



Introducing carbon considerations into the shared decision making process

Insight toolkit



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Introduction

This report details the findings of our research exploring whether carbon impact considerations should be introduced into shared decision making conversations.

We found that there are no hard and fast rules to deciding if a patient is open to discussing carbon impact during their decision making, nor to whether a clinician will be prepared to bring it up. So, whether carbon impact may be introduced into shared decision making conversations should be determined on a patient-by-patient basis.

“Everyone should have the opportunity to understand the entire range of environmental impacts of diagnosis and treatment. In most cases, environmental impact may not need to come into individual decision making if environmental impact is taken into account during manufacture and decisions about care pathway design and commissioning. Similarly if [there is] more focus on prevention to avoid the need for treatment in the first place.

Tools to facilitate discussion with patients are required so that this is possible when appropriate. The strategy must avoid demonising patients and must highlight that there are many approaches that have lower environmental impacts and save money for patient and NHS and public and benefit health.”

- Clinician survey response

Methodology

We have conducted 5, 45 minute interviews with patients who have recently had medical procedures and a 10 question survey generated 253 responses.

The patients have reported a range of medical experiences and of opinions on carbon impact and the environment.

We have conducted 5, 45 minute interviews with clinicians and an additional 18 qualitative survey responses.

The clinicians are from a variety of specialisms and levels of seniority.



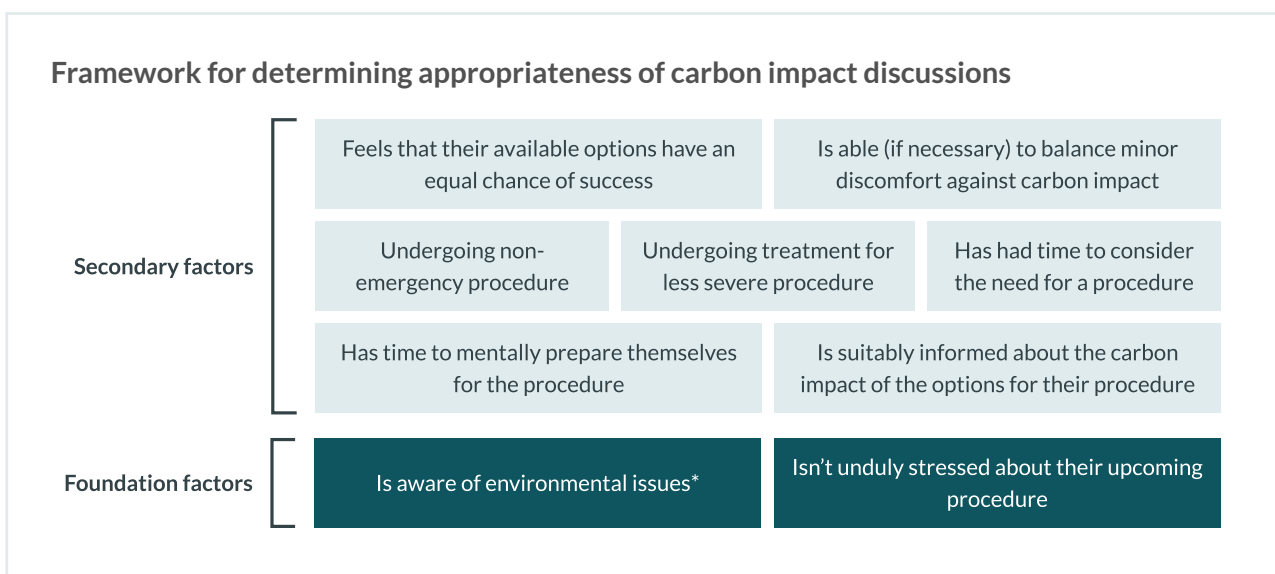
Executive summary

Based on our research, we've developed frameworks for deciding whether to engage patients, and empowering clinicians to have discussions about the carbon impact of treatments.

