Toxic Classrooms: Improving Indoor Air Quality in Schools

Interview With Lisa Greenfield

SPEAKERS
Kendra Seymour, Lisa Greenfield

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Lisa Greenfield
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I returned from winter break, my symptoms had kind of resided because I was away for a couple weeks, came back, they started to increase again. Another staff member came on board to do registration, and she started developing the same cough, and I was like, hm, something's not right here, and it's not just me, and that's how I went down the road of knowing that it had to be environmental.

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Kendra Seymour
00:30
Hello everyone, and welcome back to Your Indoor Air Podcast. Brought to you by Change the Air Foundation. My name is Kendra Seymour, and today is a topic that merges my past life as a teacher, with my current one as an indoor air quality advocate. So when we talk about schools, we often talk about learning, and we focus on test scores and curriculum or technology in the classroom. But what if one of the most overlooked factors influencing a child's ability to learn or a teacher's ability to teach is the air they breathe? Right now, millions of students and educators are spending their days in buildings that are literally making them sick, mold and water damage, outdated HVAC systems, poor ventilation aren't just structural issues, they're health issues. They contribute to asthma attacks and chronic absenteeism, fatigue and headaches, long term cognitive impacts, and yet these invisible threats often go unnoticed and unaddressed, especially in under resourced communities. So to really put this into perspective, there are a couple of factoids I want to share with you right off the bat. I don't usually do this in an introduction, but I think it kind of sets the stage for this topic. And it's a book by two Harvard professors called Healthy Buildings, How Indoor Spaces Drive Performance and Productivity. Now in that book, they say that the

average student in the US will have spent 15,600 hours in school by the time they graduate, and that's not an inconsequential amount. And in that book, they reference another Harvard professor who frames it like this, there are only two buildings that we force people to spend time in. The first two schools the other, prison. So as you might have guessed, today's topic is all about indoor air quality in schools, and so to help us unpack it, I'd like to welcome Lisa Greenfield, thank you Lisa, so much for being here.

LG
Lisa Greenfield
02:13
Oh, thank you so much. Kendra, it's my pleasure. I'm excited to be here today. I'm a big fan of Change the Air Foundation and a huge supporter of what you guys are doing.

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Kendra Seymour
02:22
Before we jump in, I want to tell you a bit about Lisa. Now she is a National Indoor Air Quality Specialist at Erlab USA, with nearly two decades of experience in US pre-K through 12 public schools and Head Start, Early Head Start, programs. A Drake University alumni. She consults and educates on poor indoor air quality, emphasizing preventative measures and the AAA approach to protect occupants from infectious aerosols, particulates and pathogens in shared spaces. Lisa is a vocal advocate for clean air in schools and high risk environments. Serving as the US ambassador for the World Filtration Institute, on the board of advisors for Whale of Tale Productions, as fellowship coordinator for the SAFE Indoors Campaign and the ASAP Council, and as an expert advisor for the Global Open Air Quality Standards. She is dedicated to promoting optimal indoor environments for health, safety and comfort for all the occupants and shared spaces. Lisa, one of the things that I love about what you do and why you do it is you come from the teaching background where you were seeing some of these things firsthand in buildings, and so I know you've had an experience with mold and poor indoor air quality that kind of change not only your health but your career. So can you tell us a little bit about what happened to you that led you down this path become such a passionate advocate.

