sustainability aspects of inhaler prescribing in chronic respiratory disease

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2996 words

This report outlines the learning undertaken during this SSC in relation to sustainability aspects of inhaler prescribing in chronic respiratory conditions, specifically asthma and Chronic Obstructive Pulmonary Disease (COPD). Weeks 1 and 2 were dedicated to theoretical learning, through a literature review and a session with the practice nurse in charge of asthma and COPD management. This knowledge was used to plan patient interviews to elicit perspectives on aspects of sustainable inhaler prescribing. In week 3, five patients were interviewed. The remainder of the project time was used to analyse the results to inform a Quality Improvement framework and a webinar delivered to practice staff and affiliates.

introduction

73 million inhalers are prescribed each year in the UK for the 6.6 million people living with asthma and/or COPD. Inhalers are a critical part of modern management of chronic respiratory conditions; inhalation allows for focused delivery of medication directly to the airways, minimising off-target side-effects. However, these inhalers carry a heavy carbon footprint. In October 2020, the NHS was the first healthcare system in the world to declare a target for net zero emissions. The NHS long-term plan (2019) commits to halving inhaler emissions, mostly via switching to lower carbon inhalers, cutting 4% (403kTCO_2e) off the total NHS footprint[1,2].

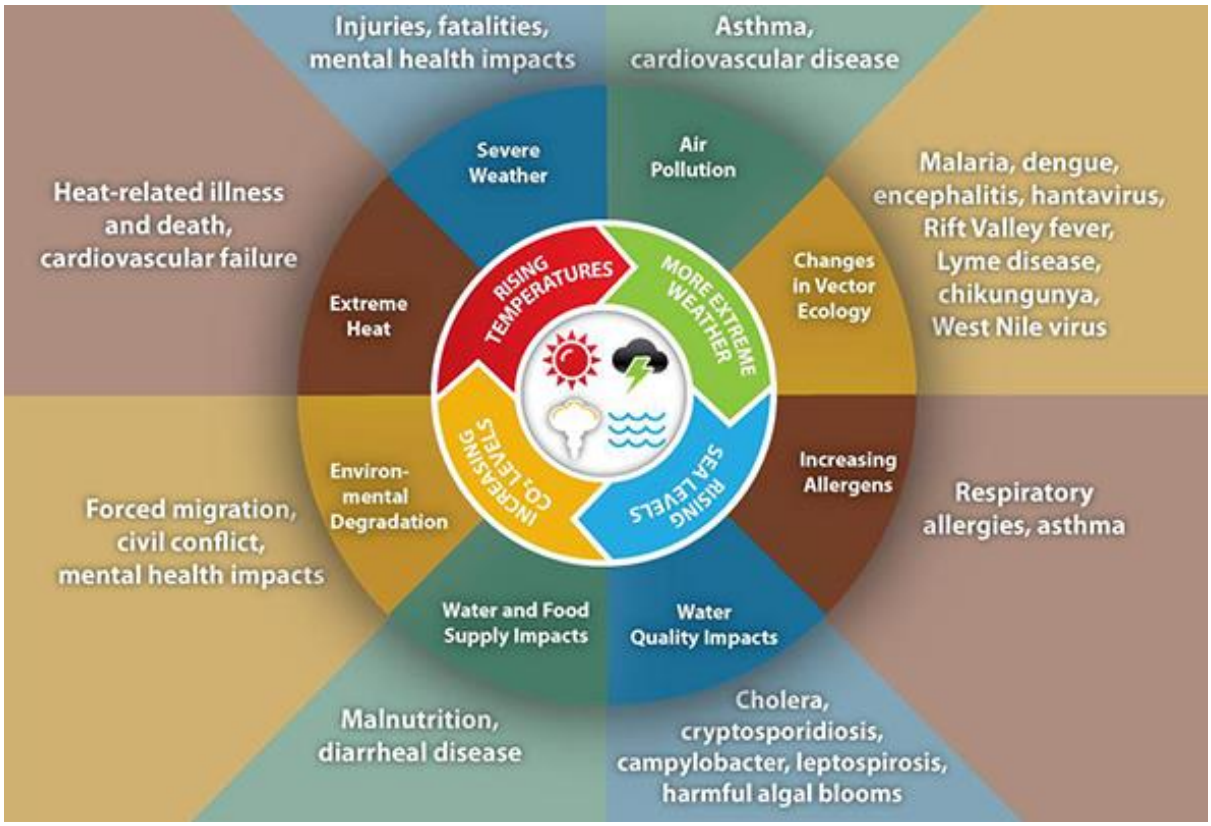

Figure 1: impact of climate change on health[3].

