

Jennifer Lemon:

Welcome everybody. My name is Jennifer Lemon. I am with the Indoor Environments Division with EPA and I'll be your facilitator this afternoon. Good morning and good afternoon to everybody who took the time to participate in our webinar. We appreciate you taking the time to do that. Today you're going to hear from a couple of speakers. The first will be Tobie Bernstein who is a Senior Attorney with the Environmental Law Institute and she will go over some things that she has been involved with on Environmental Law Institute and some policy initiatives related to indoor air quality.

Next you will hear from Kenny Foscue who is a Health Educator with the Connecticut Department of Public Health and Dan Tranter will follow up with that, he is a Research Scientist with the Minnesota Department of Public Health. Just a couple of quick learning objectives before we get started. I'm going to provide you an overview of the *IAQ Tools for Schools* for program, which probably a lot of you've heard about, we're just going to go through that real quickly. We're going to review the state-based school IAQ initiative. And then two of our model programs from Connecticut and Minnesota, which will be given by Kenny and Dan, will provide some information about how they got started, how they are working their programs in the state. And we're also going to provide some resources at the end of the webinar which you'll be able to log on to. There'll be links and some publications for you to access.

I would like to reiterate that the slides, and the recording of this webinar and its summary question and answer document will be provided to all of you at the conclusion of this webinar, not like within five minutes of the webinar, but you will receive a follow up with that information. So, I don't want anybody to worry about writing feverishly very quickly to get this information down.

Jennifer Lemon:

We just talked about how to access polling questions and we are going to start out with one real quick just to get us grounded in how you are using the *Indoor Air Quality Tools for Schools* Program and how it's working in your state. So, if you could please review the specific answers we have up on the screen, and answer those questions that are about your knowledge based on your current knowledge, what is the status of the collaborative state-based IAQ initiative in your state? We're going to open up the polling question. Please do go ahead and vote please. OK, the voting is closed, so you guys should be able to see the results as well. Actually, this is really great news to see that the largest percentage is the initiative is being integrated in districts across the state. So, that is really wonderful to know. You guys have some really active programs in your state. A lot of us have heard obviously how there's has been some tapped resources in states. So this is really good news on our end to get it up to the largest percentage are being integrated. Go ahead, we are going to have one more polling question before we get started.

So just to get us a little bit further grounded in your specific programs, we wanted to ask some questions about them, OK? Just before we get started talking about the *Tools for Schools* Kit we thought it would be interesting to understand how many people are using the Kit. And, you know, obviously these are just ballpark percentages, but they'll give us an idea of one of our — this is basically cornerstone of our — of the *Tools for Schools* Program. It is a great resource that a lot of people use. Also, I'd say that it is notable when you talk about the program. So, polls are open. OK, again that seems to match up with the previous polling slide where we asked about IAQ Initiatives in your state. So it looks like again the greatest percentage — of course, you guys have been presented with only 25, so 35 percent of you are not sure about the usage of the kit. So that helps us actually reflect upon what types of information are being used at the state level. And maybe as we go forward, you can also be helpful to us to understand what resources you could better assist you with at EPA. Maybe the Kit is not the be-all, end-all and there are other things that we can offer to you.

So why don't I just give an overview of the *Tools for Schools* for program. So, a lot you've heard about the program in general and I want just to give some background in history about that and talk a little bit about the framework and just provide some summary information. Back in 1995, the Schools Program began with the release of the *Tools for Schools* Action Kit. The Action Kit is an evolving resource. It continues to be a strong foundational element of the program. It provides best practices, walkthrough checklists, industry guidelines, sample policies, and sample IAQ management plans to help schools and school districts to take immediate action to implement effective IAQ management programs and help schools maintain healthy school environments to take an effective action to advance health, safety and wellness.

The Program, *Tools for Schools*, guidance has been implemented successfully in tens of thousands of schools nationwide and EPA has learned what it takes to create IAQ programs that deliver the remarkable health environmental results schools seek. The EPA has organized this knowledge into a framework of proven solutions. We refer to this as the Framework for Effective School IAQ Management. This Framework provides a common language to describe the drivers of IAQ program's success and offers detailed guidance on the proven strategies, organizational approaches and leadership styles that are fundamental to establishing and sustaining an effective and successful IAQ management plan. We also think that this presents a clear vision of the path related to school IAQ excellence. Its highly flexible and adaptable structure allows any school regardless of the location, size, budget, or condition to use the framework to launch, reinvigorate and sustain an effective IAQ management program.

Now I'll talk a little bit more about the Six Key Drivers. The Drivers are common overarching programmatic elements that are essential to establishing an effective and enduring IAQ management program using a cycle of continuous assessment, planning, action, and evaluation. The Six Key Drivers work together to deliver effective IAQ management programs over time. As you can see, the Six Key Drivers are starting with the blue bubble; organizing your program, communicating with everyone all the time, assessing your school IAQ environment and how occupants are doing continuous – doing continuously; planning your short term and long term action based on your assessments and other important factors; acting to solve or prevent IAQ problems and address structural, institutional, and behavioral issues; and evaluating your results and the impacts of your program for continuous improvement.

Now let's talk a little bit more about Technical Solutions that are affiliated with the framework. The Six Technical Solutions define those common issues that schools need to address to effectively manage IAQ and other environmental risks. When addressed systematically and aggressively an IAQ program that focuses on six technical elements will deliver a healthier school environment. Grounded in the *IAQ Tools for Schools* Action Kit, the Centers for Disease Control, School Health Policies and Program Studies, and the actions being taken by successful school IAQ programs, the Six Technical Solutions provide a model for effective IAQ management.

