

Announcer:

Coming up on Sustainable Healthcare, we explore the connections between our health and changing climate, and what hospitals can do to be part of the solution.

Tim Doak:

Welcome, podcast listeners, to the inaugural edition of Sustainable Healthcare. I'm your host, Tim Doak. Sustainable Healthcare is part of our new, Healthy, Happy, and Wise podcast series, designed to heal, inspire, and inform you. Thanks for being here.

We start off this episode asking the questions, how does climate change affect our patients, our staff, and our organizations? How do hospitals contribute to emissions? And why should healthcare systems create a sustainable model for delivering care?

To help us navigate these topics, we welcome our guest, Dr. Jonathan Slutzman, Director of the Center for the Environment and Health, and the medical director for environmental sustainability at Massachusetts General Hospital in Boston, as well as Assistant Professor of Emergency Medicine at Harvard University.

Dr. Slutzman, we are so pleased you're joining us today. Welcome.

Jonathan Slutzman, MD:

Thank you, Tim. It's my pleasure. I appreciate the invitation. I think what you're setting out to do is important, is useful, it's fantastic. And I hope all the listeners are able to take what we talk about and run with it.

Tim Doak:

That's fantastic. We're certainly excited about it, too.

So with the significant change in the frequency and severity of weather events over the past few years, I think you'd agree with me that even the most skeptical among us now are willing to concede that climate is indeed on the change, and it's changing as a result of decades of increases in greenhouse gas emissions.

So let's start off with an assessment of healthcare sector's contribution to climate change. What might that look like on a national, and even a global level?

Jonathan Slutzman, MD:

Healthcare is a huge contributor to climate change, and it's particularly important because it's contrary to our mission. Our primary mission is protecting human health. That's why we're here. That's why I go to work every night, to take care of patients. That's why our hospitals are here.

About eight-and-a-half percent of all of the greenhouse gases emitted in the United States are from healthcare services. That puts us as the 13th largest country, if the healthcare industry were its own country. Globally, healthcare is closer to about 5% of the total, and would be the fifth-largest country as an emitter of greenhouse gases. So we are solidly part of the problem. And as I said, it's really contrary to our mission.

In the United States, we strive to show our American exceptionalism, and the US healthcare system is by far the largest emitter of greenhouse gases among healthcare on the planet. So we really should take responsibility for it. And it's not just about climate emissions. Our pollutant loads for all sorts of categories are dangerous to our communities, and we should strive to reduce those as much as we can.

Tim Doak:

It's really staggering when you think of it in those terms. And I saw recently this restated a little different way. If you look at all global health care-related emissions, the US represents 25%. A full quarter of those emissions, globally.

Jonathan Slutzman, MD:

That's right.

Tim Doak:

So it's a big number. We're definitely part of the problem, and we need to pivot that and become part of the solution here. So tell me why that is. Why are we part of the problem? Why are we producing so many pollutants?

Jonathan Slutzman, MD:

Honestly, it's not that different than many other industries. There are certain factors that make healthcare particularly significant in our emissions, but the kinds of emissions we have are not terribly different than many other arenas.

We can start with energy. Hospitals are the second-most energy-intensive commercial building in the United States. Second only to food service, where they are cooking food all the time. We are open 24/7, 365. We have pretty significant energy loads for the equipment that we use; think of MRI scanners and CT scanners. Or the heating, ventilation, and air conditioning standards that we need to meet, particularly for infection control and operating room environments.

So our energy load is huge. And energy has to come from someplace. In much of the country, it's from fossil fuels. So that leads to emissions.

That's a big chunk. We, next, have something that is unique to healthcare, and that's anesthetic gases.

If you look just at the direct emissions, over which we have the most control at our institution, here at Mass General anesthetics are about 10% of our greenhouse gases. And that's something that an average industry player in the world just doesn't have. So that's another important consideration.

And then the biggest, by far, is all of the stuff. It's purchased goods and services in the nomenclature of the industry, but really it's stuff. It's all of the medical devices, pharmaceuticals, materials that we use to take care of our patients, and the emissions that are associated with the manufacturer and transport of those items to get to us. And then the emissions associated with the disposal of those items as they're used and disposed.

So, huge challenges in a number of categories.

Tim Doak:

It's significant. And I think if you layer on top of that single-use products, of which tremendous quantities are used in healthcare, right? We'll use something and then dispose of it. It just exacerbates that entire situation.

I do want to pick up on something that you just mentioned though, anesthetic gases, and let's dig into that a little more. Because it is something that's really unique to healthcare, and something that folks may not have considered. Can you talk a little bit more about what those impacts might be?