Deciding whether to engage patients

While there's no rulebook for determining a patient's openness to considering carbon impact, there are some common themes which indicate how appropriate a discussion might be.

If the clinician is confident that both of the foundation factors below are true of the patient, and at least two (at the clinician's discretion) of the secondary factors are also true, carbon impact discussions could be initiated:



* While societal awareness of environmental issues is widespread, it can't be assumed. We found that environmental consciousness wasn't indicated by appearance, age, class, education, location or any other factor. A direct question is the most effective way of getting this information.

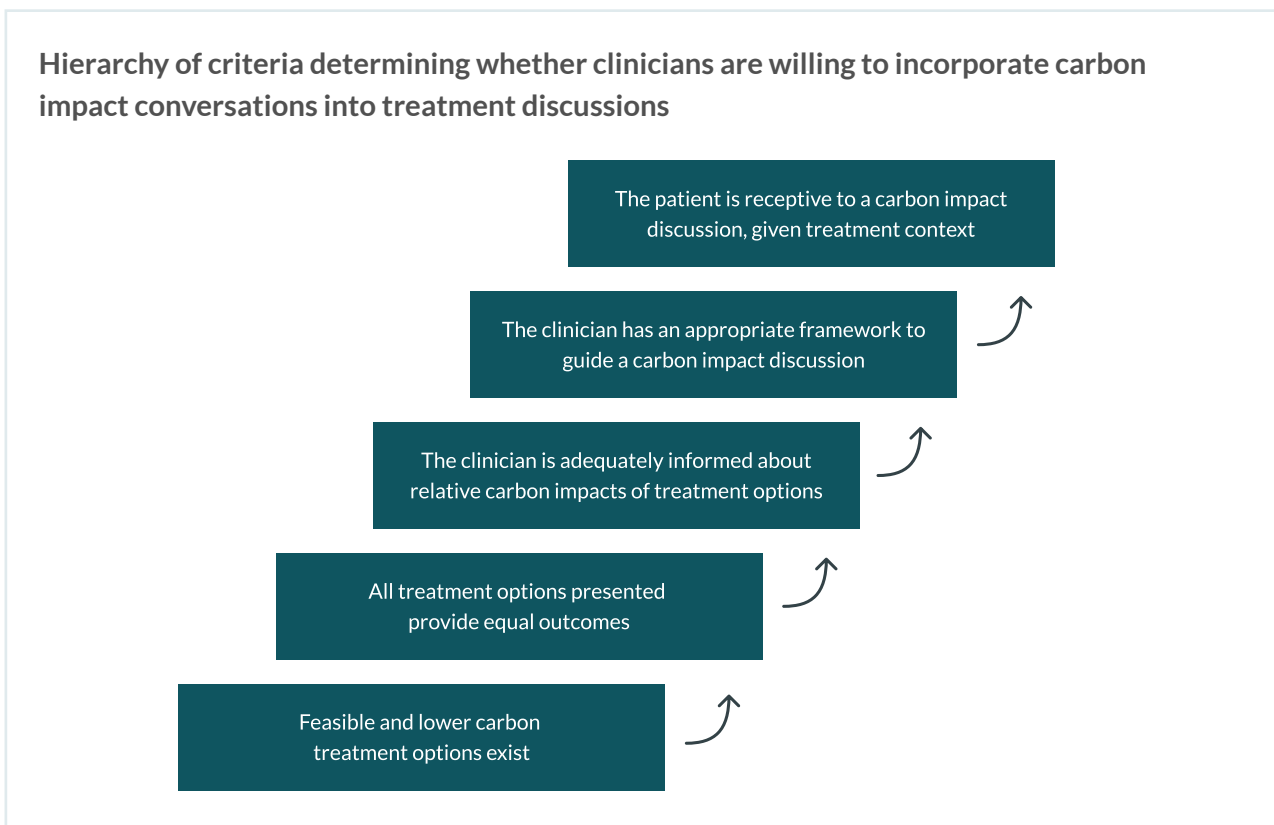
Empowering clinicians

Many clinicians see the need for healthcare to reduce its carbon footprint. They're interested in large-scale change - for example, a 'greening' of the supply chain, provision of lower carbon transport options, reducing wastage across the board and a modernisation of premises.