We refer to these Six Technical Solutions as: Ensuring Quality Inspection, Operation, and Maintenance for your HVAC System; Active, Aggressive Control of Moisture and Mold; Strong Integrated Pest Management; Effective, Consistent Cleaning and Maintenance Activities; Smart, Low-Emitting Low-Toxicity Materials Selection and Aggressive Source Control for example, through Anti-idling school bus policies. The *IAQ Tools for Schools* Framework and the Six Key Drivers and the Six Technical Solutions are designed to promote the proven approaches and strategies for IAQ management that advance environmental health in schools. This Framework can help involved in your IAQ program understand the over-arching purpose of the work your team does every day and how those day-to-day tasks translate into significant environmental health achievements and better student performance.

The tools, materials provided in the *Tools to Schools* Action Kit will help you put the Six Key Drivers and Six Technical Solutions into action in your school district. Now I'm going to turn it over to Tobie Bernstein to talk a little bit more about the opportunities and resources provided by the Environmental Law Institute.

Tobie Bernstein:

Thanks Jennifer and a thank you to EPA for hosting this webinar. I am happy to be participating. Yeah, I'll talk a little bit about the work that the Environmental Law Institute does in the area of school Indoor Environmental Quality. For those of you who don't know ELI, we are a research and education center. We are a non-profit organization. We are based in Washington, D.C. and we were founded 40 years ago. We work on a lot of different environmental issues and as you can tell from our name, our focus is law and policy. We've had an Indoor Environments Program now for about 20 years and for the most of that time, the school environment has been an important part of our work.

Over the past decade, particularly, we've seen a great increase in awareness and action to address indoor environmental issues in schools and this is due partly to a really tremendous amount of outreach and education that's been done by a lot of different stakeholders and also to the educational resources and the practical tools that have been developed for schools and communities, in particular the *Tools for Schools* Action Kit which Jennifer just described. There has been a lot of progress and I think the first polling slide indicated that there's a lot of work going on in schools around the country, but there's still an opportunity to go further and to make best IAQ management practices the standard operating practice really in all schools.

So, as you can see from this slide, I believe that the states have an important role to play in dealing with these issues and actually is the subject of this webinar is the state role, I wanted to talk a little bit about that and about the information ELI has developed on state-level programs and policies. As you can see in this slide, most states do have some jurisdiction over school facilities issues already. This has already – typically falls under the state education and health agencies but could also involve other agencies like labor, agencies that deal with OSHA issues, environment agencies, agriculture, general services – it could fall under a lot of different arenas and that's due in part to the multi-faceted nature of indoor air quality in the different buildings types that are involved.

The goals of a comprehensive approach to school IAQ management are very much in line with the goals of these various agencies; public health goals, academic achievement, cost effectiveness and government spending and also educational equity. State efforts can help ensure that all schools within the state achieve certain minimum environmental health conditions that are necessary to support the learning process. So this is an area that really is ripe for state action, including state policy developments, and a well-designed state policy can really do a lot to support state efforts to achieve these goals. Next slide, please.

ELI has been analyzing school IAQ policies for a while now, and last year we produced a report that you can see on the screen titled, "School Indoor Air Quality – State Policies, Strategies for Maintaining Healthier Learning Environments." The report describes in a fair amount of detail, the current state policies in this area and we're really focused on policies that take a broad approach to IAQ management. So as opposed to policies that may address a single problem, or a single pollutant like Radon, or green cleaning, we try to look at policies that address the issue broadly and we found that there are a relatively smaller number of states with this type of policy, but that the policies that are in place still can provide useful examples for state to consider in strengthening their own laws and regulations. Next slide.

The policies that are discussed in the report fall very generally into two categories. I'm not going to talk about these in any detail. The report has a lot of information about what these policies are and how they're being implemented, but I just wanted to mention to give you just a bit of an overview. Two general types of policies; one type that requires inspections of schools and sets forth certain criteria that address indoor air quality issues. Now lot of states require school in health and safety inspections to some extent, but only a relatively few address criteria or provide criteria that's specific to indoor air quality or that focused directly on indoor air quality. So you see here a few that are listed and these policies fall under different areas of authority. So for example, the first set of example is Indiana, Washington, New Hampshire show examples of policies that fall into Health and Safety realm and actually Indiana, New Hampshire are fairly new policies and are in the process of having rules written and those are not discussed in detail in the report.

New Jersey is an OSHA policy and the rule there is specific to indoor air quality in schools and other public buildings, and New York's is a rule under the education agency. So these policies are all different to some extent, but the commonality there is that they are based on an inspection model and have criteria that are set forth at the state level. The second type of policy is one that requires schools to have an indoor air quality management plan or program and to use that plan. Minnesota and Connecticut – Minnesota was the first state to have this kind of policy and Connecticut followed suit. You'll hear a little bit more about those soon. And this year, Wisconsin enacted a law. It's similar in requiring schools to have a plan and for the state to come up with a model plan.

These are not the only types of policies that could be developed to promote best IAQ management practices. There are states that have a fair amount of latitude in being creative and how they develop policies in this area. But regardless of the type of policy or the area of jurisdiction and the specific strategies, there are certain key elements that we think is important to have in a state policy. And that's on the next slide.

So what I would emphasize are three things. We can go to the next slide. The first being requirements. What are school districts required to do to protect indoor air environmental quality. So this may mean that the law or a rule sets out minimum facility practices in key areas such as HVAC, the moisture, chemicals, hazardous materials, or it could be that the law sets out what are the core elements of a required indoor air quality management plan along the lines of the *Tools for Schools* core criteria.