As healthcare professionals, we must meet the immediate needs of our patients, but we must also consider how caring for them may impact their future health. The climate crisis is also a health crisis and will have wide-ranging ramifications if not mitigated[4], outlined in figure 1 above. A 2015 public survey revealed high and increasing support for a sustainable healthcare system (92%), even with an increase in cost (43%), with 25% citing it as a top priority[5]. NHS staff are also overwhelmingly in favour of the healthcare system being sustainable (98%). However, only a fifth of respondents thought the "NHS actively supports the environment"[6]. A 2020 survey found that 50% of people with asthma were concerned about the environmental impact of their inhalers, as well as having feelings of guilt about not recycling them. Furthermore, 75% would use a postal recycling scheme[7]. However, only a quarter of British people know that inhalers have varying carbon footprints, and only 12% more (37%) of healthcare professionals being aware[8,9].

Inhaler sustainability can be categorised into four domains:

- care optimisation
- inhaler efficiency
- inhaler switching
- inhaler disposal

Care optimisation relates to ensuring the best possible treatment for patients. Healthcare sustainability intersects strongly with good clinical practice. This aspect will deliver the biggest environmental benefits but may also be the most complex and long-term objective; academics have spent entire careers on this topic[10,11].

Good control of chronic respiratory conditions will necessarily lead to reduced use of salbutamol reliever inhalers, which are used much more heavily in the UK than elsewhere[12]. Asthma patients have had poor mental health and disease control during the COVID-19 pandemic[13], which are being intricately linked[7]. The same survey also uncovered that only half of respondents had an asthma management plan, which is thought to reduce hospitalisation risk by 75%.

When talking with Gail, the practice nurse, she mentioned issues with compliance in the local cohort, which reminded me that local factors have a large impact. Gail also mentioned seasonal variability in use of inhaled corticosteroid (ICS) preventer inhalers, and we discussed the difficulty in working with patients to adjust their prescriptions in light of this when reviews are annual and attendance patchy, especially since the start of the pandemic.

Inhaler efficiency relates to how inhaler prescribing can be optimised. Optimising the inhaler dosage so as to deliver the dose in one puff allows for the inhaler to last twice as long, as well

as halving the carbon footprint. This also reduces treatment/illness burden for patients who don't need to think about renewing their prescription and picking up a new inhaler as often. At the start of the patient journey it can also be clinically useful to have dosing flexibility, but once dosage is stable this is no longer required.
Similarly, prescribing combination inhalers, such as trelegy for COPD, brings the carbon footprint down by reducing the number of inhalers, which again also makes life easier for patients and increases compiance. Maintenance and reliever therapy (MART) is a variation of this which has been proven to improve clinical outcomes and also reduces salbutamol use.
Prescribing inhalers with a dose counter can also help patients ensure that they aren't using an empty inhaler, affecting the control of their condition, nor binning full ones. Up to 40% of patients are using empty or nearly empty inhalers[14]. The savings from this are more indirect but arguably high impact.

Inhaler switching can have a lot of impact, although not as much as care optimisation. 70% of inhalers prescribed in the UK are pressurised Metered Dose Inhalers (MDI), which is at odds with the rest of Europe, Sweden has only 13% MDIs[15]. Today, MDIs contain hydrofluorocarbons (HFC), which are potent greenhouse gases. Inhalers used to contain chlorofluorocarbons (CFCs), which had an even higher GWP and were damaging the ozone layer, but thanks to the Montreal protocol, these have been phased out[16]. From my session with Gail, the practice nurse, I learned that in NHS Greater Glasgow & Clyde (NHSGGC), MDIs are billed as "CFC-free" in the prescribing formulary, which led to a confusion about their carbon footprint being very low, when in fact they are simply standard HFC-containing inhalers.

~97% of the carbon footprint of MDIs comes from the HFA propellant. Most MDIs contain HFA134a, which has a GWP of 1300, as shown below in figure 2. However, the amount of propellant can still differ. For example, the Ventolin Evohaler™ has a larger canister, which contains much more propellant than other salbutamol inhalers, giving it a carbon footprint of 25kg CO_2e per inhaler. Generic salbutamol MDIs, such as Salamol™ or Airsalb™, have a much lower carbon footprint, typically <10kg CO_2e[16]. During my learning session with Gail I learned that salbutamol inhalers are already being prescribed generically in NHSGGC. She also informed me that most patients have already been switched away from the Ventolin Evohaler™. The only users in NHSGGC are legacy patients that have specifically requested to keep it.

