

Ohio Journal of  
Environmental  
**Health**

3rd Quarter 2019

**Effectiveness of Enhanced Home-  
Based Asthma Assessments To  
Reduce Asthma Triggers and  
Hospital Visits**

Also in this issue...

- District Conference Agendas
- New R.S. Exam Score



Official Publication of the Ohio Environmental Health Association

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## President's Message

Carrie Yeager, R.S.  
Butler County Health Department

As the summer comes to a close, I am looking forward to attending each of the 4 District Conferences. This will be the first time that I am attending a district conference other than SW. I look forward to meeting our membership that is unable to attend the Spring AEC. I am excited to see how each of the conferences differ, and learn new ideas that I can take back to the SW planning committee.



If you are looking for ways to become involved in OEHA, please consider joining one of the district planning committees. New members with new ideas for session topics are always welcome. Districts are also always looking for next year's District Director Elect. This two-year commitment is a great way to become involved and learn what OEHA does for the membership. If planning a conference is not your cup of tea, the OEHA technical committees can always use new members. You can find a list of the technical committees and the chair-person of each committee on the website.

Summer has been very busy for OEHA. We worked closely with our Lobbyist at Hicks Partners throughout the biennial budget process that went on far longer than anyone predicted. OEHA was able to influence the legislature to remove the

Body Art Language that needed to be revised to ensure that Body Art Program is brought up to current industry standards, and can be updated easily as new Body Modification techniques emerge in our facilities. We also successfully removed the Registered Sanitarian language from the Budget Bill to prevent changes to the law that that would negatively affect our membership.

OEHA continues to work on the Food Survey Methodology issues and will be asking membership for input on how they would like for the Board of Directors to proceed. This issue can only be moved forward with help from membership throughout the entire state and every Health District. We must all be on the same page with our message and how the surveys are conducted in our Departments so that we are not fighting amongst ourselves and sending mixed messages to ODH and ODA. If you would like to discuss this matter further you can contact me directly by email, or please come speak with me at one of the District Conferences.

On a final note OEHA had a strong presence this year at the NEHA conference in Nashville. Both our Past President and President Elect were presenters at the conference. A good time was had by all who attended. I encourage everyone to not only be members of OEHA, but to also become members of NEHA. I would also like to congratulate Niki Lemin from Franklin County Public Health who is now the Region 6 Vice President for NEHA. I know she will do [a] great job in this position.



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## Meet the Vice President

Sarah Jensen, MPH, R.S., REHS, CP-FS  
Savor Safe Food

Sarah currently works as the Managing Director of the Great Lakes Region of the Worthington, Ohio based Savor Safe Food. There she works with the food service industry to ensure food safety, health department cohesion, conduct validation studies, develop customized audits for clients, as well as train field auditors for brand protection, quality/sanitation control, and regulatory compliance audits. She specializes in developing HACCP plans and variance applications. She also teaches ServSafe classes. Her career in food safety began with employment as a registered sanitarian for Greene County Public Health, in Greene County Ohio.



During her employment, she focused on regulatory compliance audits, food safety education, and food service plan reviews, to promote food safety in all stages of food service growth and development. It was during this time she learned how to coach food service managers to embrace a preventative food safety culture rather than a reactive one.

Sarah is an active member of several organizations, holding the position of vice-president of the Ohio Environmental Health Association, and through acceptance of a four-year leadership role for the board of directors of the Ohio Association for Food Protection, of which she is currently the second vice president. She regularly attends and helps plan food safety conferences in the state of Ohio. She is also involved in the National Environmental Health Association, the Ohio Restaurant Association, the International Association for Food Protection, and the Conference for Food Protection. Furthermore, she participates in food safety training development

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with the National Restaurant Association's ServSafe Allergens Work Group, in Orlando, Florida.