The second important element is that there would be some way of ensuring oversight. What mechanisms and programs are put in place to make sure that schools that actually meet the requirements that are set out in the policy and this boils down to the basic question of accountability. This could be accomplished through inspections or through reporting requirements, requirements for corrective action, if problems are found in schools, and things like that. And then finally what resources are provided to assist in implementing the policy. In order to be effective, a state policy really has to be coupled with an active state program that provides different services such as outreach, training, technical assistance, and in some cases, financial assistance to help schools implement the best practices that are required in the policy. And some cases, the policy may serve to jumpstart a program or it may support and reinforce an existing program: Minnesota and Connecticut are good examples of this and you'll hear about those in a minute.

Now, in these economic times, the question of resources is of course, is a difficult one. And this is the question that's on everybody's mind. But it is important to keep in mind the potential educational and health impacts of poor indoor air quality schools and the cost effectiveness of the prevention based approach in developing policy initiatives. In addition to the states that we've profiled in our report, there are others that already have laws or rules on their books that may not address indoor air quality directly or specifically, but could be expanded or modified to promote best practices. So I guess one last thought I would make is that in developing a policy initiative in a state, it is important to look at what has already been done, what laws and rules are already on the books, and to develop a policy that helps to institutionalize collaboration among different agencies and that builds on the existing efforts that are already under way. That's why there really is no one-size-fits-all policy.

I guess I will conclude on my last slide. This will give you a little information about the resources available, how to align, how to get them, we have developed a lot of different materials on indoor air quality policy generally in a number of these deal specifically with school indoor air quality issues. You can download them for free at this link and you can contact me at the e-mail address listed. If you have more questions about either generally about policy in this area or policy initiatives in your state. And with that, I'll turn it over to Kenny Foscue.

Kenny Foscue:

Hello everybody and thanks for tuning in here. My name again is Kenny Foscue and I work with state health department and I'll be talking about the Connecticut School Indoor Environment Resource Team, which is our state-based initiative. It's now in its 11th year. Just a couple of things I would like to make some acknowledgements first to EPA, thanks for having this webinar and also thanks for coming up with such a great innovative program, *Tools for Schools*. Those of us in public health, especially in environmental health, don't always have such useful tools to address and really have an impact on health and this is one we found it really does. Also, I want to recognize EPA Region 1 and their seven-year support – financial support – for this program and also I'll also point and thank the support of Eugene Benoit, who is the Regional Representative there and also I want to thank my colleague here Joan Simpson.

Next slide, please. I think most health departments would probably agree with us that they're regularly dealing with a high percentage of school-related indoor air quality calls. In general, indoor air quality is by far the biggest – the most colorful yet, and high percentage are school-related and we have seen from fairly serious situations, some in health, but especially in terms of public relation nightmares for everybody concerned, and we in public health, folks who want to be proactive and – that's how we got interested in the *Tools for Schools* program and we began going out and talking to groups in 1999, mostly our Department, EPA Region 1 and Connecticut's Coalition for Occupational Safety and Health (COSH) group and we quickly found that, especially after we talked to the coalition of education – public education in Connecticut, they went and presented this idea *Tools for Schools* for them. They said well, that's a great idea, but schools are really overwhelmed with a lot of different priorities and just to hand them a kit or just talk about just this program is not going to be that helpful and they're really going to need some resources. So, we kind of huddled after this meeting and said well, they're right. We need to put together a team of folks to provide resources and this has kind of morphed over the last 10 years into a multi-agency organizational response and that's the Connecticut Indoor Air Resource Team.

Next slide, please. So these are the – all our partners and all our members of the Resource Team. I've underlined some there that have been the most active for providing some really good resources, Connecticut OSHA, they provide IH and industrial hygiene support. The Connecticut Education Association Union has been an incredibly active political association, The Connecticut Foundation for Environmental Safety in Schools has done incredible amount of work, especially in terms of promoting legislation. The UConn Health Center, the EPA Region 1 – UConn and Yale are two academic occupational environmental medical programs and they have been very helpful in providing us support. Building a ground for association with these facilities, Directors Association, the Principals' Union Association and spot on their line, but in recent years the Connecticut Association for School Business

Officials and especially Jack Levine (Amity Regional School District #5,) who might be on this call now, have been very helpful.

But, you can see, pretty much everybody that's anybody has become part of this team. Next slide, please. And so the rationale around why we put this together. First, as everybody probably knows if there's anything to do with schools, schools have many competing issues, time being a major one; testing – all the issues around testing and trying to rise up test scores and all this ends up being limited time to focus on this and again have reason for health providing technical assistance and basically that schools really need assistance to implement the program. And when we talk about implementing the program, we're talking about not just having a kit, we are talking about having an individual teams in every school.

We quickly saw that there was a need to focus on District Level, not individual schools that your law book will be more successful as more efficient. Fourth point is, more partners means more successful outreach. That has been probably one of the real keys to all of this. All these different partners that I've mentioned, Teachers Union, Facility Association, ALA, others have pooled – have all pooled their resources, but they have – individual agencies have and organizations have regularly contacted their membership over this 10 year period really pushing their members in the different schools to do this. And I think that's been a major factor. The other is it's become a multi-tiered approach to school indoor air issues in general, not just *Tools for Schools*, but actually have an impact on state policy and one way was the 2003 School Indoor Air Law that was passed and mandated at all schools to the Indoor Air Program.

Next slide, please. So our strategy is based around these points. Aggressive district based outreach program. Even before the law which was passed in 2003, things moved a little faster but even before that we were – we had been successful because we reached out to every district on a regular basis and had been pretty aggressive about it. Our training program – we have a comprehensive training program. To say that you've been implementing *Tools for Schools* in Connecticut, you have to have teams that have undergone five hours of training. Part of that training we use industrial hygienists and health professionals. So at this point, over 6,000 people have been through these trainings. We are focusing a lot more on sustaining the program so we've developed a refresher course and other training programs. We really encourage and try to push with local health departments to be involved, to be at presentations and the trainings, and the follow up and actually trying to provide a sanitarian when they actually do the walk-throughs, and then sustaining – a program around sustaining that which I'll talk about a little bit.