Some MDIs use a different propellant altogether. HFA227 is an HFC with a much higher GWP of 3350, used in Symbicort™ MDI & Flutiform™ which deliver inhaled corticosteroid (ICS). My interview with Gail again informed me that the two HFA227 MDIs are not typically used in NHSGGC, and neither inhaler is present on the NHSGGC preferred devices list for asthma[17] and COPD[18].

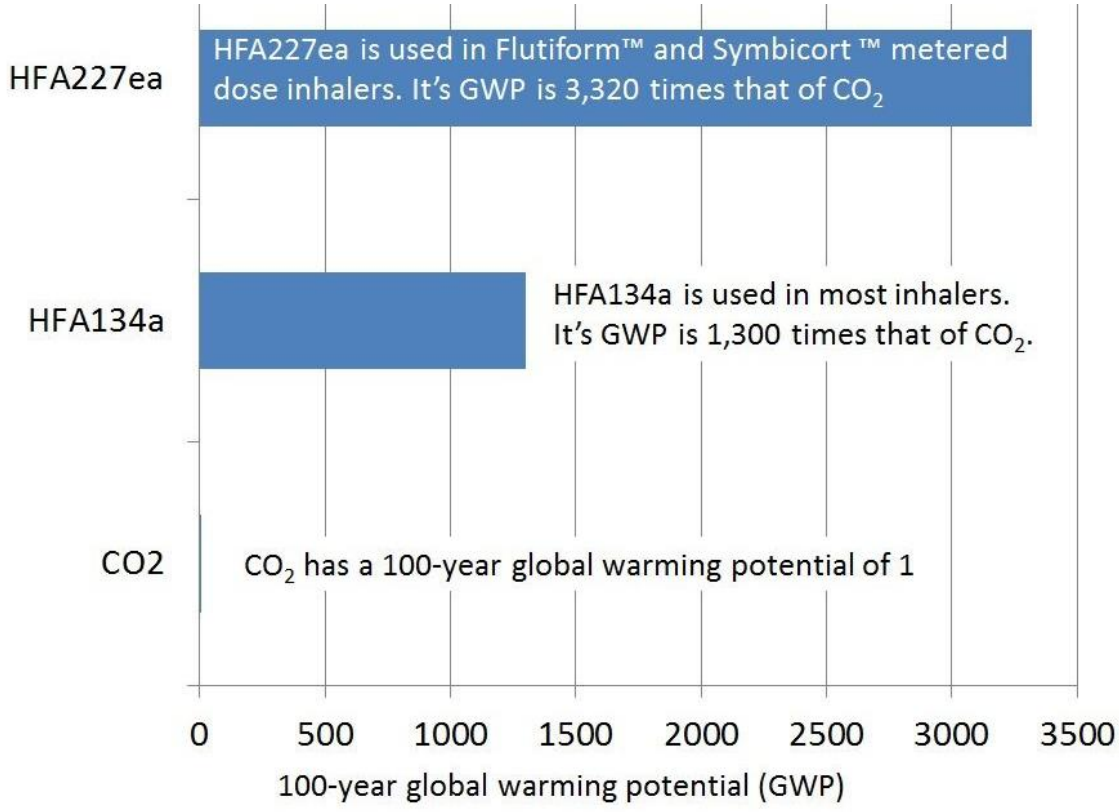

Figure 2: comparison of the greenhouse warming potential of different HFA propellants found in MDIs[19].

The pharmaceutical industry is working to create new propellants with lower GWPs, but this is still in development. Fortunately, there is also an alternative that doesn't contain any propellant at all. Dry Powder Inhalers (DPI). These have a much, much, lower carbon footprint (~1kg), and are at least as clinically effective, if not more[20], as well as possibly cost-effective[21]. They also typically have a dose counter, as opposed to most MDIs.