For her educational pursuits, she attended Wittenberg University in Springfield, Ohio where she earned a bachelor's degree in biology with minors in sociology and health science. She went on to earn her Master of Public Health (MPH) degree with a focus on health policy and management from Kent State University. Prior to enrolling in Wittenberg, she attended Alderson-Broaddus College and Fairmont State University where she studied business and obtained a degree in emergency medical services management. She worked as an Emergency Medical Technician for four years. In her endeavor to become a polymath, she has also attended the following universities through an International Honors Scholar Program: The University of Johannesburg, South Africa; the Beijing Language and Culture University in Beijing, China; the University of Southern California (USC) – Marshall School of Business in Los Angeles, California; the University of California at Los Angeles (UCLA) – Anderson School of Management in Los Angeles, California; the University of South Carolina in Columbia, South Carolina, and the University of

Notre Dame, in Notre Dame, Indiana. It was at these schools where she became educated in organizational leadership, human resources, public health planning, business communication, new product development, contemporary Chinese culture, business foundations, leading and managing a startup, servant leadership, global entrepreneurship, the fundamentals of finance, marketing management, and project, operations, and supply chain management. She continues to further her education through numerous courses in food safety, workforce development, organizational leadership, cultural competency, and disaster planning, among others.

She currently maintains registration as a sanitarian (R.S.) in the state of Ohio, along with the additional credentials of Registered Environmental Health Specialist (REHS), HACCP Manager, and Certified Professional in Food Safety (CP-FS) through the National Environmental Health Association. She holds certification as a ServSafe® instructor and proctor. She is a Certified Pool Operator through the National Swimming Pool Foundation. In her free time, she enjoys reading, writing, photography, and conducting food safety and quality research with her partner.

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# Northwest District Conference



## 2019 NWOEHA Fall Conference Conference Agenda

Thursday, October 3, 2019

8:00 am - 8:30 am	Exhibits Open ( Foyer)	Registration / Continental Breakfast	
8:30 am - 8:45 am		Business Meeting/ Opening Comments Aloeswood/Leopardwood	
8:45 am - 9:45 am		Brian Cunningham, Director of Human Resources Lucas County Human Resources Dept 'What did you just say? Non-Verbal Communication in Customer Service	
9:45 am - 10:00 am		BREAK	
CONCURRENT SESSIONS		ALOESWOOD/LEOPARDWOOD	ROSEWOOD
10:00 am - 10:45 am		Justin Chaffin, PhD- OSU Stone Lab Harmful Algal Blooms	Curve Brows Careen Anderson & Hana Elchar Microblading 101
10:45 am - 11:30 am		Angel Arroyo Rodriguez- OEPA Composting regulations	Wendi Huntley, Esq.- President, Connecting Kids to Meals Hunger in Our Community
11:30 am - 12:30 pm		LUNCH / AWARDS IN SAGEWOOD	
12:30 pm - 1:30 pm		Brian Snyder- Executive Director, InFACT Initiative for Food and AgriCulture Transformation	
CONCURRENT SESSIONS		ALOESWOOD/LEOPARDWOOD	ROSEWOOD
1:30 pm - 2:15 pm		Brian Snyder- InFACT Workshop	Corey Schwab, RS- ODH Pool inspection trends and troubleshooting
2:15 pm - 2:30 pm		BREAK	
CONCURRENT SESSIONS		ALOESWOOD/LEOPARDWOOD	ROSEWOOD
2:30 pm - 3:15 pm		Scott Hetrick- Norweco TAC approval of STS components	Steve Ruckman, RS, MPH- Worthington Schools, OEHA President Elect Correlation between less student absences and increased school sanitation practices
3:15 pm - 4:15 pm	Colin Bishop, RS- ANUA Impact of commercial food establishments on onsite STS		

Total CEUs: 6

# Northwest District Conference



## 2019 NWOEHA Fall Conference Conference Agenda

Friday, October 4, 2019

8:00 am - 8:30 am	Exhibits Open (Foyer)	Registration / Continental Breakfast		
8:30 am - 8:45 am		Opening Comments/ Close of Business Meeting President's Message Aloeswood/Leopardwood		
8:45 am - 9:45 am		Dr. Tim Murphy- University of Findlay Getting your monies worth- Hiring from EHAC accredited schools		
9:45 am - 10:00 am		BREAK		
CONCURRENT SESSIONS		ALOESWOOD	ROSEWOOD	
10:00 am - 10:45am		David Hunt- Chief of Enforcement, ODA Agriculture Enforcement Duties	Jim Warner, Lab Manager - Erie County Health Department #1 & #2 reasons to check your beach water quality	
10:45 am - 11:30 am		David Letterle, RS, MPH- Delaware General Health District Creating a GIS program using ESRI	Gina Kramer, President- Savour Food Safety International & Laura Morrisson- Ohio Restaurant Association Importance of commercially approved equipment in food service operations	
11:30am - 12:30pm		LUNCH IN SAGEWOOD		
12:30pm - 1:30pm		Tony Legando, Huron Schools (Ret.) The lead.....Just take it!!		
Concurrent Sessions		ALOESWOOD	ROSEWOOD	SAGEWOOD
1:30 pm - 2:15 pm	Gina Kramer, President- Savour Food Safety International Reduced Oxygen Packaging	Patrick McCarthy Mill certificates & why you need a sterilization room	EH Director's Mtg.	
2:15 pm - 3:15 pm	Dan Holmes- NSF Legionnaires and other water-borne illnesses			
3:15 pm - 3:30 pm	WRAP UP			