Next slide. So our resources that we provide are two parts; implementation training program, refresher workshop to keep – and that's basically to keep the teams going. We have an advanced *IAQ Tools for Schools* for custodians workshops. This is for all custodians and facilities and that has grown from – here's some basics about indoor air quality, identification *Tool for Schools*, onto green cleaning and actually responding to the H1N1 issues this past year, especially here in terms of the infection control and so we're really proud of that training. We passed – Connecticut passed a green cleaning law last year, and we've been working to provide consultations, green cleaning, for health – green cleaning consultations. We also have the train-the-trainer program to help – we can train people to do our training and this may be helpful if other states are interested in picking it up. Our strategy and then finally we have a research website. Next slide, please.

So obstacles, just like anybody who're faced with the fact schools have these competing issues and it's a never ending struggle that keep them focused on that. This – I think we've done a lot better with the second point over the years that when we first started this program, everybody was focused on – are we going to open Pandora's Box, what about the cost and I think the *Tools for Schools* Program and the kit and the teams really get across the point that this is not just about spending money. I think that anybody that's on the – in the state health department who is on this call would agree that there is a lack of IAQ funding and that has an effect and that's a broader issue that we could discuss further maybe later in the call. And we are not – well, I'd say more about that -- and what we're trying to really respond to now is this present school budget crisis and so our strategy has been recently – you need these teams – if you're district, you're trying to deal with this issue, you really need to maintain these teams now more than ever, because if you're cutting back custodians, then you're not able to keep up with maintenance, then you really need to mobilize all your staff to respond to this issue and having *Tools for Schools* teams is the way to do that.

Next slide, please. So our accomplishments, I guess the main, over-arching one is that we've established the core of expertise and school leadership. We have both the school-based stakeholders and health professionals that have been working together and as a team for 10 years and we've been meeting literally for 10 years, monthly and bi-monthly, and pretty much all of agencies still participate. We have trained IAQ team – again this whole thing about teams, school based teams and over 800 Connecticut schools out of approximately 1,000; over a 147 school districts of 159 have adopted the program at some point; and we have trained over 6,600 staff and parents. And I believe we've conducted over 450 training workshops. The other thing is that over the years, we've had impact on state policy. I mentioned the 2003 School IAQ law but we – the state also passed a recent green cleaning products law that all schools have to use green cleaning chemicals and certain member organizations were part of that effort.

Next slide. This is our – it's our guilt trip map basically and this kind of lays out what we've done: all the green schools, the green districts are the ones that had at some point, implemented the program in all their schools – you can see we're down to the last few holdouts. The one thing I want to point out is – again this whole thing of sustaining the program, it's great to do this and get it going, but can you sustain it and that's one of the beauties of having this ongoing state-wide initiative with multiple partners is we have been able to get schools to sustain it and our measurements there are – if you can see all the red markers, those are schools who had come us in for at least one refresher course. So that's kind of our indication of school districts sustained a program.

Next slide. Some more accomplishments. We developed a, what they call the Tools for Tech program, this is for technical high schools. We found out pretty soon after we started working them that they're a lot more complicated than the regular school. And if people want to ask me questions about that, I don't want to take too much time now, but I'd point out that that was the school district, the Technical High School District in Connecticut won the National EPA Award last year for this program.

We developed our web – a *Tools for Schools* user's website and one of the purposes that it really has it's a place where people can kind of share some of the successes. We've developed Tools for Offices program. My colleague, Joan here has taken that and developed a program based on *Tools for Schools* for offices, which we think has a lot of potential there. And most important, I think this the most important accomplishment at this point is really the ability to respond to emerging issues, not only sustain the program, but as the new, green cleaning law has come into effect, we've been able to work for the schools, to help them implement that. With this H1N1 outbreak, and schools are having a lot of pressure about how to respond in terms of infection control. We've been able to respond to that and now we're dealing with the PCBs and caulk. We have also dealt with in terms of getting the Bus Idling Law in Connecticut covered and we do a lot of work with support for IPM, integrated pest management. But this whole idea of being able to respond to emerging issues is a major reason for having a multi-agency organization.

Next slide, I won't go into all the details. We've actually been able to collect some information about positive outcomes. You can review this later I can – one thing is Hartford which is one of the poorest cities in the country with very high asthma rate they were able to show they had a 21 percent decline in the asthma incidences after implementing *Tools for Schools* and we've also got some other information that's not up here regarding workers comp, which is pretty great information showing that this really does work. There's always a need to do more but it's hard to collect this information.

Next slide. Shows lessons learned having and using an empowerment and collaborative model. Empowering in terms of our training that's based on empowerment and collaborating with different – with all the different players to be able to provide the training. To do that you really need to pool your resources and I've mentioned some of the key players at the beginning. Some of that has been supported by funding, but a lot of our work has been in-kind services provided. Individual organizational support, especially in term of our outreach. I mean I just can't tell you how many times I've seen e-mails go out from these different agencies to their member organizations and the school districts encouraging them to participate in this program and getting out information that has been very key. And then an effective outreach program which is – that was part of.

Next slide. We require a mandatory meeting – called the buy-in meeting from administration before we do any training and we suggest that any state that really goes into this do that if you don't have buy-in from administration, you're not going to get very far. We really believe in our training program, we think that training has been key to the success of the – maintain the program and really building successful committees. And actually we've been able to get some of that health outcome data that I've presented. You need to focus on school systems, there's not enough resources to focus on individual schools. We don't do pilot projects anymore, we focus on districts. And the need for follow-up and sustainability and that's why we've developed these other programs like the refresher course and the advanced training and our website.