LG
Lisa Greenfield
03:45
Yes, I would love to thank you for asking. Well, it started a long time ago with allergies and understanding how what's in the air can affect our health. And then when I started teaching being in classrooms that are usually smaller with high occupancy. You notice that when somebody gets sick, everybody gets sick. So a lot of years of sharing illness and just understanding that, you know that's a space where it's going to be more of a problem. When I was teaching outside of the K 12 system, I was exposed to mold in I didn't I didn't realize it until other people started having symptoms. But ultimately ended up having to use an inhaler. I developed allergic asthma from from the mold exposure. And you know, it went down the route

of, you know, having to be off work, being sick, workman's compensation, having to go be evaluated, and so on. And of course, they found, yes, your sick due to your work environment, and unfortunately, that is not an unusual story. I've spoken with a lot of educators that are teaching in spaces that are unhealthy. And you know, it's your job. You have to go to work and do your job, but when it affects your health, it's something that we need to really address. And that's kind of how I got here. It made me definitely more passionate about indoor air quality, understanding the health effects that it can have, and also just to touch on, you know, infectious aerosols and disease that, you know, covid happened. We really didn't have a whole lot of protection there, infectious aerosols. Covid, long covid, you know, I can get into that later, but it all affects not just the people, but their families, right? And in our economy, because it affects their ability to be able to go to school and to be able to go to work. And so it's not just a their problem, it's an our problem.

KS

Kendra Seymour

06:11

No, absolutely, I couldn't agree more. And I think one of the challenges, and we're going to unpack some of this as we go, is, you know, when you have mold and water damage or poor indoor air quality issues in your home, you tend to have a bit more control, not always, right? Renters, you know, HOA situations, there are, you know, military barracks, things like that, where you have less control. When it comes to work, though, not just schools, it is exponentially more challenging, because you have very little say in to what is done and how it's done, and that's some of the things we're going to unpack here at the foundation over the upcoming weeks. As you listen to this, some of the resources we're going to drop, you know, navigating mold and water damage and poor indoor air quality in the workspace, because it's it brings unique challenges. So, you know, before we jump more into the school side. I'm curious, like when you first mentioned some of your symptoms, maybe to your health care providers and, and you mentioned like mold and environmental stuff, how did they respond?

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Lisa Greenfield

07:12

Um, that's a great question. So when I first started having symptoms was about a month after returning to school, and when we returned, there had been a heavy storm. Water visible hanging from the ceiling, kind of thing happening. So that was my first clue. But I didn't see any visuals. So I just thought it was back to school illness, kids were sharing, oh, it's another sinus infection. I'm gonna go to the doctor. Well, after a few months of this and it not resolving and actually getting worse. That's when my physician took a chest X ray and was like, maybe we should be looking further into this. There's more happening here. But it wasn't until I returned from winter break, my symptoms had kind of resided because I was away for a couple of weeks, came back. They started to increase again. Another staff member came on board to do registration, and she started developing the same cough, and I was like, hm, something's not right here,

and it's not just me. And that's how I went down the road of knowing that it had to be environmental, and then ended up going to see a pulmonologist because of the cough was chronic, so.

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Kendra Seymour

08:28

Yeah, and we see that sometimes, with teachers and students, they'll go home for a summer break, or like a longer break, and they'll get it, their symptoms will, you know, get better. Sometimes they disappear altogether, not always, because when you're chronically impacted, it's not as simple, sometimes, it's just remove yourself from the environment. It certainly is the most important first step, and it helps. So I'm curious, and I'm not sure how much you're allowed to talk about, but how did the school respond when you brought up some of these concerns?

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Lisa Greenfield

08:59

Well, that's interesting. I think the first response is to say, it's just you. Nobody else is having any problems. But then when others came forward and said, we're having problems too, then it was addressed with cleaning strategy, treating areas, running dehumidifiers, and cleaning duct work. But ultimately, those are all great things, but if you don't address the source, you're not fixing the problem, and the source was a below grade classroom and inadequate drainage and the humidity and moisture build up there. Yeah, so that's, that's how that happened, and when my symptoms didn't resolve after the mitigation practices. That's when we went further into the process of, you know, workman's comp. And of course, I didn't want to go that route, but they needed proof that this was actually occurring because of my workplace, and that's exactly what happened. So