DPIs require more of an inspiratory effort than MDIs, which can be challenging for some patients, which is why they aren't recommended in very young and elderly patients. Peak flow can be useful to come to a decision, but this isn't necessary for all patients; adults and older children with mild to moderate asthma/COPD are likely to have sufficient flow. Some patients may have enough inspiratory flow for a DPI with a concurrent high risk of severe exacerbations. Giving these patients rescue packs, containing a salbutamol MDI and a spacer,

is an option but during my interview with Gail she noted that patients may end up simply using the pack instead of getting a repeat DPI prescription, negating the effect.

The Green Inhaler website has a solid resource to which compares the carbon footprint of all the inhalers on the market in the UK[23]. It doesn't make the inhaler class obvious, however. This is done well in the Sustainable Inhaler practices guide, which also provides helpful dose comparisons to help with switching[24]. The Wessex trust asthma guide is a good example of a traffic light system directly inside health board level documents, helping local decisions. Finally, NICE has created a patient decision aid for inhalers which discusses carbon footprint[25]. During my session with Gail a potential issue was identified with the fact that hospital respiratory consultants may be the prescribers in certain cases, taking the practice out of the equation. Bringing the UK MDI share down to Swedish levels has the potential to deliver an annual 550 kT CO_2 reduction in emissions[16]. Figure 3 helps place this in perspective with other actions that individuals can take.

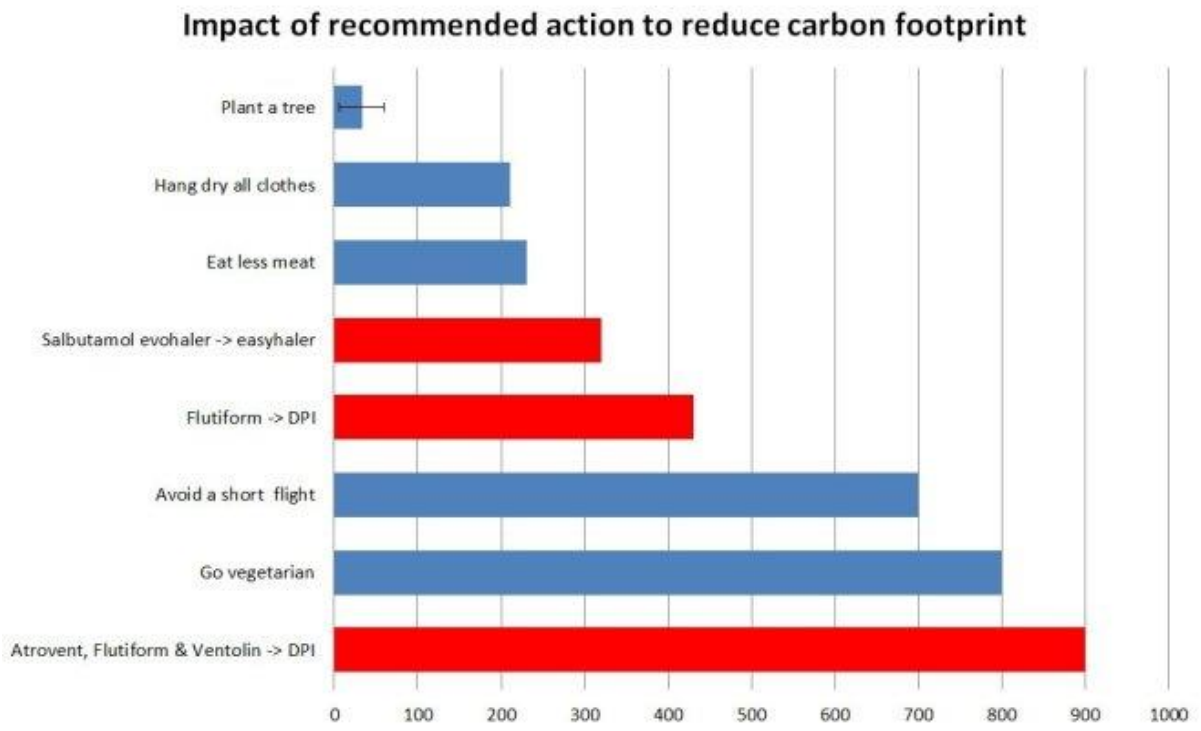

Figure 3: comparison of the emissions saving of different individual actions[26].