Next slide please. So success is – we require – why this has been successful really is, first of all we require a building-based team. We're not into mailing out the kit. In fact, we joke we say we're *Tools for Schools* fundamentalists here, we go by the book. You have to have a school-based team. We're not interested in training district-based teams although we encourage that too. We want to see a team of five persons, six person team in every school. And I think we've been pretty successful in making that happen. And along with that requiring a comprehensive, empowerment-based training programs, not just the lecture but workshop with exercises so people really come out with skills and a plan. And then this whole thing is on going networking and support of the COSH agencies and organization in terms of outreach and encouraging, sustaining the program and just, and then working on state policy.

I think that's the last slide. And I look forward to answering any questions. And I will turn it over to Dan Tranter now.

Dan Tranter:

Thank you Kenny and thank you EPA for organizing this meeting. I am Dan Tranter. I am a Research Scientist for the Minnesota Department of Health and I am here to share our experiences with our

School Indoor Air Quality program and hopefully those of you in city, county and state and maybe federal government who are tuned in today can learn from our experiences. I wholeheartedly agree with Kenny's thoughts, comments, and suggestions and I add a few of my own to the discussion.

Next slide please. So we started back in 1997, our health and safety statute was amended to include a requirement that all public school districts eligible for Health and Safety Funding implement an indoor air quality management plan, defined as a plan to monitor and improve air quality in school buildings. And the Minnesota Department of Education was given the statutory requirement and they scratched their heads and thought, *Well, what does this mean?* They brought together a task force including us and we defined what an IAQ plan needs to look like and we determined that the *IAQ Tools for Schools* program was a great program and no need to reinvent the wheel and essentially what's required at Minnesota is a plan based on *IAQ Tool for Schools*.

So from there the next step – as Tobie talked about -- is making sure schools understand that getting them the resources and training to implement these indoor air quality plans. And so from 2000 to 2006 with support from EPA Region 5, *Tools for Schools* cooperative grant agreement we were able to do a lot of trainings and plan implementation consultations. Also, in that era we completed three special projects, one on asthma triggers and IAQ as a more in depth school consultation type project with follow up. We conducted similar analogous project in child care centers '05-'07. The first one of these responded by a legislative – or say legislature commission of natural resources. The child care project was funded by U.S. EPA headquarters. And then a third special project was also funded by a legislature, which was an assessment of flooded public buildings, including schools.

Next slide. How do we get the message out that schools should implement indoor air quality plans? Well there certainly a lot of different ways to do this. Trainings are the most obvious and direct method and we conduct not too many quite frankly, we only do five per year now and we're no longer funded through any special grants so we kind of have done the minimum that is necessary. We got about 20 people per training session, whose duties are across the state and Minnesota being a larger state we really need to get out there. We used to do an additional half day workshop that we no longer do. We've also done surveys. We stopped doing those in '07 again without the funding, but they still help to reinforce requirement to allow us to educate schools about IAQ and collect contact information. We've done other presentations to school professional groups like Minnesota Association School Facility Managers, Service Co-ops, and various conferences.

As I mentioned, we conducted special projects which has allowed us to collect Minnesota-specific data and having data specific to your city, county, or state is more persuasive to schools in your area, in my

opinion. We provided IAQ consultation services to help schools develop and implement IAQ plans or at least address specific problems they have. We communicate regularly by e-mail, through the mail, and we have an active web presence with a variety of information. We try to be comprehensive without being overwhelming. So there's a delicate balance there in terms of topic areas that we cover. And we like to nominate schools for *Tools for Schools* IAQ awards and over the years several Minnesota schools have received these excellence awards, which is great PR for the school; it draws attention to indoor air quality around the state.

Next slide please. So the strategy we've taken and I've mentioned these already, but we do annual Indoor Air Quality Coordinated trainings, currently. We continue to develop various best practices. Currently we're working on a Best Practices for Radon testing in schools and that will be out hopefully in the couple of months on our website. We provide indoor air quality Consultations when we get a complaint for a staff or a parent will call the school and offer free services or sometimes school contacts us and generally these revolve around developing indoor air quality plans, looking into non-specific complaints, helping with Radon testing, looking at ventilation or looking at molds, water type problems.

In the past, as I have mentioned we used to survey every public school district -- that's 350 in our state -- to find out what they are doing with IAQ. We used to do onsite reviews of plans, there's a couple of special projects as I've mentioned regarding indoor air quality and asthma triggers, evaluating those buildings, helping them implementing indoor air quality plans and doing follow up to measure outcomes. And we also created some best practices and did a whole bunch of trainings of school staff as part of those special projects.

Next slide. Over the years, we have developed a number of partnerships. Of course, I have to acknowledge U.S. EPA. They funded us for six years through Region 5 and that really helped us do what we do and helped us develop our program and now we don't get funding, but it's a lot easier to sustain a program now once everything is kind have been developed and put into motion. We also received a three-year grant from U.S. EPA Headquarters. We've worked with a variety of non-governmental organizations, similar to Kenny, the various schools professional groups out there; we've worked with in particular with our Facilities Management professionals. We've worked with school private consultants. So, it's important to develop our relationship with the major companies I believe in your area.

There are also these Service Cooperatives in Minnesota that are quasi-governmental entities that assist schools with health and safety. And we've worked with various Child Care Associations such as the Greater Minneapolis State Care Association. And in our state there are number of other state agencies that deal with indoor air quality in various ways such as our Department of Education, of course. First

and foremost they establish policies and requirements for health and safety in schools. Our pollution control agency deals with outdoor air and other issues like green cleaning and diesel buses or Department of Agriculture deals with pesticides and pest management and our Department of Human Services regulate child care; so we've partnered quite closely with these groups.