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Kendra Seymour

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I am so sorry because I and this isn't an attack on schools. I don't want anyone thinking that we understand how underfunded they are. They're working with minimal resources. They're caught behind, or, you know, between a rock and a hard place. And we're going to look into that. And this isn't just an individual school. I'm going to share some stats with everyone that shows how widespread this is in our country. But what I think happens far too often, and this is one of the things we're working at the foundation to change, is, you know, I don't think most people realize that the mold inspection and remediation industries are still both relatively young, but only seven states require any kind of formal certification or licensure, and as a result, it's a lot of free for all, not not all the intervention practices are safe, nor are they effective. You know, we see a lot of painting over, of bleach or or painting over, excuse me, of building materials or just scrubbing it off. And to your point, we're not addressing the root cause, and we're also not dealing with any contaminants from mold and mycotoxins bacteria safely, and so it's really a compounding problem with

how we're addressing this. So I want to share a couple just to kind of set the stage for listeners how widespread you know the state of our schools are in terms of the building and the health of the overall building. And so the American Society of Civil Engineers gives a US public schools, a D plus in their infrastructure report card. And you can go online and find this. We'll even link to it. And they found that many of the buildings, public school buildings, in the US, need comprehensive upgrades and replacements. So I'm going to highlight a few of the stats from their website. So one of them talks about the average age, and I thought this was really shocking. Of the main instructional building of most public schools in the US is 49 years old. So that breaks down to roughly 39% being built before 1970 and then another 41% being split evenly between the years of 1970 and 2000, and 2000 and 2023, so these buildings are getting older. Systems are breaking down. Materials aren't always getting replaced. And what is most shocking, I think, here, is they go on to say that despite the fact that most of these buildings are hitting the 50th year mark, fewer than half have undergone significant renovations since their initial construction, and fewer than 1/3 have undergone improvements since 2010 and there's another point here, and this impacts where my children go to schools. We talk about, you know, the main building, what was initially set, but there are many schools across the country who, due to capacity reasons, have had to put out trailers and other things in order to accommodate the number of students. And you know that if we take that into consideration, the number of buildings being rated as fair or poor condition when temporary buildings are involved, that's as many as 45% of schools, which is crazy. Overall, it says that 24% of those permanent school buildings are rated as in fair or poor condition, so with widespread issues with windows and plumbing and HVAC systems. So this, is not the occasional story that you hear in the news, or what happened to Lisa. So Lisa, based on the work that you've been doing, what kinds of issues are schools commonly facing when it comes to the buildings themselves, and how are these conditions affecting the health of students, teacher and staff?

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Lisa Greenfield

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That's a great question. You know, when you think about deferred maintenance, which is what the issue is, that's when we start to have problems. And you talk about temporary or portable buildings, those are some of the biggest culprits of sick buildings. So when you think about where our students and educators are all day long, you have to consider the effects of poor indoor air quality, right, like you talked about earlier cognition, retention, right, of the information. Productivity for both the staff and students. I always talk to people about, remember when you were in grade school and it was two o'clock in the afternoon, and everybody wanted to take a nap because you'd been inside all afternoon since recess and lunch, right? And you were just like, how much do you want about the CO2 levels were super high in there. So that's just one of the things, but of course, when you consider like the long term health effects that can come from exposure, not just to mold, but to particulates infectious aerosols, those all affect our health, our ability to be able to attend and to attend well. There's a difference between being absent and presenteeism. Which, you know, you can be there, but you're pretty much not being productive. And we're we're there to learn,

we're there to teach. And, you know, I would say that the foundation of improvements that need to happen are obviously what brings adequate ventilation. So when you talk about what adequate ventilation is, ASHRAE Standard 62.1. When you talk about for mitigation of infectious aerosols, we're talking about ASHRAE 241. In a perfect world, we would run ASHRAE 241, 24/7, or at least when there's people in schools, just because of our high occupancy rates. But I think we need to start there, right with ventilation and you can't really understand what the need is until you go in and assess. So I talk about you can't manage what you don't measure. So really starting at that point of assessing the environment and learning what's happening in there to be able to start mitigative practices, or where you should start with deferred maintenance issues. Obviously you have water damage. You probably have mold growth there. You obviously have to start there. But one of the reasons why we have mold growth is because of a lack of ventilation, right with the moisture and humidity. So I don't know if I answered that question completely for you, but obviously the HVAC systems and not all schools in the United States have central air so, like, how do you address that, you know, and then retrofit?