Inhaler disposal the final step, helping complete the cycle. It is inherently complicated due to the multitude of stakeholders involved: patients, general practices, pharmacies, pharmaceutical companies, the NHS, and arguably government policymakers. Current laws do not impose any burden on pharmaceuticals to manage the waste that they produce. Thus the onus is put on the consumer, or rather, the patient. Simply binning an inhaler is a poor

solution as ~25% of the propellant remains inside and slowly leaks out. It is preferable to bring it back to a pharmacy for it to be properly disposed of. All pharmacies must offer inhaler disposal by contract, which is simply the yellow waste management stream, ending in incineration, which degrades the propellant into less potent greenhouse gases[27]. Recycling inhalers would be the best option but currently this is extremely inaccessible. GlaxoSmithKline ran a recycling scheme until September 2020, but it arguably only recycled two million inhalers over nearly a decade, which amounts to <1% yearly[28]. Teva is running a scheme currently but it costs £100 per pack to participate, which is prohibitive[29]. Encouragingly, a pilot recycling scheme, Take AIR, is running in Leicester for twelve months based on postal return[30].

This whole process must be centred around the patient, as their autonomy must prevail. As such, it was decided that gaining patient perspectives would be a useful learning opportunity for me, as well as the practice, to understand what was driving local patients to translate this into effective Quality Improvement (QI) initiatives.

patient perspectives on inhaler sustainability

aims

1. to elicit patient perspectives on living with a chronic respiratory condition
2. to learn about the management of chronic respiratory conditions (asthma & COPD) from patients
3. to elicit patient perspectives on care optimisation of chronic respiratory conditions
4. to elicit patient perspectives on sustainable inhaler prescribing
5. to elicit patient perspectives on sustainable inhaler disposal and inhaler recycling

methods

Five patients were recruited by telephone for a semi-structured interview based on the questions in the appendix. The interviews were transcribed and thematically analysed using an inductive approach, generating themes which are illustrated with quotes[31,32,33].

demographics

respiratory condition	3 COPD / 2 asthma
sex	3 male / 2 female
age	1 <30 / 4 >60
duration of illness	1 <5 years / 5 <5 years

thematic analysis

Thematic analysis of the interviews revealed some recurrent themes:

- protective factors & barriers to care optimisation
- patient investment in sustainability issues
- sustainable inhaler disposal barriers

protective factors & barriers to care optimisation

There are a number of factors which make it more or less likely that patients will engage with the management of their condition and achieve good outcomes. This is an extensively studied subject which I won't pretend to cover, but I noted a distinct lack of patient perspectives. The purpose of the selected quotes is thus to provide insights into relevant local factors in Drumchapel / Glasgow / Scotland.

Having a condition like asthma since very early in life may shape patients' view on the condition, making it more a part of their identity, which patients can buy into and become

active, empowered stewards of their health. One patient noted how taking their inhalers is second nature.

> *"I don't even realise I'm doing it because it's so [ingrained]"*

Similarly, their desire to live in good health, without being impeded by their condition, may help create intrinsic motivations to achieve good control.

> *"If I learn more about my condition, then I'll be able to control it myself, instead of relying on parents and doctors […] if I want to have a normal life I need to control my asthma and be a bit more mature about my decisions and learn about asthma more"*

Asthma runs in families. With the right perspective, considering their potential future offspring can be another motivator.

> *"Quite a lot of my family have asthma, but it's not been as extreme as mine. If I have children in the future, I'd quite like to know about it, in case they have it, so I'd know what to do, […] for them as well"*

The same patient also noted that they had not had any exacerbations during the pandemic, which they linked to a lack of respiratory infections, resolving to continue infection prevention actions such as mask wearing and hand hygiene. An instance of patient-generated care optimisation, which is probably the holy grail of medicine.

> *"Even after the pandemic I'll continue wearing masks more and sanitising my hands and maybe that will help me get less infections."*

However, developing a condition later in life, such as COPD, may be associated with increased barriers to care optimisation. One factor is uncertainty with regards to the origin of disability. There may additionally be lower expectations about quality of life.

> *[...] As I'm getting older, it's getting [worse], I don't know if it's just general age-related rather than COPD." "I would say over the years it's been deteriorating, but I don't expect much more at my age"*

COPD's poorer prognosis and perception may also tie in, leading to disengagement.

> *"I try to exercise, but that's a waste of time. I've been to one of your clinics, you know, where you raise your arms, raise your legs, […] I can do all that at home. "Never got better. I've been using inhalers on and off for the last fifteen years. Briefly I stopped taking them, [...] didn't need it anymore, didn't need it at all, and as a result ended up in hospital"*

I reflected about how to mitigate these factors and considered enhanced follow-up, markers of need (e.g. not picking up prescriptions).