Total CEU's: 5.25

Total CEU's for both days: 11.25

# Northeast District Conference



## 2019 Northeast District OEHA Fall Educational Conference

### Fall Educational Conference Agenda

Time Slots	Speaker	Topic Title	Room
<b>Tuesday, October 15, 2019</b>			
7:30 – 8:15	Registration		
8:15 – 8:25	Business Meeting		
8:25 – 8:50	<i>District Director and President's Address</i> Colton Masters and Carrie Yeager		
8:50 – 9:50	Shane Bates	<i>Human Trafficking- an Overview for the Public Health Professional</i>	
9:50 – 10:10	<b>Break – Visit Exhibitors</b>		
10:10 – 11:10	Shaddy Swade Katie Romig	<i>Taking An Outbreak to New Heights; Investigating a Potential Outbreak on an Airplane</i>	
	Paul Cavalluzzi	<i>Proper Sizing of Grease Interceptors</i>	
	Barry Grisez	<i>Ohio Pool Rules and the Model Aquatic Health Code</i>	
11:10 – 12:10	Sam Rubens	<i>What is Driving our Particulate Matter Decline?</i>	
	Steve Bopple	<i>The States Closure of the Central Waste Landfill</i>	
	Heather Robinson	<i>Search &amp; Seizure for Sanitarians</i>	
12:10 – 1:10	<b>Lunch</b>		
1:10 – 2:10	Christina Yoka	<i>Health Disparities, Air Quality and a Changing Climate</i>	
	Michael Naymik	<i>Wetlands and Their role in Water Quality</i>	
	Randy Conforti	<i>Commercial Cooking Appliance Inspections</i>	
2:10 – 3:10	Darrell McQuire Rick Becker	<i>Health Department Information Systems (HDIS)</i>	
	Krista Gesaman	<i>One Drop at a Time; Educating System Owners about Water &amp; Wastewater</i>	
	Timothy Murphy	<i>Cost Savings of Hiring From an Accredited Environmental Health Academic Program</i>	
3:10 - 3:30	<b>Break – Visit Exhibitors</b>		
3:30 – 4:30	Erin Neylon	<i>Food Safety Speedbumps – A Risk Management Plan</i>	
	Courtney Myers	<i>Sewage O&amp;M: Where to Begin?</i>	
	Brandon Mantel	<i>Diagnostic Procedures for Solving Water Well Problems</i>	
4:30 – 5:30	<b>Hospitality Rooms</b>		
5:30- 7:30	<b>Banquet and Entertainment:</b>		
7:30 – 12:00	<b>Hospitality Rooms</b>		