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Kendra Seymour

17:08

Right, right. And I remember going to an elementary school. I'm from Chicago, up north. I'm sure this has changed, but there was no air conditioning in the buildings. Um, however, you know, I live in an area now in Virginia, which is hot and humid during the summer, late spring and early fall. And I remember, as a teacher during the budget cuts in the like early 2000s they started turning off the AC at 4pm when the students left. And I know that because as a teacher, I was often there till six or seven at night, and I would start getting really hot, and they would turn it off over the weekend, and long weekends and the same for the heat. So if we had a long weekend and then the temperatures were below freezing, there'd be a delay, because it would take a while to heat the buildings. But where this becomes particularly problematic, and we saw this at the school I was at. I won't name their name. Is staff, and teachers came back after a long weekend right before school started, an entire wing had white mold growth all over the walls and ceilings and floors and everything. And they quote, unquote, remediated that overnight because open house, or, I'm sorry, school was starting the next day. So you know that that wasn't handled properly. You know that the underlying issues weren't and I know why they did it. They did it to save money. So you brought up something, because it's not just mold and water damage, although those are huge issues and getting to that. But you know, anyone who's has children knows that, that first month of school is like the ick factor, right? Like, I joke, like, how many weeks can we make it into school before somebody comes home with a cold or a virus of sorts? And you mentioned ventilation? I'm not, I want to make sure everyone listening knows what ventilation is. Can you kind of just, even just explain that and what that would look like?

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Lisa Greenfield

19:03

Absolutely. So ventilation is basically, can be outside air coming in to dilute the air that's already inside. It can be added filtration, like HEPA filtration, to remove those pollutants in the air. So that is an equivalent air exchange rate. So it's ventilation, right? But also you can open windows that that can be natural ventilation. So basically, it's the dilution or the removal of the pollutants in the inside air. And often times it comes from outside, which isn't always healthy air. You know, look at the wildfires. And then, you know, I talked to countless schools who have windows that don't open like youtalked about. How do you get ventilation in there if you don't have an HVAC system and you don't have windows that open, it's a huge problem. I wanted to add just real quick on to that. What you are talking about, about over the weekend, I want us to be thinking about over the summer. When we close for over the summer. If we shut down our ventilation systems and stop moving that air, we have built up temperature, built up humidity, and the perfect conditions for mold. And so in an effort to save money, we're actually causing more harm by not keeping the system going. And so I really want to speak out to my facilities managers and my school boards to say, hey, keep it going. You know, it doesn't have to be high grade cool, but keep the air moving. It's so important. It's like our respiratory system, you know, you gotta keep the oxygen and the blood flowing. Gotta keep it all flowing. I like to refer to the body, because it's very much the same,

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Kendra Seymour

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Yeah. Well, you mentioned something about what is measured and tracked. You know, you can get improvement there. So you mentioned something called ASHRAE, and I want to get into that for a moment. But people are going to say, all right, well, aren't there laws in place that say how much ventilation should be in our schools? Because you're going to cram 25, 30 students and a teacher in a room, and they're all next to each other, and they're there six, seven hours a day, and that air, in many cases, is not being diluted, it's not being filtered. So is there any kind of standard for public spaces, like schools in place?

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Lisa Greenfield

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No!

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Kendra Seymour

21:34

Yeah

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Lisa Greenfield

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There's a recommendation.