Jonathan Slutzman, MD:

Yeah. So anesthesia is obviously an important part of our clinical care. Patients need surgical procedures or other procedures that should be done safely with anesthesia. And we continue to do that. We will continue to do that.

There are four gases that are primarily used in the United States; desflurane, isoflurane, sevoflurane, and nitrous oxide. You'll notice that three of them sound really similar, and one of them is very different. And that's chemically true, they work differently.

So the three halogenated volatiles are the desflurane, sevoflurane, isoflurane. They have different greenhouse gas potentials, global warming potentials. Which means that they impact climate differently. Desflurane is the most intensive, roughly 2,400 times more intensive than carbon dioxide, which is the reference gas. Sevoflurane is the lowest, at closer to 200. So we're talking about an order of magnitude difference between those gases.

So the first thing we can talk about is, well, can we reduce our emissions just by shifting from one gas to another?

And the truth is that, as I talk to my anesthesia colleagues, and if you ask an anesthesiologist who the last person they will ever listen to, it's an emergency physician. So to that end, I can't really say that I am the expert here. But I talk to my anesthesiologist colleagues, and I trust them, and they tell me that clinically there's really no absolute need for desflurane. That anesthesia can be provided without using it at all.

So many hospitals around the country have removed it from their formula. You can't even get it in their hospitals. This has an added benefit because, of all of those gases, desflurane is the most expensive. So you can save some money and reduce your emissions by switching away from it. Again, without impairing clinical care to our patients.

Nitrous oxide is a bit of a different animal. It works differently. It's laughing gas. It needs to be paired with other agents as well, almost always, and the concentrations that are needed to achieve adequate anesthesia are actually much higher. So we talk about nitrous oxide, which has a global warming potential of just under 300. So, still quite a bit less than desflurane, a bit more than sevoflurane, but the amounts that you would use in a procedure are much higher.

The other challenge is how we store it and distribute it throughout our hospitals. Nitrous oxide is different than most of the gases that we use in medicine, in that at the pressures that we store it, it actually turns into a liquid. So we keep it in a liquid state, which means keeping it relatively cold, and it will continuously convert from the liquid phase to a gaseous phase.

Well, that builds up pressure in your tank, and you don't want your tank to explode. So there are pressure relief valves either in your tank, or in your manifold, or in your distribution system. So we looked at our nitrous use, and our electronic health record tracks automatically from our surgeries, the gases that are used. And we could account for between five and 10% of the nitrous oxide that we were buying going to patients.

And we thought, well, wait a minute. We're buying all this nitrous oxide, we're paying for it, we're storing it, we're distributing it, and five to 10% of it is getting to our patients. Where's the rest?

Tim Doak:

Right.

Jonathan Slutzman, MD:

And this is in line with what some of our colleagues around the country have found, that really most of the nitrous oxide that is delivered to hospitals never makes it to patients. It leaks, or it's released purposefully because of pressure relief valves.

So what we're doing right now is about to start a trial of shifting to nitrous oxide cylinders, with the goal of not changing our clinical care at all initially. Have our anesthesiologists continue to provide the care that they have been, and just do it from cylinders. We expect to see a drop of probably close to 90% of our nitrous oxide purchases and emissions.

The last bit is educational. So we've done a lot of work with our anesthesia team to explain to them climate impacts. And we're here in New England, we have a lot of people who care about the natural environment, who recognize the climate crisis. And in their own lives, at home, are doing great things. Are choosing more efficient automobiles or electric cars, are insulating their homes or shifting to heat pumps. Which Maine is doing a great job of doing.

Tim Doak:

Leading the nation.

Jonathan Slutzman, MD:

Yeah. And then they go to work, and they give their patients desflurane and nitrous oxide, and realize that the anesthesia care that they're delivering in one day is more than the climate emissions from driving their car for a year. So they're taking that information and saying, "Hey, I can change my practice."

And we're reinforcing that by providing feedback to our anesthesiologists on about a monthly basis, saying, "Here are your cases. Here are your emissions per anesthetic hour. Here are what your colleagues are doing. Do with that information as you will."

And physicians, for better or worse, are competitive people. And a great motivator is saying, "Hey, you're in the bottom half of your group. What do you want to do about it?" And that changes practice. So we've actually reduced our anesthetic emissions by about 50% in the last 18 months without doing anything other than teaching our anesthesiologists.

Tim Doak:

That's fantastic.