# Northeast District Conference



## 2019 Northeast District OEHA Fall Educational Conference

### Fall Educational Conference Agenda

Time Slots	Speaker	Topic Title	Room
<b>Wednesday, October 16, 2019</b>			
8:30 – 9:00	<b>Registration</b>		
9:00 – 10:00	Jeffery Raines	<i>Rabies in Stark County</i>	
	Robert Brand	<i>Climate Impacts on Human Health</i>	
	Ali Corrigan Eric Hoover	<i>Noro With a Splash of Giardia – An Outbreak Investigation</i>	
10:00 – 10:15	<b>Break – Visit Exhibitors</b>		
10:15 – 11:15	Lynn Denny	<i>Lyme Disease in Ohio; An Epidemiologists View</i>	
	Mark Adams	<i>Soooo, Anyone Can Be a Leader, Right?</i>	
	Tom Blackford Jim Armstrong	<i>FSO/RFE Plan Review</i>	
11:15 – 12:15	Scott Pozna Juston Carpenter	<i>A Mosquito Complaint which turned into a Multi-Age Tire Site Cleanup</i>	
	Paul Rice	<i>Advances in Pre-Treatment</i>	
	Steve Shaffer	<i>Dealing with an Angry Person</i>	
12:15 – 1:15	<b>Lunch</b>		
1:15 – 2:15	Melinda Lee	<i>Current Threats of the Honey Bee</i>	
	Anuja Sarode Fehintolu Adebanjo	<i>Ambient Air Pollution and Mortality after Heart Transplantation / Reducing Exposure to Hazards among Machine Operators</i>	
	Mike Tedrick	<i>The Confused Concessionaire</i>	
2:15 – 3:15	Jenna Sisley Tania Rubyet Nur	<i>Promoting Crash Reduction Among Motor Vehicle Carriers in the Trucking Industry / Investigation of Legionnaires Disease Outbreaks in Northeast Ohio</i>	
	Julie Brown	<i>2 Girls, a Guy and a Big Pile of Shi....ngles</i>	
	Barbra Kowalcyk	<i>The Burden of Foodborne Illness</i>	
3:15 – 3:30	Business Meeting and George Eagle raffle drawings		

# Southeast District Conference



## OEHA Fall Conference – SE District Ohio University Inn, Athens, OH

Wednesday, September 25, 2019

8:30 - 9:15 am	REGISTRATION
9:15 - 9:30 am Ballroom	WELCOME & OPENING BUSINESS MEETING Jeff Gibbs, Franklin County Public Health Southeast District Director
9:30 - 10:45 am Ballroom	100 Years of Public Health Wally Burden, Ohio Department of Health
10:45 - 11:00 am	BREAK & EXHIBITS – Lindley Room
11:00 - 12:00 pm Galbreth Room	CONCURRENT SESSIONS 1. Public Swimming Pools – Chemicals, automatic disinfection, maintenance Taylor Mulder & Bill Jones, Eco Lab
Foundation Room	2. Class II & IV Composting Facility Steve Mack, Ohio University
12:00 - 1:30 pm	Lunch - Carrie Yeager OEHA President
1:30 - 2:30 pm Galbreth Room	CONCURRENT SESSIONS 1. Catalyzing Food Waste Reduction through Collective Impact Lucy Schroder, Solid Waste Authority of Central Ohio
Foundation Room	2. Vector Program - Using ArcGIS Online and Other ESRI Apps to Collect and Share Data Sarah Fink - Franklin County Public Health
2:30 - 2:45 pm	BREAK & EXHIBITS – Lindley Room
2:45 -3:45 pm Galbreth Room	CONCURRENT SESSIONS 1. Food Safety – Customer Satisfaction Surveys Garrett Guillozet, Franklin County Public Health
Foundation Room	2. Sustainable Infrastructure Needs - Community Solutions through Ohio's Revolving Funds Jerry Rouch - Chief, Division of Environmental & Financial Assistance, Ohio Environmental Protection Agency
3:45 – 4:45 pm Ballroom	GENERAL SESSION Winning at Home with Jackie O's – Sustainably Crafted with Purpose Andrew Arthur (Art) Oestrike - Jackie O's Brewery
5:00 pm – 7:00 pm	Dinner (On Your Own) – Explore Athens!
7:00 pm - ???	Hospitality Rooms Open