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Kendra Seymour

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Okay, so let's talk about the recommendation and ASHRAE. I mean that means voluntary. Folks, these are voluntary things. What is that actually look like? Because you mentioned that the two ASHRAE Standards, how many times should the air in our classrooms or buildings be replaced in order to be considered healthier or more optimal in terms of like, reducing disease transmission and other things,

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Lisa Greenfield

22:02

Yes, yes. So it depends on the number of people that are in that particular square footage of space. But ultimately, like the bare minimum, we say, is six air exchanges. But that's like the minimum, it should be upwards of 12, like, double that,

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Kendra Seymour

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Really

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Lisa Greenfield

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Yeah, and depending on what's happening in that space, are we at peak season for allergies? Like you talked about, like, how long is it going to take for my kids to get sick into the school year? Well, the third week in September is going to be your peak week. It's going to be asthma, because of all of the allergens in the air, and it's going to be long enough that everybody's been in school together, swapping, like I say, cooties. And so when you combine all of those things, you have very busy nurses, school nurses, and a lot of absenteeism. And that connects to funding, because if children are absent during that time, and they're taking a count, and they're funded by count, they're losing out on on money for the school.

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Kendra Seymour

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And we're going to get into that in just a moment. So yeah, so So in terms of the ventilation requirements, they're optional. We want at least, yes, six air exchanges per hour. So for those listening, if you're not familiar with ACH, that means the, theoretically, the air in the room is turned over, removed, six times at a minimum, right? So ideally, you're reducing, you know, your chances of exposure. Do you have any data? And I don't mean to put you on the spot, and it's okay if you don't, what ventilation looks like in most schools in terms of compared to that number of six air exchanges.

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Lisa Greenfield

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Um, you know, I do a lot of reading and research, and in some spaces, it's two!

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Kendra Seymour

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yeah, yeah. Did you see in the book, I mentioned, the Healthy Buildings book, the and I couldn't find, like, a single study. I think it was an aggregate that they they created that it said 90% of schools have inadequate ventilation in the US

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Lisa Greenfield

24:08

Oh, yeah.

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Kendra Seymour

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Yeah. So like this is nine out of 10 schools, nine out of 10 rooms are going to be at risk of this, increasing your chances of your child coming home sick, the teacher being absent, asthma increasing, all of these things are at play.

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Lisa Greenfield

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Absolutely, yes, and it's something that I think most adults forget about because we've been outside of the classroom so long. But because you and I both spent time in the classroom as adults, we definitely saw a different part of it, for sure. Yeah,

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Kendra Seymour

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So I know that we're the work that you do is amazing, and you've shared some information with me before, and I'm hoping we can jump into it, because, you know, as we mentioned, schools face funding challenges, addressing indoor air quality, addressing those structural issues. It often feels too expensive, too overwhelming and but you've talked before about the cost of not taking action, especially when it comes to student and staff absenteeism. So you have some interesting data. Can you share some of that information?

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Lisa Greenfield

25:16

Yeah, absolutely. You know, one of the ways I wanted to be able to reach schools, the decision makers, was to be able to speak their language in the sense of, really, they're operating on dollars, and so how are they going to get everything done with the dollars that they have? Yes, they want to have a healthy indoor air quality. Of course they do. But when it comes down to the bottom line, that's the challenge, right? That's why we have all the deferred maintenance issues. But when you put it in the aspect of the loss that happens, so inaction actually cost more than taking action. So there's been studies upon studies that have shown that simply improving ventilation can give you an ROI of three to 6% of your investment. When you implement upgraded filtration, like MERV 13 and HEPA filtration, you can see an 8% ROI. And then when you combine all of the interventions that are possible to improve indoor air quality, can be 60%. So like you could be, you know, in a far better place financially by making these improvements, because you're going to have teachers present, you're not having to pay substitute teacher wages or the costs that are involved in lining up substitutes if you have them, and like I talked about, student absenteeism, if you are in a state where they provide payment for, say, student counts, and you have high absenteeism due to poor indoor air quality. You're losing money there. So ultimately, you know, you think about medical costs, health insurance premiums, you know, lost time, lower grades because of not being in school, or when you have a substitute. I love you substitute teachers, we couldn't live without you, but children just aren't as engaged with the substitute. It's just different. And so when we think about all of those things and the changes that we can make that ultimately don't have to cost a lot of money. You really will reap the benefits of it from the improvements.