Clinicians aren't always convinced of the value of reducing environmental impact on a treatment by treatment basis, although see that incremental changes brought about by existing programmes have value. Others point to similar, incremental cost-saving initiatives as analogous to the kind of change that could be delivered by reducing the carbon impact of individual treatments.

Some clinicians we spoke to were already running their own carbon reduction schemes. They were entirely secure in their hypothetical ability to bring carbon impact into treatment discussions if the opportunity arose, assuming they had appropriate knowledge. Others didn't feel empowered to do so, or would required a top-down directive to make the right information and frameworks available in order to discuss carbon impact.

Many clinicians we spoke to suggested that they would be willing to incorporate carbon impact conversations into treatment discussions if certain criteria were met. These criteria can be visualised as a ladder - clinicians can only keep climbing if all the rungs are there:





Insights

An in-depth view of the insights we uncovered, broken down into four key themes.

Throughout these insights, quotes from patients are presented in light blue boxes. Quotes from clinicians are in darker blue boxes.



Theme 1

Patient health is the highest priority

However much they care about the planet, neither patients nor clinicians are prepared to accept worse health outcomes in order to reduce their carbon impact.

1.1

Positive treatment outcomes are most important to everyone.

For patients and clinicians a positive treatment outcome is the highest priority of every healthcare interaction. Both groups accept that there are various factors involved in treatment decisions (including cost, waiting time, side effects, convenience and others), but the key determinant is that patients will receive the best care and optimal outcomes.

It's important to note that there is a significant cohort of patients (107 of 253 survey respondents) who feel that clinicians should consider carbon impact as part of their recommendations.

It's also important to note that, while carbon impact is less of a priority than effectiveness or expertise, it is still something that some patients want to discuss.

“You can't bring back your health. So what am I going to, and this is a really terrible thing to say, but am I gonna save two trees? Or find out that I've got something seriously wrong with me? Am I going to choose the trees or me? It will be me.”

- Patient 4

“It would complicate the consultation and would probably detract from the **patient outcome which is the **most important thing**. Even though climate change and the climate emergency is very important”**

- Clinician 4

Interviewer: If a patient said 'I think what you're doing is wasteful'. Do you think the surgeon would bear that in mind at all in their own decision making?

Clinician 1: I wouldn't have thought so, they're there to get the patient better. And if there's a certain thing that they need to use on that particular patient they'll use it regardless”

1.2

Clinician advice is the most powerful influence on patients' decisions.

Clinicians are very much leaders of treatment conversations. Patients' perception is that they are speaking to experts and will be led by their advice.

Clinicians realise this and act accordingly, wherever possible giving advice to ensure that patients receive treatments that will deliver the best outcomes. The extent to which carbon impact as a feature of that advice is, therefore, entirely dependent on the clinician giving the advice.

"I think we need to take control of that outside our individual interactions with patients and just **make sure that we present them with the very best in terms of cancer evidence base, survival and carbon.**"

- Clinician 3

"I chose the procedure recommended since it was the **best to give me a reliable diagnosis and treatment**"

- Patient survey

"The course of action was **clearly the right path**, it was **recommended by the doctor**"

- Patient survey

1.3

Patients trust (and expect) clinicians to advise them on what's best for their health, regardless of carbon impact.

As patients trust their clinicians to lead treatment choice conversations, so they trust them to prioritise patient health and positive outcomes over any other factors.

Since clinicians want to ensure that patients have the best outcomes, carbon impact will always be a secondary consideration, even if patients see it as important.

“...But if we're talking about carbon impact improvements, and there are differences in carbon impact between treatments, **it's the job of the individual clinician who's helping you** through that treatment.”