Next slide please. And we've also turned to other entities and organizations as resources. We've worked with our MN OSHA. They have various health standards. They have employee right to know, personal protection requirement that are related to Indoor Air. Our Department of Administration has this building code and the ventilation requirement so we have had to work with them and learn about the codes and requirements making a good resource to us. Beyond that with help to myself and other colleagues became more knowledgeable and effective having resources such as American Industrial Hygiene Association, American Conference of Governmental Industrial Hygienists, Institute for Cleaning and Restoration Certification. You haven't heard of them, they have guidelines on and certifications of workers regarding mold and moisture, cleaning and assessments.

We've also looked to National Academy of Sciences to provide guidance on health issues such as mold health effects and asthma. And lastly, which is a little more obscure is a newspaper I started getting in the mail, I don't even remember how I subscribed to this, but it's called the Indoor Environments Connection and I've found it's quite useful and provides good trends about what's going on in our industry, new developments and summaries of ongoing issues.

Next slide please. Next slide please. OK, this is the correct slide. Over the years, we've developed a lot of guidance some of these are quite lengthy and some of them are brief and I do go back to these various resources we've developed to help refresh my memory and I certainly encourage you to take a look at these if you are interested in these issues. I don't really go through these in depth, but they are all on our website. They are all free and available for use. We ask you the courtesy that you make a note of us that you've used this information. We ask you don't sell or profit from these resources, but I am assuming the audience isn't going to be doing that. Like I said, we are also developing some best practices on Radon testing, which will be on our website hopefully in the next month or two. But if you have questions in the meantime you can contact me about that.

Next slide please. Also I've written a couple of academic papers on the two projects involving schools and child care centers, so you can look at those or I can send you a copy as a PDF as a reprint of those studies.

Next slide please. There are a lot of obstacles, clearly funding is a big issue. I would refer folks on to EPA Headquarters offers grants, region offers grants to help states implement indoor air quality in school

programs. Our state legislature has funded us in the past and there are other private foundations perhaps the Robert Wood Johnson Foundation, and other groups that you might find funding to help with your projects.

It's also been a challenge to maintain management support in competing – with competing issues when you have to constantly justify what we're doing, and data helps us; our successes help to convince our higher ups that this work is worthwhile. And it's also challenging to develop the necessary expertise to be a competent indoor air quality professional and over the years, I've found the U.S. EPA *Tools for Schools* Symposium to be helpful. The EIHA conferences, Indoor Air conferences, Indoor Air Quality Association has trainings both online and at on-site. And our University of Minnesota here and probably other universities have various training programs as well.

Another challenge is, schools often want testing, some sort of testing to be done, it's tough to know what can be tested meaningfully. I found in sort of in declining order of usefulness testing for things like Radon and mercury, carbon dioxide, air flow have been useful. Then, perhaps temperature, relative humidity, and moisture content using moisture meters. Beyond that perhaps carbon monoxide, mold surface sampling for confirmation only purposes, ultrafine particulates, and maybe infrared cameras. Again that's in declining order of usefulness. Lastly, a great challenge is uncertainty of the cause of a problem. Usually when I get a call that someone sick in our building, we need some help getting to the bottom of it, and it can be difficult to find a smoking gun and we often – we won't find a specific cause, but I will make generalized recommendations and hopefully they are low cost/no cost and they will address their concerns. Next slide please.

So as far as successes, we try to point the number of schools that have implemented IAQ plans much like in another states and in Connecticut we point out the number of people who have attended our trainings, number of schools that have participated in our consultation projects. We've done a couple of specific studies that have measured follow up by allergen sampling, evaluating staff's perception of indoor air quality; measuring carbon dioxide and other things. The impact positively of indoor air quality plans. We feel receiving grants has been an indicator of success. Minnesota schools receiving awards, as well as ourselves, has been indicator of success in the publication of peer-reviewed journals. Next slide please.

And lastly I would like to mention some of the lessons I've learned over the years. It can be helpful to first try to figure out what schools in your area are interested in. For example at the very beginning, we did an e-mail survey at schools and we listed different types of services we could offer to those schools and tried to find out what they were most interested in. We've tracked the types of calls and complaints

we get to figure out what's causing those and find out what schools really want from you having tried to assume or guess what they want from a state or city or county agency. We've learned from collaborators, launching for their projects committees, knowing what they do. Also recommend finding a niche – schools often don't want you to come and just look at everything under the sun. That's a little overwhelming, but if you can get a toe-hold whether it's with radon testing or mercury testing or speaking on various expert topics, you might be able to do that and then get them interested in generalizing indoor air quality management.

Try not to compete with your consultants. They will get irritated with you if they lose business but try to complement them and fill in gaps that they are not really doing. When we get a call or a complaint from a staff or parent we'll contact the school and offer assistance, so that's a good way to get your foot in the door, offering training statewide. Now don't forget about charter school, non public schools, and child care centers. They often have problems some times more than large Public Schools Districts. And lastly follow national trends, stay tuned to EPA and other listservs and know what's going on so that you can stay abreast of those issues and become subject matter experts. And then you can offer speaking services to various conferences and meetings and again that way you can develop relationships with schools. And that's the end of my talk I will pass it back over to Jennifer at EPA, thank you.

Jennifer Lemon:

Great. Thank you so much Tobie, Kenny, and Dan. You guys provided some really good information that I hope the people that are participating on this call can take back to their states and look to a potential model for initiating there. We're going to interject one last polling question before we summarize the webinar and get to our questions and answer session. This sort of playing on specifically one of the things Kenny spoke about with respect to what specifically he uses to talk about his state for IAQ management program in schools. We wanted to get a sense to your knowledge what percentage of districts your state has in School based IAQ Management Teams since this is a very important aspect of really getting some action in the district. I just want to get a sense of what you guys know of what's occurring in your state. So please vote and we'll assess the result in just a second.