Jonathan Slutzman, MD:

Same clinical care, great care. Our patients feel fine. But our emissions have gone down.

Tim Doak:

I think for our listeners out there that may be wondering, okay, you talked about nitrous oxide and so much of that is just released into the atmosphere.

These other gases, not necessarily so. I think it's important to note that, as that gas is administered to the patient, about 5% of it is actually metabolized by the patient. The rest is exhaled into the room, ultimately makes its way outdoors, and then ultimately into that the atmosphere. And that's kind of the connection there.

I'll tell you, at Northern Light Health, we've dug into this very issue this year. And I'm pleased to report that we've made, as of late, some great, great strides in the reduction of desflurane. We have a goal of 50% reduction in the use of the gas in our current fiscal year. We're well on our way to exceed that.

And I am hopeful that we will soon see the day when we can say we've eliminated that gas from our formula here at Northern Light. I think we're within a handful of months away from that.

Jonathan Slutzman, MD:

I think that's a great goal.

Tim Doak:

Yeah, it's been excellent. So why should patients care about this? Hospitals are producing all these emissions. What's in it for me? How is healthcare emissions impacting patients?

Jonathan Slutzman, MD:

Yeah, I know it's impacting patients. As we've mentioned, I'm an emergency physician. I work clinically, I just worked last night as well. And I am seeing patients, and my colleagues are seeing patients, who are suffering the effects of the climate crisis.

It could be as obvious as a patient I saw last summer, who had been outside working on his pool for a full day. It was quite warm that day, I think easily in the nineties, here in Boston. And he came in late at night because his spouse had identified that he just wasn't acting right. Something was off.

And he came to us, and we determined that actually he had been suffering from heatstroke. A relatively healthy, middle-aged guy who was doing work on his home developed heatstroke. This is only going to get more common. We are, here at MGH, building a new 1 million square foot clinical building on our campus. It's incidentally going to be the most sustainable building ever built here at MGH. We feel pretty good about that.

Tim Doak:

That's great.

Jonathan Slutzman, MD:

But as part of the planning process for that we looked into, what hazards do we need to mitigate or make the building more resilient against? And what we can say is that, in recent decades, in a typical summer, Boston would have about 10 days over 90 degrees. That's kind of normal for us. Maybe one or two heat waves over 90 degrees totaling about 10 days in the summer.

Now keep in mind, the summer is 91 days. That's, by definition, summer.

Tim Doak:

So the calendar tells us.

Jonathan Slutzman, MD:

By the middle of this new building's life, we expect to see 90 days over 90 degrees in the summer.

Now, that doesn't mean that they're all going to be 91 degrees, right? Obviously there's going to be a spectrum. Some of those are going to be 95, some of those might even be a hundred. And Boston is not built for that, and our people aren't ready for that.

I first moved to Boston 23 years ago, and my home did not have air conditioning. I left for medical school. I came back immediately after medical school for residency up here, and moved into a lovely house not far from where we're sitting right now, and we didn't have air conditioning. Because we didn't need it. And now we do. It just gets that much warmer.

And this is not just a Boston problem. This happened, if you remember, there was a massive heat wave in the Pacific Northwest not too many years ago, and dozens and dozens of people died because the infrastructure there just wasn't prepared for it. People in the Pacific Northwest, Seattle, Portland, they just don't have air conditioning because they haven't needed it. Our patients are vulnerable to it, and that's just simple heat exposure.

Let's also talk about kidney disease, which we know is worse in the setting of higher heat. We know that increasing climate demands leads to increases in strokes, in heart attacks. We also know that increasing temperatures lead to increases in interpersonal violence. So we actually see more trauma cases when it's warmer. Unfortunately, our trauma colleagues call it fighting weather, and that's a factor.

We can talk about climate migration. I have colleagues here in Massachusetts who, in recent years, have been treating patients in the emergency department who show up at whatever hour of any day saying, "I

just moved up here from Puerto Rico because of Hurricane Maria. And by the way, I'm in the middle of treatment for breast cancer. I need to continue my treatment."

And oh my goodness, how much do I feel for that patient, and how little do I have to offer in the emergency department to do that? That's happening more and more.

I could go on about the impacts. But our patients really are suffering respiratory illnesses, asthma exacerbations, increasing allergy seasons that are both more intense and longer in the year. Vector-borne illnesses, the distribution of Lyme disease is spreading. It used to be that Lyme disease, which is really a New England problem, that's why it's called Lyme after the town in Connecticut, and now it's all up and down the eastern seaboard.