- Patient 2

“You want to **base your decision on medical reasons**. And the **environment** is just coming **after that**”

- Clinician 5

1.4

Patients with lower severity conditions are more likely to accept carbon impact discussions.

Whether clinicians begin conversations about carbon impact or not should be influenced by the severity of the treatment required. 167 of 253 survey respondents felt that the severity of the condition being treated would influence whether they considered carbon impact whilst making treatment decisions.

This should always be assessed on a patient-by-patient basis, as perceived severity of a given treatment naturally varies between patients. A key consideration should be the degree of stress the patient has about their condition.

“It depends. I mean, what is your personal severity, but the environment is just as serious”

- Patient 5

“I've never had anybody ask me about the carbon impact of that treatment. Possibly because they're terrified, they're more worried about dying, I think, than worrying about the carbon impact”

- Clinician 3

“It's not inappropriate to include carbon in their decisions - but patients are all in different scenarios. In a routine hip replacement to help with arthritis related pain it's more feasible to bring it into conversation as opposed to someone who has no choice”

- Clinician 2

1.5

Patients are prepared to discuss balancing some short-term discomfort against carbon impact, assuming the long term outcome is the same.

Generally (but not universally), patients who are more environmentally minded are happier to consider lower carbon impact treatments if the long term results are the same, even at the expense of some (possible) short term discomfort.

“If you've got **two or more procedures**. And **one** of them is **more environmentally friendly** than the other, but the **results** are roughly the **same**. **I take that one.**”

- Patient 5

“Because I'm already taking the low carbon pathway I could **easily incorporate this discussion** into the conversation **as long as there is a choice to be made.**”

- Clinician 2

“I would probably go for the **more uncomfortable** and **better for the environment** if I **had the choice**”

- Patient 4

“if I could suffer through that **short initial discomfort** and think yeah, it's fine. **because the long term goal is the same**, but it's having a **smaller impact on on the world**, then I would be like, **okay**”

- Patient 3

Theme 2

Finding the right timing and framing for carbon impact discussions is important, but difficult

Discussions about treatment can be emotionally charged, and it's already hard for patients to absorb important information. When and how to add carbon impact into the mix needs careful consideration.

2.1

Patients' environmental opinions can't be assumed, and some patients will accept discussion of carbon impacts in situations where others wouldn't.

There are many considerations (e.g. severity of condition, time to consider treatment options, available information etc), around whether patients will consider carbon impact as part of the decision making process. While the need for a positive outcome is the key driver to any healthcare interaction, patients who are particularly environmentally conscious may accept carbon impact discussions more easily, and in higher stress situations than others.

Judging which patients are environmentally conscious may prove difficult, because age, geography, culture and class are not definitive indicators. Asking directly won't always be appropriate, especially in high stress situations.

"I think increasingly for **younger, more modern patients**, it may be something they're interested in."

- Clinician 3

"My youngest daughter is a vegan, who's very into everything and she keeps me on my toes sometimes... **I probably wouldn't be as environmentally friendly** if she wasn't around me."

- Patient 5

Patient 1: But **I didn't realise the impact until I thought about it just now**, when I was asked.

*Interviewer: If you were to talk to someone who was going into hospital for an operation, do you think **you might bring up that conversation** with them now?*

Patient 1: **Now? Yes.**

2.2

Framing must be approached sensitively - patients don't want to be demonised, or made to feel that the environment is more important than their health.

Discussions around carbon impact need to be approached tactfully, with the the patient's context in mind. Patients are likely to be stressed and more concerned about their healthcare needs than the environmental impact of their treatment.

As such, when holding conversations about carbon impact with patients, clinicians need to be sure that undue pressure isn't put on the patient. Patients mustn't be made to feel as though they are somehow selfish if they choose a specific treatment, or that any consideration is more important than patient health.