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Kendra Seymour

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Yeah, and I appreciate you sharing some of that like information. I know you've run the numbers on like substitutes, and the cost of that, I mean, equating to millions and millions and millions of dollars spent that could be reduced, largely avoided in some cases, if some of these steps were taken today, and we're not, we haven't touched on it, but there is a lot of research talking about how you meant higher CO2, higher levels of exposure rate, all those cleaning chemicals then that are stuck in these buildings can impact student performance and retention. And so there, there are some long term impacts that are very real when we ignore these spaces. So, you know, we're highlighting this problem. And I always like to talk about, well, so what do we do about it? Because that is why we're here, essentially. So you talk about prevention being key, you talk about, you know, a practical framework, you know, your AAA approach. So can you kind of talk to us about what that approach means, and maybe share some real world strategies schools and families can use to be kind of proactive.

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Lisa Greenfield

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Absolutely. Yeah, you know, one of the things that we talked about earlier is you can't manage what you don't measure. And so going in to the environment and be able to do an assessment to understand what's happening in that space with in the indoor air quality. It is crucial! You know, during covid and the pandemic, where we're throwing air purifiers, not every space particularly needed, you know, interventions or mitigation. But now we have, like I said, we need a strategy, right? You have to, you have to do this, just like teaching, right? We start here at the foundation, then we build upon it. It's the same thing with the triple A that I, that I created. Assess so you can come in and find out what's happening in there, so that you can then Address the issues with improvements like HEPA air purification. You know, some people believe in UV as a mitigation tool. Increased ventilation. So, understanding, you know that Assessing, Addressing and then Assuring it. So we're not just going to go in and place interventions. We're going to want to Assure that that's working and maintain that to assure health. And you can do that with indoor air quality monitoring. As well as their software out there that's amazing that can interpret that data, because, ultimately, a lot of people don't understand the information from an indoor air quality monitor and because it's in particulates, and, you know, all of these different sciencey levels, and the software can really interpret that data and give you actionable insights on how to improve indoor air quality and maintain it. So it's a full circle approach, and it's going to look differently for every building owner, but it's a great model to follow to be able to really make those improvements and keep them

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Kendra Seymour

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Yeah, and I'm a big fan of let's not just start throwing interventions at something without understanding where we're starting from, because then you know you need to understand where you are so you can figure out where you want to go in the best way and most affordable way to do that. And I know on your website, which will have you share at the end if you know, especially school personnel, facilities managers, you guys are doing a lot of great work there with your company to do that to help schools, and so we'll link to your website so people can check that out. Now, you brought up something, and I thought that it's really worth mentioning, because covid 19 brought a lot of attention to air quality in public buildings. So in your opinion, did it create any like lasting momentum or funding opportunities for schools to improve ventilation, or are we kind of losing that focus again?

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Lisa Greenfield

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So that's a great question. And I think that when it comes to covid, the one good thing that I can say came from that is just awareness of what's in our air and how it can make us very, very sick or even kill us, right? That's what we learned from that. And I think the with the things associated with it, people very much

want it to be behind us, but it's not, and neither was all of the other viruses, wildfires, all of those things were happening before covid. Covid is what made us more aware of what's in our indoor air that can make us sick and harm us. So, moving forward, when we talk about covid that, you know, I like to talk to people about what's in the air. It's far more than covid, right? I mean, that's been added now, but look at our the measles outbreak that's happening, highly infectious and airborne. Wildfires, all of those things we really need to be protecting against. So when it comes to post covid, I think that people are more receptive of discussing moving forward from it, even though we know it's still here. Unfortunately, you know, that's kind of where we're at right now. But there are a lot of great programs happening, like the US Green Schools, US Green Building Council, they're, you know, they're going to be funding a program nationwide where they're going to be doing improvements in schools and sustainability and including indoor air quality. So that's very exciting that that's happening. And you know, is there a lot of money right now for that? Not particularly but there are ways to potentially move money from one column to the other. There's, you know, if the motivations there, then there's usually a way to support it.