[Long pause.] OK. We've closed the poll and what I am noticing is that as before with the initial polling question that we ask about the *Tools for Schools* Action Kit, a majority of you were not sure if the kit was being used so it makes sense that a majority of you are – over half of you are not sure about the type of IAQ management teams that exists in your district in your state. That's very interesting and that's very helpful information for us to know and as we go ahead and move forward with the rest of the webinar I am just going to summarize some final thoughts that overlay with the Framework that was discussed in the beginning of the webinar. If you remember the pretty little flower bubbles that we talked about in

reference to our key drivers, I just wanted to talk a little bit about what you have heard today and what both Kenny and Dan and Tobie spoke about in reference to the program and the resources and assets that they bring to the table.

First, I would like to talk about the organize, it sounds like you obviously heard that they use a lot of their IAQ champions in their states to really work with other districts and mentor them. That's really I think encouraging the peer to peer connection which is really great. I think sometimes the message gets across more clearly when it comes from an advocate that is more on that level versus maybe a state local or even the federal level, us at EPA, telling schools how they can implement IAQ management tools. Communication is something we talk about all through the cycles something you can do at every level and not just something that occurs maybe as the second one. So I don't want downplay its order in prioritizing how important it is to communicate effectively. And you've heard from both Kenny and Dan how they really utilized their resources and pulled those resources together, while working together with NGOs and other advocates and stakeholders within the IAQ management or helped in school community to make their state-based initiative happen and happen successfully.

Next would be how we talked about both the speakers talked about assessing. You're going to know in your state what's best to use with your school districts and outreach and education is done usually with just training and materials that are needed. Others require sort of one on one connections and technical assistance which the states can offer that to school districts directly depending on what type of professional organizations they may be in touch with or in house professional accreditation that they have. So you'll – working at the state level you'll know what are the hot topics of that time. Sometimes its going to be mercury, its going to be PCBs and caulks and it's going to be the H1N1 so there are lot of different issues to help you assess what will work in the state.

Next slide please. Acting – one of the things that Kenny spoke about specifically was to train the trainer program. This is really a great way for states to help share their knowledge and empower IAQ advocates and really help them understand the bigger picture but also that one kind of get your foot soldiers on the ground for getting that information out at the local level. Planning is definitely key, both the speakers talked about pooling their resources, working with other organizations and the efficiencies of that being able to that will help sustain long term programs in your state. And finally last but not least is evaluating. Sometimes I think this one is hard to keep that aspect going and understanding. It really is good to see how things are going and to take a step back and see what's working and what's not and regular assessments of your state IAQ management initiatives will be helpful to continue to maintain the program and assistance to schools long term.

I think Dan when we were speaking about this earlier spoke about the positive health outcome information for it basically being the holy grail I think to provide as he said, persuasive information to school districts to encourage them to continue with IAQ management or to get started, reinvigorate, or sustain a program. So just trying to overlay the frame work with that information and kind of give a summary of what you're heard today from our various speakers.

Next I am going to provide some information about resources that we have to offer and as I spoke about in the beginning of the webinar, you will receive these slides so please don't try to write down all these websites because some of them aren't the shortest to write down. And you probably are very familiar with our regular EPA website about schools; there's a wealth of information, free downloads there, the kit basically that we talk about is available online. Checklists and everything are downloadable in both PDF and Word format. So schools or other agencies, anybody can tailor those to their needs depending on how they want to use them.

And the *Tools for Schools* Updates in the e-mail you may or may not be receiving those already that's probably a regular communication that we send out every four to six weeks. These provide in-depth information resources about hot topics, upcoming pacing events such as the Symposium and technical assistance that are with linking to other health and safety, school oriented IAQ management program information that will be helpful to your state initiative and to school districts specifically. So, if you aren't receiving that already these are ways that you can – these are few past bulletins that we've sent out but also join that e-mail list, so you can receive it on a regular basis. The Connector Listserv is something not relatively new but something that we've really been getting a lot of great feedback on. It's a listserv that allows you to share important IAQ management information. As a member you can also post information regarding a question you may have about a specific IAQ management issue that you are facing and if there's a way that you would want to post that information anonymously to not have people open the Pandora's box type that comes out, we're able to provide that as well through the listserv.

And currently we have over 300 members and it's really a great opportunity if – for those who have very specific questions about issue in my district and what have people done to alleviate that. It's been a great way for people to answer that and talk about their experiences even – maybe even specific ways that they have alleviated a problem specifically, and vendors they've even used. But this is not really a place for people to sell their information and we do moderate it and we won't allow those things to be posted. It's mainly just an information sharing area.

Next this information you probably remember back when Tobie was speaking this and so it is just another place that I wanted to reiterate the state based IAQ resources that the Environment Law Institute offers. These are great places Tobie said; these are free downloads that you people can access the information online. And next and finally we have the resources that are available online through both Kenny and Dan, Health Departments where you can also download specific information to their programs, this information on their both – specific to their state but also part of the resources and technical documents that they have developed that will give you access to their IAQ management initiative.

So right now we're going to open it up to the questions. We did receive some questions online on through the instant message function and one of them specifically is asking to Dan and Kenny. So I am going to let you guys answer this separately because they came in – in respect to those of your IAQ management program. It's asking, are PTAs, do they participate as partners in your *Tools for Schools* IAQ initiative? So I will let Kenny go ahead first and then Dan you can answer that as well to talk about the PTA involvement.