Patients across the board related to me the value that they got from initial education they received, especially citing a cross-sectional approach with multiple interventions from different healthcare professionals.

> *"[I know] quite a lot. When you into hospital with asthma, when I was a child, they would quite often show me videos […]. I'm quite aware of what asthma is and what my inhalers do."*

"Yeah, I had two [inhaler technique sessions]. They really showed me. [First with the practice nurse] then I had a meeting with the pharmacist and he just went through everything with me as well, just to make I was taking them right, and taking them at the right times. [It was valuable because] sometimes my memory just doesn't take in information" "oh yeah any information at the beginning, that's valuable. I've got learning difficulties and a demonstration, showing how it's done, that better than a thousand words"

Each patient is their own, these interviews have helped me consider new ways of seeing their circumstances to help empower them to live a healthy, happy life.

patient investment in sustainability issues

Patients are undeniably invested in sustainability issues. Out of five patients, all reported it mattering to them. Culture has changed, we must catch up with our patients, talking to them is the best way of doing so. One patient even noted their disappointment at the fact that their inhaler negates their personal environmental actions.

"I like to do my bit. [...] I tend to be conscious of it most of the time." "My fostair [inhaler], I know that it's not the best for the environment, and myself, I am quite environmentally friendly, so I don't particularly like the fact that it's not the best for the environment." "I do care about it" "Also myself, I stopped eating meat, so that lowered my footprint but then my inhalers bring it back up"

Patients are not only happy for doctors to consider the environment in their prescribing, they have a clear desire for it, to the point some think it is already widespread.

"I think that would be a good thing. I think most doctors do, don't they?" "That would make me really happy. […] We should do everything that we can to reduce the carbon footprint". "I think it's good that you're looking into this kind of stuff."

Moreover, patients thought that researching and working on healthcare sustainability was a good use of practice time.

"I think it's good that you're looking into this kind of stuff" "I'm glad you're thinking about doing something about it"

Similarly, all patients were ready and willing to be prescribed more sustainable inhalers, albeit they all had the same addendum; the inhaler must be at least as clinically effective, as their health was their first priority. DPIs are just as effective, if not better, for most patients, so it's important to be proactive in relaying this information when implementing inhaler switching.

"If I had a choice of which inhaler to use, I would definitely use the one which does less damage." "If it was something that gave me the same relief, I would certainly be keen to give it a go" "I would work on the assumption that what they would be giving me wouldn't be any less effective." "If it's helpful, for me and the environment, I'm all for it. But if I find

myself not getting as good a result, [...] I would have to [switch back], I'm sorry it's just the selfish nature of my species"

Interviewed patients also reported no issues with receiving a letter asking them to switch their inhaler to a more sustainable alternative.

"I would do yeah" "I would probably just accept it, say that's fine, OK." "I would. I don't see why I wouldn't."

sustainable inhaler disposal barriers

When asked whether they would like their pharmacy to offer inhaler recycling, all patients replied with the affirmative. One patient noted that patients themselves may have a lot of power as a group to express this desire directly to their pharmacists in order to motivate change.

"absolutely yes, uh huh" "Yes, and I would use it." "The more people that say to the chemist, "have you got a recycling bin here?", they'll eventually get them in" "Certainly."

While patients were invested in this issue, they were not necessarily aware of correct disposal.

"I put [my inhaler] in my blue [recycling] bin" "Well I just dispose of it in the bin" "[I] put them in the bin. […] No one's ever said anything to me about bring back to the pharmacy and recycling them or anything"

After being informed, patients noted that they would be happy to bring their inhalers back to the pharmacy.

"My pharmacy's just around the corner, it wouldn't be any trouble at all, just to go there. Even if they just had bins outside for you to put stuff in." "I'm more than happy to take to the local pharmacy if I believe that they can dispose of them in a more environmentally friendly way that I can" "I collect one anyway, so might as well bring it back. I'll just put it in my pocket and take it along"

But they also noted a desire for simpler and more covid-friendly collection.

"I would like it be a bit easier to do. Right now I have a drawer with my collection of used inhalers because I don't want to go out the house too much. If there was a bin that you could put it in, rather than having to go up to them. I think more people would use it as well, they could do it on their way to the shops"

Interviewees also felt comfortable with the idea of getting a reminder about sustainable inhaler disposal on their repeat prescription.