"If a doctor put that to me whilst I was panicking that there could be something wrong with me. Then I would not be amused"

- Patient 4

"If they choose a carbon neutral intervention how will this influence their outcome or procedure? Patients should not be made to feel guilty because they choose a high carbon intervention. But perhaps they could be given ways of offsetting carbon from their treatment"

- Clinician survey

"It has to be done with emotional intelligence and positive reinforcement"

- Clinician survey

2.3

Treatment discussions have a high cognitive load for patients and clinicians are often stressed. Discussion of carbon impacts can't be allowed to displace other important information.

Treatment discussions are complex. Patients are given information that is new to them, hard to understand, and emotionally challenging. Discussions of carbon impact need to take this into account, and not distract from the key patient need of a positive treatment outcome.

Similarly, clinicians deal with a high cognitive load during treatment discussions. They need to ensure that bringing carbon impact into discussions doesn't displace information they need to provide around primary considerations.

"People are under huge stress and they're very busy, and it's easier to do what you've always done."

- Clinician 3

"If you're spending lots of time talking to one patient, there's a lot of other patients waiting to be talked to"

- Clinician 4

"Most people... would be so worried about what is actually wrong with them that environment would go out of the window"

- Patient 4

2.4

Timing is key: too close to treatment is too late, but too close to the news that treatment is needed is too early.

Patients aren't likely to be receptive to discussions about carbon impact if they take place too soon after their diagnosis and prognosis have been explained to them. At this point, they're likely to be stressed and mentally processing the impact their required treatment will have on their lives.

Likewise, if patients are approached to discuss carbon impact at a point that's too close to any procedure, the stress of the upcoming procedure may affect how receptive they are to any carbon impact considerations.

"It would likely **be inappropriate on the day of their surgery** as part of the consent process. I think a **discussion or information provided at pre-op** assessment would be a good idea"

- Clinician survey

"Because of the timescales that we're talking about, which can be minutes, it's not **fair to burden them with that decision making process**. So if we want to engage them we've got to get in, when they can process that information"

- Clinician 2

"Either given to you when you **when you go in for an operation and you find the yellow form**, maybe on there, or they can give you a **leaflet** to say, **this is what happens when you have an op**, please read it"

- Patient 1

2.5

Generally, carbon impact should not be discussed ahead of emergency procedures, but it may be appropriate ahead of elective procedures.

If patients need an emergency procedure, there's likely to be very limited time to have carbon impact discussions. Even if there is time, patients will have limited headspace to devote to anything other than the emergency they're facing and the impact it could have.

There is such a broad range of severity and complexity of possible treatments that fall under the term 'elective procedures' that we can't make a clear statement to cover every possible elective procedure. However, since, in the main there is more time and some procedures may be less serious, it's true to say that patients who are having elective procedures may be more receptive.

"There is a lot of surgery that happens that is **very elective** e.g. nasal surgery - straightening nose to help with breathing - **in this group there is a lot more space to have these conversations**"

- Clinician 2

"**Unlikely to be appropriate in emergencies. Cosmetic treatments** may seem an **appropriate** place for a discussion"

- Clinician survey

"Most of my procedures are **elective, but necessary** to treat a significant disability. Electives such as cosmetic surgery would be more likely to have carbon impact considered first"

- Patient survey

2.6

When considering carbon impact, opinion is split on whether there are (or should be) differences for private and NHS patients.

It's important to note that about 80% of patients surveyed said there was no difference between whether private or NHS patients should consider carbon impact. Many patients and clinicians saw other factors (as discussed throughout this report) as taking precedence over the division between private and NHS.

However, some people felt very strongly that since private patients were paying for their clinicians' time, those patients were in a privileged position and should be more able to consider the environmental consequences of their actions.

There was also a perception among some patients that private appointments were longer, and therefore gave more opportunity for discussion of carbon impact.