And if you look at CDC data on reports of Lyme disease, over the last couple of decades, there are more and more and more dots on that map in Minnesota. Minnesota. That is not a place that deer ticks are supposed to be able to thrive. They're supposed to die when it gets cold in the winter, and it's just not happening as much.

Tim Doak:

We're seeing that, even ... Everything you just described, we're experiencing in the state of Maine. We are quickly becoming a climate refuge from folks trying to escape the changing climate and severe conditions, really, across the globe, but especially from the Western or southern parts of the United States.

Deer ticks are prevalent now in the entirety of the state of Maine, way up into Arista County, the coldest and most snow-prone county that we have. And with respect to your heat comment, I want to share something that I thought was very profound that has happened recently. The scientific and technical Committee of the Maine Climate Council has recently updated the council with some new science about what things look like into the future.

And with respect to heat in particular, Ivan Fernandez, Dr. Hernandez, who is the chair of that committee, said that we are on this perpetual escalation now. And we're hoping to slow it down, but we will not stop it. And our grandchildren and great-grandchildren will look back across the decades and call these the cool years. That's pretty profound to think about.

Jonathan Slutzman, MD:

Yeah. The sad joke is, there's always a meme to talk about. So periodically I'll see a meme that's something like somebody, a picture of somebody complaining, "Wow, this is the hottest day of my life." And the answer is, "No. This is the coldest day of the rest of your life."

Tim Doak:

Absolutely.

Jonathan Slutzman, MD:

And sadly, I think we're going to keep experiencing that. I didn't use my snowblower this year. I didn't use my snowblower last year. I have five snow shovels currently sitting on my porch that were used once. And I live in greater Boston, that's not normal.

Tim Doak:

Absolutely, that's not normal. So let's set that aside and look forward for a minute. We know now, you've painted a great picture, I think, of where we are in current state. Let's talk about what sustainable healthcare means, and what role you think that the healthcare industry can or should play in the larger social movement regarding climate health.

Jonathan Slutzman, MD:

Yeah, I think, number one, the answer is leadership. That we have a trusted voice as clinicians. You can call it the power of the white coat, you can call it whatever you want. But the reality is that every year, Gallup does a poll of the most trusted professions in the United States. Every year number one is nurses, except for one year, that was 2001, firefighters jumped ahead. But otherwise, every year, number one is nurses.

Physicians are usually in the three range. Engineers, I like to say, are pretty high, because I'm still an engineer at heart. Pharmacists are high on the list. We are trusted folks. People come to us with their health concerns, they talk to us about their most private issues. Because they trust that we will provide them with unbiased, scientifically rigorous, good care.

And I think that we have a responsibility to use that power carefully, to use it based on evidence, and show that, actually, we think this is important. We are talking about your health as a community, and we should leverage that.

So number one is leadership. And one of the areas that we focus on here at the Center for the Environment and Health at Mass General, you mentioned I'm the director here, is advocacy, public health advocacy. What can we do at the local level, at the Commonwealth level here in Massachusetts on Beacon Hill, at the federal level, with non-governmental private entities to strive for better responses to the climate crisis? Both mitigation and adaptation.

Number two is, we need to lead by example. That healthcare is a complex industry, as many industries in our economy are. And we can show that, you know what? If we can decarbonize, then so can all sorts of other industries that have, not to be too glib, less-demanding needs.

If we can't do what we need to do, people's lives suffer. I need to have the equipment to take care of a patient at three o'clock in the morning when they roll in extremis. We need to be able to do emergency surgery on people. We need to be there every day for our patients, inpatient and outpatient.

There are lots of other industries that fill important roles in our economy, for our people, but I think there's a bit more flexibility. And if we can decarbonize our operations, and our supply chain, and our building energy, then so can the auto manufacturer, and so can the soft drink company, and so on. So can banks, so can everybody else.

So I think leading by example is important. I think that there is no power in standing up and saying, "You should decarbonize, but don't pay attention to what we're doing." We really can lead by example.

The next is educational. We can teach our staff, our faculties, our nurses, our clinicians, our patients, our communities, that this is an important issue. It is the single largest health threat facing the world in this century. We need to overcome this. People say, "Save the planet." The planet doesn't care. The planet will be fine. In fact, the best thing for the planet is probably if we all disappeared, it doesn't matter.

What really matters is the people. We are here to take care of the people, and we want people to thrive. And that's going to take people doing things.

So we can educate all of the folks about what needs to be done. You mentioned that Maine is leading the way on heat pump transitions for residential use. I admire it. One of my classmates from college moved up to Brunswick a few years ago, and one of the first things they did was put heat pumps in their house.