"Yeah, that would be better." "Yes, [I would like a note on my repeat prescription]." "yeah it would help I suppose, any reminder is useful, especially with older people"

One patient felt that more education could go a long way.

"Even if just more people knew about it the schemes, then they would do it. […] I've just not seen it advertised, not heard anything from the gp or the pharmacy about it."

inhaler sustainability Quality Improvement framework

There are many actions that can be taken to move towards sustainable inhaler prescribing. These can easily be implemented as part of a quality improvement (QI) framework, helping clinicians achieve this in a more objective manner as well as fulfilling professional requirements. The aforementioned four domains help structure the approach:

- care optimisation
- inhaler efficiency
- inhaler switching
- inhaler disposal

Greener Practice has a number of ideas for sustainability QI projects, including a more in-depth one[34]. SusQI is more oriented towards hospitals but can help with general resources[35].

care optimisation

Care optimisation is a complex domain to tackle. A good place to start is excessive salbutamol use. A clinical audit of patients who use more than six salbutamol inhalers per year would allow clinicians to catch a wide net of patients while allowing for a degree of variance, such as storing one at work and home.

Self-management plans can improve outcomes. It may be harder to audit this but reviewing practice guidelines and educating staff via posters and/or a workshop may help ensure this is happening every time and can be implemented as a simple Plan Study Do Act (PDSA) cycle.

key actions
identify patients who are overusing salbutamol inhalers (clinical audit) and invite for review
implement staff education via posters &/or a workshop → PDSA cycle

inhaler efficiency

Whichever the inhaler being prescribed, there are simple actions that can be integrated into every clinician's practice that maximise the clinical efficiency of inhalers for their given footprint. These can be made into relatively simple QI cycles, e.g. by implementing a leaflet or webinar to educate staff and analysing outcomes.

Staff should be educated about prescribing inhalers at a dosage that allows dose delivery in a single puff. This can be implemented via leaflets/posters and/or a workshop. Some inhalers are priced in such a way that double strength is more than twice the price, so this must be considered locally.

Prescribers should also preferentially prescribe combination inhalers, including MART, which deliver similar benefits to dose delivery optimisation.

Finally, it is also worth preferentially prescribing inhalers with a dose counter, even at a higher cost, as the indirect savings likely outweigh this. DPIs often feature dose counters which is another argument for switching over. Patients on Ventolin should be instructed in using a kitchen scale to assess doses[36].

Prescribers can also work with patients to construct inhaler lifespan estimates based on prescribing indications (e.g. 200 doses / 1 puff twice a day = 50 days). Posters can easily be made to use as a reference for common indications as well as the “formula” to calculate together (e.g. for salbutamol inhalers).

key actions

staff education

- single puff dose delivery optimisation
- preferential prescribing of combination inhalers
- preferential prescribing of inhalers with dose counters

patient education → inhaler lifespan estimates / Ventolin inhaler weighing

inhaler switching

Inhaler switching is a great place to start, although it is definitely not enough alone. The key principle to keep in mind here is that patient autonomy is king.

Adults and older children, who are likely to have enough inspiratory flow for a DPI could be identified with a clinical audit and asked to switch over to a DPI, as suggested by the patient interviews.

Patients may have enough inspiratory flow for a DPI with a concurrent high risk of severe exacerbations could be given rescue packs, containing a salbutamol MDI and a spacer, but this should be accompanied by a clinical audit to ascertain whether they are used as intended, rather than opened when the previous DPI is finished.

Other parameters could be discussed to identify borderline patients that could be invited for a review and a peak flow for their next prescription renewal, where a switch could be offered.

Young patients could also be identified via an audit and a reminder added to their file to prompt the clinician to consider a switch at an appropriate time. The greener practice guide and the NICE decision aid both provide guidance on this. An NHSGGC pharmacist, Karen Vint, is working on updating local guidelines in light of sustainability and may be willing to collaborate/support. This is an area that requires cohesive lobbying action from clinicians,

which I understand GPs are freer to undertake due to their status as independent contractors. Policymakers will argue about cost, but these comparisons are not necessarily as straightforward due to indirect savings, such as from the ease of use and dose tracking seen with DPIs. Cost increases from one class of inhalers may also be outweighed by cost savings in other classes, which should be considered.