# Southeast District Conference



## OEHA Fall Conference – SE District Ohio University Inn, Athens, OH

Thursday, September 26, 2019

7:30 - 9:30 am	REGISTRATION & BREAKFAST BUFFET
8:30 - 9:30 am Ballroom	GENERAL SESSION Legal Update – Ohio Case Law & Attorney General Opinions relevant to the practice of Environmental Health Joe Durham, Eastman & Smith
9:30 - 10:45 am Galbreth Room	CONCURRENT SESSIONS 1. Thoughts on Being a Generalist – Why Public Health Desperately Needs Them Lee Carl Finley, New Philadelphia City Health Department
Foundation Room	2. Sewage Outfalls – GIS Mapping Sacha Mkheidze, Franklin Soil & Water Conservation District Nathan Ralph, Franklin County Public Health
10:45 - 11:00 am	BREAK & EXHIBITS – Lindley Room
11:00 - 12:00 pm	CONCURRENT SESSIONS
Galbreth Room	1. Underground Body Art Sarah Badenhop, Columbus Public Health
Foundation Room	2. Shifting from Response: Preventative Model for Managing Risk from Building Water Systems and Strategies for Organizing a Legionella Investigation Dann Holmes, Christopher Boyd, Andrew Ward, NSF
12:00 - 1:30 pm	LUNCH – AWARDS & RETIREE RECOGNITION
1:30 - 2:30 pm Galbreth Room	CONCURRENT SESSIONS 1. Voluntary National Retail Food Regulatory Program Standards Overview Jon Tran, Retail Food Protection Branch II, U.S. Food & Drug Administration
Foundation Room	2. Rabies Control – Continuous Quality Improvement (PDCA Cycle) Tara Tucker, Franklin County Public Health
2:30 - 2:45 pm	BREAK & EXHIBITS – Lindley Room
2:45 – 3:45 pm Ballroom	GENERAL SESSION Health Equity & Environmental Health: Understanding the Connection Niki Lemin, Franklin County Public Health
3:45 pm – 4:30 pm	FINAL BUSINESS MEETING ELECTION RESULTS

# Southwest District Conference



## October 2, 2019 Wednesday

<u>Time</u>	<u>Session Topic</u>	<u>Speaker</u>
7:30 AM - 8:15 AM	<i>Registration</i>	
8:15 AM - 8:45 AM	Welcome & Business Meeting	<b>Brian Williamson, RS</b> Norwood Health Department SW OEHA District Director
8:45 AM - 10:00 AM	<b>General Session</b> Legionella	<b>Dann Holmes</b> NSF
10:00 AM - 10:15 AM	<i>Room Change</i>	
10:15 AM - 11:15 AM	Interacting with Florida Public Health Officials to Combat Zika Virus	<b>Brian Deenihan</b> Clarke Mosquito Control
	<i>Legionella: Research, Mitigation, and Regulation</i>	<b>Colin White</b> Environmental Manager Emerging Contaminants Section, Ohio EPA Central Office
	Hamilton County Public Health's Approach to Enforcement	<b>Jeremy Hessel</b> Hamilton County Public Health
11:15 AM - 12:15 PM	<b>LUNCH</b>	
12:15 PM - 1:15 PM	Design of Onsite Wastewater Treatment Systems	<b>Ryan Hillard</b> Hillard Engineering & Surveying
	Ending Post Closure Care for Solid Waste Facilities- The How, What and When Your Closed Landfill Can End Post Closure Care	<b>Holly Hillyer</b> Environmental Supervisor Ohio EPA, Central Office
	Overcoming the Mobile Food Truck Hurdle	<b>Tom Lindsey</b> City of Springdale Fire Department
1:15 PM - 1:30 PM	<i>Room Change</i>	
1:30 PM - 2:30 PM	Microblading: The Evolution and Art of Manual Tattooing	<b>Erica Kidder</b> Studio Hue
	Explosive Gas- A Rising Public Health and Safety Issue	<b>Holly Hillyer</b> Environmental Supervisor Ohio EPA, Central Office
	Steak-N-Shake Administrative Hearing	<b>Jenay Mourer &amp; Carla Ealy</b> City of Middletown Health Department
2:30 PM - 2:45 PM	<i>Break</i>	
2:45 PM - 3:00 PM	Presidents Address	<b>Carrie Yeager, RS</b> Butler County General Health District OEHA President
3:00 PM - 4:15 PM	<b>General Session</b> Nuclear Winter Blues- CRC Full Scale Exercise	<b>Tracy Clave</b> Public Health- Dayton & Montgomery County