Tim Doak:

That's great.

Jonathan Slutzman, MD:

And they love it, and I encourage everyone else in Maine to take advantage of the resources available. We can encourage folks to do that. We can show it is a safe way to take care of yourselves. It's better for the environment, it's more efficient, and we can share that information.

So I think those are really big ways. And then the last that I'll just touch on is, of course, we're an academic medical center, so research is a big part of our mission. And that's, how can we learn more about the inextricable links between the environment and human health, as well as how can we deliver climate-smart, environmentally responsible healthcare?

And I think that's where the academic medical centers of the world really should be aiming some of their research endeavors, to show the rest of the industry what they can be doing.

Tim Doak:

Those are all great examples, and certainly important things. You mentioned along the way that you're an engineer. And likewise, I'm a fellow civil engineer. So I want to just talk about that connection maybe just a little bit. You're an emergency room physician. You've got a degree in civil engineering. I believe you also have a degree in environmental.

Jonathan Slutzman, MD:

Yeah, it's combined civil and environmental engineering.

Tim Doak:

Okay, great. How does that unique background and set of skills to shape your perspective on climate sustainability?

Jonathan Slutzman, MD:

Yeah, I used to think it was an unadulterated positive. But really, I think it's a little bit of a double-edged sword. Like I said, I still have the brain of an engineer.

So in my mind, if you identify a problem ... People ask, what does an environmental engineer do? Well, I identify and study environmental problems, and design solutions for them. And if you're an engineer, you identify a problem, you figure out a solution for it. There is no gap between identifying the solution and implementing the solution. I've come up with the solution. We know it will work, we should do it. And that's not how change happens.

And I was being a little glib, but honestly, that change management part is important. So being able to speak engineer and physician is, I think, a really good power here. That, nothing happens in the hospital without clinicians really getting behind it. And clinicians need to understand what's happening.

Because really, when you're a clinician, number one is, how does this impact my patient? Am I going to be able to provide great care to my patient today, and tomorrow, and always, no matter what? That is job number one.

And you're telling me that I should stop using desflurane because it's bad for the environment? Well, I don't care about the environment. I care about the patient in front of me. And so I need to be able to speak physician.

At the same time, I need to be able to understand what our facilities engineers are telling us about what needs to be done, and how we need to do it, and the parameters and limitations.

I mentioned the new building, the Reagan building that's being constructed, it's going to be the most sustainable ever on this campus. 85% of the energy needed for that building will be coming from renewable sources the day it opens.

Tim Doak:

That's fantastic.

Jonathan Slutzman, MD:

That last 15% is really, really hard-

Tim Doak:

It is.

Jonathan Slutzman, MD:

For an acute care hospital. And I absolutely wanted to get rid of that extra 15%. In order to do it, we would've had to dig up almost the entirety of the rest of our campus. Obviously, that's not feasible.

So this is where the engineering comes in. Okay, what can we design? What are some of the alternatives? What are some of the ways we can think down the road to some technological developments, to make things feasible in terms of environmental benefit, financial needs, and clinical quality?

So I think that kind of superpower, if you want to call it, is really useful in getting things done.

Tim Doak:

I think that's an amazing perspective. And it's certainly part of the secret sauce, and why you're so good at what you do. So we appreciate that.

We're very young in our climate health journey at Northern Light Health. Really, a couple-ish years we've been working on this. Making some good initial strides, a lot more to go looking down the road.

What are some of the changes that Mass General has undertaken to be more sustainable? What are some things that we could take as some good lessons learned, and endeavor to work towards as well?

Jonathan Slutzman, MD:

Yeah. I would love for Northern Lights to leapfrog us, to lap us in the sustainability journey. I love seeing other places do great things. And I would say that some of the things that we've done have been really significant in our journey. The biggest one, by far, is energy sourcing. A hundred percent of the electricity on this campus is from renewable sources, predominantly a wind farm here in New England up in New Hampshire.

We are always looking for more opportunities to support, invest in, and purchase renewable electricity to serve all of Mass General Brigham. It's a hundred percent for MGH, we're at 80% right now for the full system. That dropped our emissions immensely.

Tim Doak:

Sure did.

Jonathan Slutzman, MD:

And I'll be honest, we did that many years ago. It wasn't primarily for environmental reasons. It saved us a lot of money to lock in good electric rates for a good amount of time. So it's not just about environmental benefit. It also helped our financial bottom line.