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Kendra Seymour

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Yeah, yeah. I agree. I think there's been a level of awareness that we hadn't seen prior to that, thinking about as I'm walking through grocery store, whatever, like, who's been in here before? What air am I rebreathing from them? Yes, and I think the next step here is really where we take action, and maybe we can touch upon this. And I find that it often comes down and I'm working, I've worked with teachers and parents and staff, like across the country, through our work with Change the Air, and it often starts with them pushing for the school board and making them prioritize some of these things. And again, I don't think anyone's out here maliciously, I don't think there's like willful intent. I think it's part of it is a lack of knowledge that it is a problem, a lack of proper information, the right way to move forward. And these are solvable problems. They're not easy, but they're things that we can figure out. And so to all those parents out there and teachers and staff and people fighting for this, that does make a difference. I know it seems like it's a slow process. I know it seems like it maybe even shouldn't be your responsibility. We should just be doing these things, but, but this is where we are. And so we're going to end, I think, with some tips for people listening, if they are concerned about indoor air quality issues in their school. So, but before we get there, I want to talk about, you know, we've talked about all of the challenges, we kind of highlighted them. Have you seen any schools or districts that are doing this right, that are taking real steps to improve the conditions? And, you know, feel free to share an example of progress that kind of gives you hope. Because I always try to end some of these conversations in a little bit more of hopeful tone.

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Lisa Greenfield

35:39

Yeah. Yeah, absolutely, just to tag on to your school board topic. You know, most schools have a website that you can go to and you can sign up to be at the school board meeting and speak to your school board and superintendent. You typically get three minutes. You can pre share materials beforehand for them to review, then you can be able to follow up with them after the meeting, but it's a great way to get the conversation going. And I did that here in Ankeny, Iowa. I taught here for four years, and one of the school board members I was in her classroom, actually, anyway, she she told me about this process, and I thought, this is amazing, right? So I went and I presented to the school board and asked them questions, and it really opened up conversation. And so I, you know, start there, start the conversation, and it's doable. Soyeah.

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Kendra Seymour

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Yeah, no. And I think, I think that is important. I think people need to know that even though change can be slow and it can feel hard, that it is possible and it's worth fighting for. So I think this is a, you know, as we wrap up, I think the last thing I'll ask you has to do with if a parent or teacher or staff or school personnel, right so it listening right now, and they're concerned about indoor air quality issues, what are some accessible entry points that they can take right now? So you mentioned going to the school board, is there, is there anything else that you would kind of add on to that? Or maybe, if you're speaking more directly to principals or districts, like, what would you say?

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Lisa Greenfield

37:23

That's a great question, because I think that obviously every school district is different, but I would, I would include administration as much as possible if you have concerns, and then if the issue isn't addressed, then right you you follow the chain of command, and you go to the next level up. So human resources. And I think that it's crucial that when we come to them with a problem, we also have the solution, because that's where really we have to start. And you know, the more I see the growth in this area of people becoming more aware of how indoor air quality affects our health. We're seeing more house bills, and even there's even a bill, or the federal bill that's in place right now for improving indoor air quality in schools. So like we're seeing momentum. Is it codified? Has gone through legislation? No, but it's happening. And so, you know, really bringing all of those things together to say, hey, we know there's a problem. We have the solutions to address the problem. Now, let's work together, right, to improve it. And it's about working together. Nobody, like you said, is trying to, you know, avoid, or make anyone sick. No, it's about, I think we need to learn how to approach it and have a system set up that will do, like a commissioning. So Rhode Island, they just submitted a house bill for that. So start with commissioning of buildings. Find out, are

they safe? Is the HVAC working? Is the ventilation okay? Starting there, that's the great place to start. If it isn't, then we go to the next step. So really, it's about having data, and that's my recommendations