# Southwest District Conference



## October 3, 2019 Thursday

<u>Time</u>	<u>Session Topic</u>	<u>Speaker</u>
7:30 AM - 8:15 AM	<i>Registration</i>	
8:15 AM - 9:30 AM	<b>General Session</b> Public Health and Natural Disasters	<b>Jennifer Wentzel</b> <i>Public Health- Dayton &amp; Montgomery County</i>
9:30 AM - 9:45 AM	<i>Room Change</i>	
9:45 AM - 10:45 AM	Public Health, Natural Disasters and Environmental Health's Role	<b>Jennifer Wentzel &amp; Matthew Tyler</b> <i>Public Health- Dayton &amp; Montgomery County</i>
	The Sweet Things about Public Health	<b>Eric J. Zgodzinski</b> <i>Toledo-Lucas County Health Department</i>
	Dogs on Patios – A Different Perspective	<i>4 Paws for Ability</i>
10:45 AM - 11:00 AM	<i>Room change</i>	
11:00 AM - 12:00 PM	New Concepts in Wastewater Treatment	<b>Paul Rice</b> <i>Tangent Company, LLC</i>
	Jumping into the Pool – An In-Depth Look at the Operation of Public Swimming Pools to Help Improve Inspection Quality	<b>Cory Schwab</b> <i>Ohio Department of Health</i>
	Rabies: Fighting the Bite!	<b>Whitney Jones</b> <i>Ohio Department of Health</i>
12:00 PM - 1:00 PM	<i>Lunch</i>	
1:00 PM - 2:00 PM	Hepatitis A: Statewide Community Outbreak Update	<b>Brandi Taylor</b> <i>Ohio Department of Health</i>
	Searches & Seizures	<b>Adam Nice</b> <i>Assistant Prosecutor Warren County Prosecutor's Office</i>
	Mosquito Testing for Vector Borne Illnesses	<b>Whitney Jones</b> <i>Ohio Department of Health</i>
2:00 PM - 2:15 PM	<i>Break</i>	
2:15 PM - 4:00 PM	<b>General Session</b> The Ohio Ethics Law: Can I Do That?	<b>Susan Willeke</b> <i>Ohio Ethics Commission</i>
4:00 PM - 4:15 PM	Wrap-Up	<b>Brian Williamson, RS</b> <i>Norwood Health Department SW OEHA District Director</i>

# Effectiveness of Enhanced Home-Based Asthma Assessments To Reduce Asthma Triggers and Hospital Visits

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## ABSTRACT

In 2017, the Clark County Combined Health District initiated the Breathing Easy in Clark County asthma program because home-based asthma assessments are an evidence-based method to identify asthma triggers and discuss corrective actions. But, there is an accumulating body of research indicating that exposure to sodium hypochlorite and quaternary ammonium compounds in household cleaning products aggravate asthma AND research indicating that clients who are involved with indoor air quality monitoring have increased interest in air quality concepts and more confidence to mitigate problems. So, the program enhanced its home-based asthma assessments with measurements of indoor air quality parameters (carbon dioxide, carbon monoxide, temperature, and relative humidity) and measurements of sanitizer concentrations in cleaning products present in clients' homes. That is, the program added discussions of potential asthma exacerbations associated with inadequate fresh air, too-high or too-low temperatures, dampness, and fumes produced by too-strong cleaning products in order to increase teachable moments and empowerment opportunities. The program received referrals from local hospitals, primary care providers, and clinics; requests from the public; grant-funding for supplies; and cost-cutting assistance from partners. Reports were sent to primary care providers to assist with patient treatment. Follow-up contacts with clients were made at 30-day and 6-month intervals to confirm trigger reductions, provide supplies, and determine the number of post-assessment emergency department visits. The program has served 74 children and 58 adults since 2017, with an average 63% reduction in asthma triggers and indoor air quality issues; an average 48% reduction in the use of harsh cleaners; and reductions in emergency department and unscheduled primary care provider visits of 89% at 30-days and 75% at 6-months.

## What is asthma?

Asthma is a chronic disease in which airways swell and make breathing difficult. Asthma exacerbations (attacks) are caused by triggers, including allergens (such as dust mites, pet dander, and mold spores) and irritants (such as secondhand tobacco smoke, chemical fumes, and particles). They are also caused by conditions, such as exercise and upper respiratory infections (URI's) (1). Difficult breathing during an asthma attack explains the *fish out of water* analogy of EPA's "Dusty the Asthma Goldfish."

## Why did the Clark County Combined Health District start an asthma program?

In 2015, the Clark County Combined Health District (CCCHD) conducted a Community Health Assessment and identified asthma as a chronic disease of concern in Clark County (2). In a 2015 telephone survey of Clark County adults, 19.1% said that they had been diagnosed with asthma and, of those, 38.1% said that they had had an asthma attack and 16.8% said that they had visited a hospital or urgent care in the last year (3). These numbers were higher than the Ohio average of 14.2% and the national average of 14.1% (4). Also, in a 2015 survey of Clark County teens, 27.9% said they had been diagnosed with asthma (5), greater than the national average of 21% (6). So, in 2017, as part of the Community Health

### Figure 1. Asthma Program Activities.

Collaborate with the ODH to ensure that the program is consistent with the State Health Improvement Plan  
Reach out to local clinics & providers  
Assess homes, ID triggers, & check IAQ  
Provide guidance to reduce triggers  
Encourage Asthma Action Plans  
Provide supplies to reduce triggers  
Work with local & state partners  
Apply for grant-funding for supplies  
Present information to the public  
Ensure outreach to the target audience  
Serve in multiple languages.

