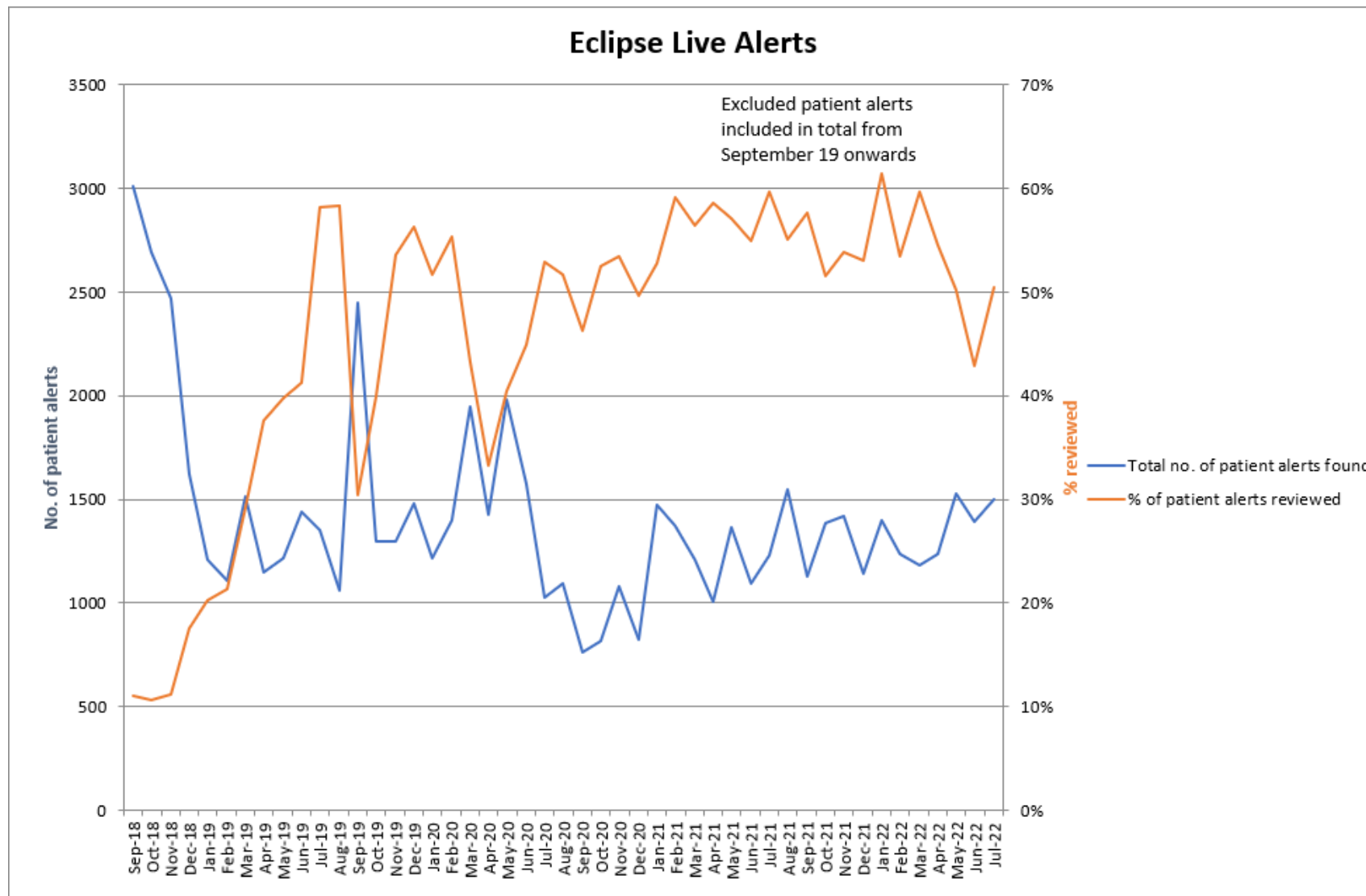
<a href="#">Environmental impact of each bed day</a>	<p>63.7kg of CO<sub>2</sub>e, 0.6m<sup>3</sup> of direct fresh water used, 98.6 m<sup>3</sup> of indirect fresh water use and 8.15kg of waste produced.</p>
<a href="#">Further environmental impact of each admission (in terms of patient journeys to and from hospital)</a>	<p>36kg of CO<sub>2</sub>e, 0.03m<sup>3</sup> of direct fresh water used, 91.20m<sup>3</sup> of indirect fresh water used and 0.53kg of waste.</p>