"You've got the funds to pay for your operation and the doctor has a lot more time to spend with you as opposed to the NHS. Yes, [carbon impact] should be discussed with the private patient, because they're paying for it, or the insurance is"

- Patient 2

"I suppose probably private patients as a group are more demanding because they're paying for it. There's a growing group of patients in today's world who are self payers who save up money to have their operation. I'm pretty sure they don't give a toss about the environmental impact, they just want it done"

- Clinician 4

"There should be no difference as all patients should think about it if their situation enables them to consider it."

- Patient survey

Theme 3

Healthcare is a complex environment, and there are many factors affecting carbon impact beyond individual treatment decisions

Patients may not feel they can make a difference given the broader context, and clinicians often look to higher levels of healthcare trusts when considering decisions.

3.1

Treatment carbon impact is a ‘drop in the ocean’ compared to healthcare more broadly, and some clinicians that are aware of this see a need to change.

Individual treatments will make very little difference to the wider carbon impact of healthcare as a whole. Clinicians see a bigger picture of poorly insulated buildings, power wastage (lights always on, heating on and windows open at the same time), and huge wastage of physical objects in treatments, during procedures and around healthcare settings.

There are some schemes that seek to change this, though they’re not always visible. Some may run up against resistance since organisational change is hard and colleagues don’t like to feel railroaded.

“The **medical industry is comparable to whole countries** in terms of how much it **contributes to climate change**... I think I saw somewhere outside of China, India... three or four major industrial nations. The next biggest polluter in the world is the medical industry, **essentially from all the waste**. It's huge”

- Clinician 4

“**Healthcare is very polluting** in itself and this is something we need to change”

- Clinician 2

“We're **very carbon unfriendly in healthcare**, and I feel personally that **there's a lot we could do**”

- Clinician 3

3.2

Healthcare's a team effort: infrastructure and the influence of other professionals may limit individual clinicians' capacity to make a difference.

A single treatment, or a component of that treatment, may not make a massive difference to healthcare's carbon impact in a wider context. By extension, an individual clinician may not feel able to make a difference on their own by helping patients choose lower carbon impact treatments.

Clinicians don't work in isolation and the carbon impact of their treatments is affected not just by what they choose to do, but also by what their team does.

"Whole thing needs to be streamlined, looking at the whole process of what we do in the operating theatre route because, as **always, everything's involved**"

- Clinician 3

"As an anaesthetist **my carbon footprint is reliant on who I work with** i.e. who preps equipment etc - **it's a team thing.**"

- Clinician 2

"The **supply chain** is something the NHS could check. **Buy from those companies** who are **conscious** about the **environment.**"

- Clinician 5

3.3

There's a lack of clarity around where responsibility lies: patients may not feel they can make a difference, and clinicians often look to the level above them to drive change.

Patients may be surprised they're even being asked about carbon impact. They don't feel their treatment can make a difference in the wider healthcare context - it feels too big for them.

Clinicians often look to actors with more seniority or (perceived) power to drive change. They feel that their own actions may not be enough to be meaningful.

“Clearly the **biggest impact** is going to be in making **major infrastructure changes** in how we source our energy, and that is structural, and that will have to take place at a Senior NHS level”

- Clinician 3

“Patients feel they, as **individuals**, have **no power to influence** a huge national health service”

- Clinician 2

“**What impact can a patient have** if he tried to choose the less environmentally harmful treatment? How much change can we make? I think **it's very minimal**”

- Clinician 5

3.4

In some situations, carbon impact is analogous to financial impact: making this connection may encourage patients and clinicians to make planet-friendly decisions.

There is consensus that cost saving across healthcare is key. If carbon impact discussions can follow the same route into general awareness, then it's possible a similar consensus could be reached.

"We have **laminated sheets letting us know what things cost** - your clear bags, your black bags, your clinical waste, which can be quite a lot. So **instead of using two orange bags for each case, we've gone down to one**, right? And that's **the process that saves the environment**. I mean, **if everyone's cutting down** like that, then it's a **big impact on the environment and cost of the things at the trust**"

- Clinician 1

"It could be part of the **patient information booklet** - this **treatment** we are suggesting would **cost this** amount roughly and **the carbon impact** would be something like **this**."