Kenny Foscue:

Yes, PTA is statewide. PTA is a member and a pretty active one more recently in the resource team. And they regularly come to our meeting and they've been – they actually – they head out to state wise conferences to represent information so basically – I guess the other thing is that they have been better recently in recent years about trying to get information out to a specific district about the need to get their district to adopt a program.

Dan Tranter:

And I'd say in Minnesota actually not so much quite honestly I think it'd be a good idea certainly to collaborate and I do recommend the school that they, as Kenny mentioned, put together a team of different interested stakeholders. The reality is some Minnesota school are nervous about opening it up to too many different groups and entities so they are quite honestly some schools are reluctant to do it that way. But some schools do it that way and I certainly recommend it I think it's a good idea.

Jennifer Lemon:

Great! Thanks for answering that. The next question we have specifically for Kenny. This is relation to your Tools for Offices program; could you speak a little bit more in depth about that please?

Kenny Foscue:

For Tools for Offices, we basically took the *Tools for Schools* and redesigned it for buildings, office buildings. And right now – it's basically the same model of team with the training and we're actually

trying to get the state – trying to get all the state buildings at this point. And we did a pilot in the state health department which was really successful. We're beginning to offer I think municipal offices and hopefully eventually private offices but it really does follow a lot of *Tools for Schools*. Anything else? Hope I answered your question.

Jennifer Lemon:

Yes, Kenny is there places specifically on your website where we could access or download any tools and resources affiliated with that program?

Kenny Foscue:

Let me check. We have – this question is about can people get information Tools for Office on the website.

It is on our website. So you go to the indoor air quality and if you have any problem you can contact me.

Jennifer Lemon:

OK great Kenny thanks for elaborating on that. One last question that we have actually for both Dan and Kenny is you spoke during both of your presentations about assistance that you received through EPA funding, I was wondering if you could elaborate more on other sources of funding that you received outside EPA. And Dan if you want to ahead and address that first that would be great.

Dan Tranter:

Yes, as I have mentioned how EPA Region 5 funded us for six years to cooperative grant agreement, it's about \$40,000 to \$50,000 a year which is very helpful. We also received a grant from our state legislature from a commission called the Legislative Commission for Minnesota resources. It's actually a funding source that's collected through lottery ticket sales and they give out grants to environmental projects. And you might have something like that similar to that in your state or area. We also got a grant in the past from U.S. EPA headquarters which does continue to give out grants on a – I think it's on every three or four years cycle. So look, look – go to those websites on the regional and federal level look at that stuff and then your legislature might have grants. I believe in the past Robert Wood Johnson Foundation might have had grants that we looked at. We didn't apply for them, but we thought we might have been eligible. I mean there isn't a whole lot honestly, but just look around for different opportunities.

Kenny Foscue:

This is Kenny. We also received funding from EPA Region I and the healthy community grant program and they were gracious enough to give us funding for seven years and it wasn't a ton of money though

we were – I think we were able to be pretty efficient and use it to pretty great benefit. In the last year we had mentioned the special IAQ advanced *Tools for Schools* for custodians and facilities personnel. When the H1N1 situation came about the previous spring and we were seeing schools close down to do emergency cleaning that was not really necessary and that really worried about exposures to disinfectants and just a waste of money and not good public health. We were able to get some funding from the flu CDC Flu Pandemic money and we were able to provide that training for a good number of districts.

But I do want to say that this brings up the whole issue of how indoor air quality is really under-funded and I know that EPA – I know they do the best they can but I know the folks in this *Tools for Schools* program do a lot with not much budget. I think there's a need to increase the amount of spending levels for IAQ because we know it's a major problem. And we also know through especially this program that you can have an impact. As I have mentioned earlier there's an on going problem nationally about the lack of funding for state health departments and there's a real crying need for a stable funding base to fund IAQ work on state basis. And this discussion is actually going on as to – about how to make this happen but there's clearly a need there.

Dan Tranter:

I more I'd add is kind of indirect but EPA also gives out a state indoor radon grants to states and well that's got to be focus on radon I believe you can do related indoor air quality activities under that source of funding. So if you're a state agency you should look into that, if your city or county agency you should contact your state and see if they give out pass through monies for local partners, do educational outreach around radon which could includes schools and some related IAQ activates in schools.

Kenny Foscue:

Let me, let me say a couple other things I forgot.

Jennifer Lemon:

Kenny, actually we have one more question to get to because we're running out of time. I really want to get to this one because it's a good one.

We have a question come in asking is there any connection with university graduate students or projects that assists with surveying students' environmental research. So I don't know if either one of you can speak to that in relation to your state program?

Dan Tranter:

I can mention briefly that I started here basically as a student worker at the Minnesota Department of Health so we do maintain a connection to the University of Minnesota School of Public Health and other colleges. We have hired student workers over the years here and other than important partnerships to make sure that employment office at the university colleges and internship offices know that you exist and have opportunities for their students.

Kenny Foscue:

We haven't had a lot of experience, but we did have a student come and do some work in terms of evaluating, creating the survey. We surveyed actually been three different times we surveyed the school based teams around the state and a student helped develop that survey, the format and the analysis. So it's probably an area we could get more involved in.

Jennifer Lemon:

Great! I think that's it about wraps it up for now. We will put these questions and the answers into a summary document and like I said we will provide you the slides and the webinar recording at this information. And I again I'd like to really thank my speakers Tobie Bernstein, Kenny Foscue and Dan Tranter for participating today and providing us some great information about what they have to offer, the programs in their states and I hope this is something you guys can – who participated on the call are able to possibly take back to your states and recreate and know that you have these two individuals to at least lean to and contact if there are any specific questions about how they got started, how it's continuing to work and how they sustain their efforts in their states. So again thank you everybody for taking the time to attend and we look forward to having you on our next webinar. Take care.