key actions

identify low risk patients (clinical audit) & send letter to ask to switch to an equivalent DPI
subcategorise exacerbation risk patients & provide rescue pack
identify medium risk patients & invite for review with peak flow to consider switch

example QI project

review of inhaler prescribing to identify high footprint inhalers
select inhaler to switch
clinical audit to identify low risk patients (e.g. people with well controlled asthma between 15 and 60 years old)
draft letter / telephone script to explain and ask to switch → review/co-design with patients
capture patient responses (qualitative + quantitative)
analyse control at next annual review

inhaler disposal

Sustainable inhaler disposal is inherently complicated to implement due to the multitude of stakeholders involved: patients, general practices, pharmacies, pharmaceutical companies, the NHS, and arguably government policymakers. This also makes QI efforts complex to coordinate. So it's important to lobby for change in this area. Examples of actions include joining working groups like Greener Practice, starting petitions, and gathering data about patient investment in this area.

Patients may not be aware that bringing back inhalers to their pharmacy for disposal by incineration is more sustainable than simply binning it, so this should be focused on. Consider PDSA cycles around staff and patient education, e.g. a staff webinar, or a poster in each workstation, which can also be shown to patients. Patients have also indicated that they would be happy to receive reminders on their repeat prescriptions, which could be a subsequent action. Acquiring data to verify the effect may be complex and requires partnership with local

pharmacies. It's worth liaising with local pharmacies anyway to discuss this with them as they may not be aware that they are required to provide this service by contract.
Patients have noted that they would like this process to be simpler, suggesting actions such as providing collection bins and postal return.

key actions

educate staff and patients → webinar / posters / repeat prescription reminders
liaise with local pharmacies → ensure incineration disposal is provided & discuss making this easier / discuss signing up to Teva scheme
generate data on patient investment to help lobbying efforts

reflection

Working on this project has been exceptionally motivating. I have found a new healthcare niche which I'm excited to continue contributing to. Sustainability in healthcare is still a young field, but it is populated by truly talented and driven individuals who are motivated by the end goal and deeply willing to collaborate to achieve it. I'm very excited to learn that an incoming student will be continuing this work, to implement a small scale inhaler switching project.
Identifying patient perspectives on inhaler sustainability is a relatively novel approach, although it shouldn't be, and it has been enlightening to find out how people who use inhalers feel about these issues, as well as their thoughts on how to move forwards.
As healthcare professionals, we always want to do best by our patients but we can easily get blindsided by the big issue of the moment, such as COVID-19, leaving the looming, but faraway issue of climate change. I've always been appalled by things like our excessive use of disposable plastics but I've never claimed these problems as my own. I'm glad that I've finally started taking action on it.

acknowledgements

I would like to give my sincerest thanks to Dr Peter Cawston for his supervision during this project, as well as his holistic approach to medical education. This project would never have gotten off the ground without the efforts of the team behind Greener Practice, as well as Green Inhaler.

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appendix

interview questions

Questions were used as a loose script to guide the conversation in light of the interview aims.

1. so to start with, could you tell a little bit about you and your lung condition?
    a. how long have you been living with it for?
    b. how & how much does it impact your life?
2. can you tell me a little bit more about how your condition is managed and what inhaler(s) you're using?
    a. how much do you know about them?
    b. have they been explained enough to you?
    c. is there anything else you would have wanted explained?
    d. are you confident in using them?
    e. do you think that they are improving your quality of life?
3. do you feel that your condition is well managed?
    a. how often do you use your blue inhaler?
    b. if prescribed any other inhalers → are you using them and if not, why?
    c. do you take part in yearly management reviews?
    d. if not, why?
4. certain types of inhalers are bad for the environment and are contributing to climate change
    a. is this something that you're aware of and / or care about? (offer info about MDIs using propellants with a very high carbon footprint)
    b. how would you feel about your GP considering the carbon footprint when prescribing your inhaler?
    c. if your GP wrote you a letter to ask you to switch your current inhaler to a "greener" one, how would it make you feel?
    d. would you be willing to consider this?
    e. do you think doctors should consider the environment when prescribing in general?
5. when your inhaler is empty, what do you currently do with it?
    a. do you bring it back to the pharmacy? (offer info about incorrect disposal leaking greenhouse gases)
    b. would you be willing to bring it back to the pharmacy?
    c. what's holding you back from doing this?
    d. how could we help you do this?
    e. would you want your pharmacy to offer inhaler recycling?