The next, I think, has to do with our anesthetics. And I mentioned some of that already, and you're already on that journey. Because to some degree, it's a low-hanging fruit. It's a defined problem. It's a clear boundary of who really is involved, and it's actually not that hard to get your head around. You have a

gas, it's a greenhouse gas. It makes the problem worse. What can we do to reduce the flow? What can we do to switch gases? What can we do to use more intravenous anesthetics, which we know are environmentally superior to inhaled anesthetics? And you can work with anesthesia to do that. So that's another great way to do it.

Another arena where we're really focusing right now, and we've been doing it for years, we're expanding it, we just signed a new contract for our third party to expand our opportunities, has to do with that supply chain. I mentioned purchase goods and services. That's 45% of our greenhouse gases at Mass General Brigham are purchase goods and services. Huge chunk.

What can we do to reduce those numbers of items that we are bringing in and disposing every year? You mentioned, Tim, single-use disposables. It's really hard. The easiest and first thing that we've been looking towards is single-use device reprocessing. Which is perfectly legal, it's FDA-regulated, it is safe.

Something that I tell our operators when they ask questions about it is, if you're buying a brand-new product, some fraction of those items are inspected for quality control reasons before they leave the factory. Third-party, reprocessed goods, 100% of those items are inspected for quality before they leave the reprocessing plant. And that's a mandatory requirement. They're all done that way.

They're high quality, they are safe, and they reduce the environmental impact of devices anywhere from about 40 to some cases, 70 to 75%, by being able to reprocess those items any number of times. It depends on device, sometimes one time, sometimes seven times, sometimes more. But it's a good way to reduce costs, reduce your environmental impact, without impairing patient care or quality at all.

Tim Doak:

Sure.

Jonathan Slutzman, MD:

Another is to really work with your clinical staff, with your infection prevention and control team, your resilience team on switching as many devices as possible from single-use disposable back to durables. 50 years ago, it would've been crazy for people to go into an operating room and find plastic bowls instead of stainless steel. They were all stainless steel. They lasted forever, and they worked fine. It's a bowl. You can't really make it not work.

And they were clean, they were re-sterilized. They were put back into circulation for your operating room, and we just don't do that anymore. So how many of those can be transitioned back to durable devices? Which, nearly every study that has been done shows that durable devices have a better environmental footprint.

So I would say those are, if I were advising someplace, what can you do soon? Those would be the kinds of things. The biggest impact, we think, is really in perioperative services. The operating room is responsible for probably around 30 to 40% of any hospital's waste stream. And the waste itself is visible, but I want people to think not just about that waste leaving your hospital, but about all of the environmental impact of making those items upstream. Which is much bigger than the environmental impact of disposing of the waste.

So operating rooms have great opportunities. I mentioned HVAC, heating, ventilation and air conditioning, being a huge energy load and emission source in hospitals. A lot of that is for ORs. Because of the important infection control needs of maintaining the proper airflow, and the proper pressure, and the proper temperature and humidity, what can we do for setting those back when ORs aren't in use, called OR setbacks?

We do that here. It's safe. Obviously, being a tertiary and level-one trauma center, we always have an OR ready for emergency cases not set back. But we have 70 ORs, and I can tell you that in the middle of the night, they're not all being used. And that's okay. So we can set them down to save the energy.

And then obviously, when they need to be used, we can get it back up and running pretty quickly. So, some ideas for some of our colleagues who are earlier on their sustainability journey to work on with great teams. It's all about an interdisciplinary team and leadership buy-in to make these happen.

Tim Doak:

Absolutely. All great things, and things that we'll certainly look towards. Some of these where we are working on already, others, we're contemplating. And you're right, it's building the right team, educating folks, and getting leadership buy-in to move the needle and move them ahead.

So the changing climate clearly is impacting the health of our patients, healthcare has been a significant contributor to that change, but we do have the ability to pivot and provide care in a manner that's sustainable and that has much less impact on the environment. That is our new imperative in health care.

Dr. Slutzman, thank you so much for sharing with our audience such valuable insight on the important work of healthcare sustainability. Thank you to our podcast listeners as well. Until next time, I'm Tim Doak, and I'm asking you to think sustainably.

Announcer:

Thank you for listening to this episode of Sustainable Healthcare. Please join us next time for a new episode. There are several ways you can tune in; on our website at [northernlighthouse.org/healthyhappywise](http://northernlighthouse.org/healthyhappywise). We are also on Apple, YouTube and Spotify, which makes it easy for you to listen on the go on your favorite app.