- Clinician 5

"If there was a **cost element** involved and an **environmentally friendly option**, he should **state which one would be more expensive**. So that's the benefit, it costs this much and with that one, it's cheaper. It's **up to you now** you can make a decision on which one you choose."

- Patient 2

Theme 4

There are significant gaps in information and understanding around carbon impact, among both clinicians and patients

Clinicians don't necessarily know how to start talking about carbon impact, and patients don't know enough about it to make an informed choice. But if those problems could be solved, there may be potential for change.

4.1

Among patients, there's little awareness of the carbon impact of healthcare, and many have never considered it before.

Most patients were surprised to be asked about the carbon impact of healthcare. It's not something that has entered the wider public's consciousness to any extent. Many patients had not considered it, and had no idea of how to measure carbon impact when it came to healthcare. Some didn't realise healthcare had a noticeable carbon impact.

Interestingly, some people we spoke to said that despite having never considered carbon impact in health care before, they now would due to our conversation.

Interviewer: Has the **doctor ever mentioned the carbon impact** of the treatment?

Patient 1: No, they haven't... **I didn't even know there wasn't an impact.**

"I don't think anyone actually thinks about the carbon impacts of surgery. I don't think that's something that the media has ever talked about. In my, in my life of having surgeries, and I have had multiple, nobody has ever spoken about it"

- Patient 3

Interviewer: Do you think that **patients understand** how much **carbon** healthcare uses?

Patient 5 **I don't think they understand that. I don't know if anyone has checked or or produced a report on the environmental impact of the NHS**

4.2

Patients don't feel they have enough information to make a decision, and clinicians don't have the information to give them.

Patients would prefer to feel more informed about the carbon impact of their healthcare treatment before making decisions about it. They don't feel they currently have enough information to understand that there is carbon impact to their treatment, let alone what that impact is.

Clinicians don't feel able to have informed discussions with patients about carbon impact, not least due to the complexity of the problem. It's not just the treatments themselves that may have an impact - everything associated with them (patient travel time, hospital supply chain, hospital power etc etc) should be considered.

Interviewer: **Have you ever discussed the carbon impact** of the different choices that your patients can make?

Clinician 3: No, I haven't because **I'm completely unaware of what the carbon impact would be. I wouldn't feel qualified** to discuss that.

"[Patients] should be **given more information** on this to make more informed choices on their treatment."

- Patient survey

"**It isn't a consideration** for patients at present - they've **not been made aware.**"

- Clinician survey

"There is **ignorance within the public** about the carbon impact of healthcare... **patients have no awareness**"

- Clinician 2

4.3

There's some existing understanding of environmental impact among clinicians, but it's not enough to drive systemic change.

Some of the clinicians we spoke to were actively involved in carbon reduction programmes within their own professional lives. But they all felt that they were only creating minimal impact, and that wider, high level efforts were needed to drive large reductions in healthcare's carbon impact.

"There is an institutional awareness, **individual clinicians have some awareness**"

- Clinician 2

"I would **have no idea** if open vs laparoscopic was **better or worse** for the **environment**. I could **make a guess** but in terms of **educating patients I would have no idea.**"

- Clinician 4

"We as clinicians can **engage on a more simple level**. Because I think if all of us engage on a simple level, **small changes can influence large changes**. I'm trying to get people interested in that. It's a bit of **changing people's mindset.**"

- Clinician 3

4.4

There's no existing process for these kinds of discussions, so clinicians are unsure of how to broach the subject.

Currently, it's perceived that there's no high level carbon reduction programme in healthcare. Consequently, there's no framework to have carbon impact discussions with patients. Clinicians feel as though they have neither the information they need, nor a structure to find for or deliver it to patients. As a result, many clinicians would feel uncomfortable having carbon impact discussions.

"In an ideal world yes but with limited time already it's quite a **difficult topic to approach** especially seeing as **both parties** (clinician & patient) are **unlikely to be subject matter experts** in carbon impacts of treatment without further training."