## Overprescribing – Safer Prescribing –preventable meds related admissions

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- 110,910 tonnes of greenhouse gas emissions
- 179 million m<sup>3</sup> (or 179,133 million litres) of fresh water (direct and indirect)
- 13,300 tonnes of waste
- 0.5% of the total annual carbon footprint of the health and social care system in England<sup>6</sup>

# Safer Prescribing – better outcome lower environmental impact



## Overprescribing – Safer Prescribing

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**Anticoagulation: Caution: Apixaban, Edoxaban,  
Rivaroxaban or Dabigatran detected with anaemia (Hb<9)**

23/10/2022

**119 patients  
at risk**



## Overprescribing vs Unmet need

<p><b>Adults with AF with a CHADS2VASC of 2 or more, not taking an anticoagulant</b>          NICE guidance says offer an anticoagulant to adults with a CHADS2VASC score of 2 ore more. Search excludes C/I, not tolerated and declined</p>	<p>23/10/2022</p>	<p><b>1699 patients also at risk</b></p>
<p><b>Atrial fibrillation patients on aspirin, no anticoagulant</b>          NICE guidance recommends men with CHADSVASC score &gt;1 and all patient &gt;2 be treated with an anticoagulant to reduce stroke risk. Patients excluded if they have a code of anticoagulant contraindicated, not indicated, declined or not tolerated</p>	<p>23/10/2022</p>	<p><b>251 patients also at risk</b></p>

## Overprescribing vs Unmet need

Remember want to reduce **Problematic** polypharmacy (increased prescribing which the patient doesn't clinically need or want causing harm or increased carbon footprint for no benefit)

<p><b>GLP-1 plus DPP-4 (gliptin) taken together</b>          These drugs work on the same pathway. DPP-4 antagonists block DPP-4, an enzyme which breaks down GLP and GIP. NICE does not recommend using these together. If patient has cardiovascular risk or CKD consider an SGLT-2 in place of DPP-4</p>	<p>23/10/2022</p>	<p><b>107</b></p>
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<https://www.qrisk.org/three/>

<p><b>QRISK3 <math>\geq 20\%</math> not on statin</b>          With exclusions</p>	<p>23/10/2022</p>	<p><b>38907</b></p>
<p><b>CVD patients not taking a statin</b>          Excluding statin not tolerated, statin declined, statins contraindicated, statin allergy, statin not indicated</p>	<p>23/10/2022</p>	<p><b>7176</b></p>

## Coming next – new initiatives

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1. Decapeptyl 22.5mg as % of Decapeptyl 11.25mg & 22.5mg injections – reduced devices footprint, transport footprint, disposal footprint, nursing time and patient travel
2. Device refills rather than full devices – respimat, sumatriptan, Spiriva –  
Reduced devices footprint, transport footprint, disposal footprint
3. SGLT2/Metformin combination products –  
Reduced devices footprint, transport footprint, disposal footprint
4. Switching Vagifem to Vagirux – reusable device  
Reduced devices footprint, transport footprint, disposal footprint
5. Reduction in inappropriate blood glucose testing – CGM patients / Metformin only patients  
Reduced devices footprint, transport footprint, disposal footprint
6. Continued reduction in inappropriate problematic overprescribing  
Better outcomes, reduced health and social care footprint,