KS

Kendra Seymour

39:24

Now, and I'll drop a few into in just a moment. But since you brought it up, can you just really briefly touch on the federal bill? Because, you know, we're all about policy reform here at Change the Air Foundation. So can you just give us like a highlight from the school federal bill?

LG

Lisa Greenfield

39:38

Absolutely. You know, you can find it at the Congress, congress.gov, but basically Indoor Air Quality and Healthy Schools Act of 2024. It was brought in in July of last year, so it's still in the works. But basically it discusses all the things that we've talked about today. You know, we understand there's a problem. We know how to improve it. These are the reasons why we should improve it. So let's put something into place that says it's not just a recommendation, right? This should be not just code, but the law. So looking at that in that aspect is, you know, I want to just hit real quick the fact that we in schools, we have lunch program that says what kind of foods we need to serve and how much of them, right? We have testing so that we can find out if there's progress being made. So why don't we have air quality being monitored. I mean, that affects our health, right? We even have the water like we're getting the water addressed. There's some unhealthy water in our schools, let's say but, but we're making changes. So really, when you think about all of those things that affect our health and our well being, air is the number one, in my opinion, you don't have a choice. You can't hold your breath that long.

KS

Kendra Seymour

41:06

Yeah, we would agree with you. We champion that viewpoint all the way as well. And so we'll link to that bill. People can check it out. You can probably write in support of it for your representatives to support that bill. So thank you. Thank you for all of that. For others listening, there are a couple other things I want to highlight. Leave it's on the EPA website. There is an IAQ Tools for Schools action kit, and it has some suggestions. It has some entry points. What I like, it has some checklists. Like checklist for teachers. You can look through your room. You can follow that checklist. You can document, document, document, document. Take photos if there's water damage, if there's issues, if you're noticing complaints, things like that. And it can give you a way to start collecting some information that you can bring to your administrators, school building managers and things like that. And so we'll link to that resource as well. I'm not exactly sure when this episode will drop, but in the late fall, we will be releasing workplace guides from Change the Air Foundation. How you can navigate mold and water damage in spaces, schools or other

places of work. It's not just schools, so be on the lookout for that. So Lisa, this has been incredibly helpful. Thank you for all that you're doing. You know, day in and day out, to protect our children and improve the the air in our buildings and homes. If people had follow up questions or wanted to get into contact with you to learn more, how could they do that?

LG

Lisa Greenfield

42:36

Yeah, absolutely. Um, contact me. L Greenfield, at E, R, L, A, B.com, that's my email. You know, I'm here on behalf of Erlab. They believe in promoting healthy indoor air. They were the developers of the first ductless fume hood for laboratory. Since 1968 they've been doing this technology with HEPA filtration and activated carbon. So visit our website. It's iaq.erlab.com and I'm always available to do a presentation on indoor air quality or just answer any questions you may have. I'm so grateful to be able to be here today and talk with you about the importance of indoor air quality. So thank you.

KS

Kendra Seymour

43:26

You're welcome, and we'll link to those because I know that there's a wealth of information on those sites. And thank you for making yourself available and for all that your company is doing to really change the conversation around this. So for everyone listening, do me a favor if you found this information helpful, head on over to changtheairfoundation.org, sign up for our newsletter because it really is the best way to get great information like this, tips, downloads, actionable steps that you can take to improve the air in your home and buildings. So sign up for that newsletter when you're there. Everyone, we'll see you next time. Thanks so much.