- Clinician survey

"We have to put it into **context**. Does it mean **giving a number that we are burning this many kilograms of carbon**? What does it say? You know, **it doesn't say anything to the majority of the people**. So you have to put into some context, compare it to how many miles you travelled in your car or something like that"

- Clinician 5

"Part of the problem is that **we do not raise this with patients** because we **do not have a framework for managing the discussion**."

- Clinician survey

"...if it was **advertised**, if we were **taught outside of going for an appointment**, if we were **taught that there are choices...** that is very different from sitting there in front of the doctor where a doctor is saying you need to have this done but do you want to consider the environment?"

- Patient 4

4.5

Patients are interested in learning about the carbon impact of healthcare more generally, outside of their own treatments, and greater awareness may have an effect on future decisions.

As mentioned, there is little awareness of the carbon impact of healthcare among the general public. But the people we spoke to said they were open to learning more, and that this knowledge may affect future decision making.

Interviewer: what about a hospital or a trust, generally publishing their carbon impact? Do you think there's any value in that?

Patient 3: There will be some value, **that would be helpful** because then people could say, Oh, actually, **this is the impact that hospitals are having on on carbon emissions. This is the impact we're having on on the world. And I think it would make people think twice.**

*Interviewer: Do you think that it would **ever be appropriate** to have those kinds of conversations?*

Clinician 4: I think it would **become fashionable to have them** I suspect.

"If it was explained to me in detail ie: the choices, then I would definitely consider carbon impact on any future decisions I make.

- Patient survey

4.6

Getting information to patients in the right way is important: they're open to education around carbon impact in healthcare settings, outside of the consulting room.

Patients were interested in learning more about carbon impact, particularly outside of treatment discussions with clinicians. They suggested that awareness campaigns in health care settings (waiting rooms etc) and information around treatments (provided it was sensitively presented) would be well received.

“Hospitals have plenty of places to **put posters up**. So people can read it and **people do read in hospitals**”

- Patient 1

“Get it into **pamphlets** that **you see all over the hospitals** and in the **GP surgeries**, have it in the GP surgeries, **pharmacies**”

- Patient 3

“To increase awareness we need to **talk about it more**, bring it up more often and **then the more engagement you will get**. Everyone has options, and **everyone can make these decisions**”

- Clinician 2

Conclusions

Our research suggests that it's sometimes feasible, and in some cases desirable, to introduce carbon impact discussions into treatment conversations. However, a number of factors need to be considered, on a patient-by-patient basis, for carbon impact discussions to form part of the treatment process.

The need for a positive health outcome, the severity and urgency of treatment, clinician recommendation, availability of information, awareness of the problem, and the patient's own environmental views will all influence whether a carbon impact discussion will be well received, and the choice the patient makes around carbon impact.

We're able to make a best guess about the kind of profile this patient has (see p4), but this isn't a set of heard and fast rules, and clinician discretion is essential.

Further, it's not just about whether the discussion is had, but how it's had. Getting these conversations wrong, or having them at the wrong time, could add more stress to an already stressful situation for patients.

Having said that, nearly half of all respondents (122 of 253) said that yes, carbon impact may have a bearing on future treatment decisions. During our interviews with patients and clinicians, there was a sense that these numbers would trend upwards, so the opportunity to have these discussions will probably increase.

Therefore, clinicians may be confident that in some circumstances it could be 'right' to introduce carbon-impact into a patient's treatment decision. But those circumstances need to be carefully considered from both the patient's side and the clinician's.

Clinicians need more information, and they need to trust that the information they have is accurate. They also need to feel that patients are aware that these kinds of questions may be asked. It's important that clinicians are confident that they're asking at the right time in the process, and during a process within which it is appropriate to ask.

Carbon impact isn't the first thing a patient or clinician would or should consider during the treatment decision making process, but increasingly it will be a factor that both sides will come to think about.

Thanks for reading!