Improvement Plan, the existing indoor air quality (IAQ) program was expanded to include the Breathing Easy in Clark County asthma program.

### **What were the goals of the program?**

In 2017, the CCCHD committed to reducing asthma-related visits to the Springfield Regional Medical Center (SRMC) Emergency Department (ED) by March 2019. An Asthma Subgroup (with state and local partners) formed to determine activities (Fig. 1).

### **Why choose in-home assessments?**

Evidence-based research shows that home visits to identify asthma triggers improve asthma management by correcting home environments and reducing primary care provider (PCP) and hospital visits (7). The Ohio Statewide Asthma Plan encourages sharing IAQ results with PCP's to assist with therapy (8).

### **Why enhance the asthma checklist with IAQ measurements and measurements of sanitizers?**

Individuals who are *engaged* with the IAQ process understand air quality issues better and have more confidence to mitigate those problems (9). Local experience with IAQ assessments has shown that they provide teachable moments (when clients learn *why* problems exist) and empowerment opportunities (when clients become more self-reliant when fixing problems) (10). *This is important!* Many clients have “researched” their problem on the internet and “learned” a lot of misinformation. Easy-to-read and easy-to-understand IAQ results correct wrong ideas and inspire confidence in recommendations.

**Example 1:** Carbon dioxide (CO<sub>2</sub>) is an easy-to-measure reverse indicator of fresh air (11). Fresh air dilutes indoor pollutants and purges airborne particles (12, 13). CO<sub>2</sub> rises in houses with limited fresh air supplies, making them prone to odors and prompting the ineffective use of air fresheners (an irritant). Checking CO<sub>2</sub> levels is a teachable moment.

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**Example 2:** There is consistent and accumulating evidence that typical exposures to household products containing sodium hypochlorite (NaOCl) and quaternary ammonium compounds (QAC) cause or exacerbate asthma (15, 16, 17, 18, 19). But, fear of pathogens can lead people to take ill-advised actions, such as using too-strong over-the-counter products, which often require potable water rinses (Fig. 2), or very concentrated homemade bleach mixes (which have irritating fumes). Checking sanitizer concentrations with easy-to-read test strips is a teachable moment.

**How were the assessments done?**

The program accepted requests and referrals for services from the public, hospitals, and PCP’s. Visits were scheduled and homes were assessed for:

1. Asthma triggers (using the EPA Asthma Home Environment Checklist)
2. IAQ parameters outside recommended ranges (using a TSI Model 8550 Q-Trak IAQ monitor)
3. Damp building materials (using a Tramex Moisture Encounter Plus meter)
4. Inadequate ventilation fans (using a Regin HVAC Products smoke pen)
5. Too-strong cleaners/sanitizers (using Bailey’s Chlorine and Quat-10 test papers)

Parameters are listed in Figure 3. Clients were provided with information to recognize and reduce triggers, to fix IAQ problems, and to find services. The program provided copies of reports to clients and PCP’s (with HIPAA release). Contact was made at 30-days to check on progress, need for PCP or ED visit, and to deliver supplies. Contact was made at 6-months to check on need for PCP or ED visits.

**What was the target audience?**

Analysis of SRMC ED data found that white males and females (WM and WF) accounted for the majority of ED visits (Fig. 4), but African-American males and females (AAM and AAF) were a health-disparate population (Fig. 5). This was consistent with State of Ohio data that identified the target audience as African-American male children (20).

Figure 2. Fine Print on Wipes Bottle. (CCCHD photo)



Figure 3. Assessment Standards.

Parameter	Standard	Reference
Asthma triggers	No triggers	EPA Asthma Home Environment Checklist
CO <sub>2</sub>	< 1000-1200 ppm	ASHRAE 62
CO	< 9 ppm (8 hrs)	ASHRAE 62
Temperature comfort range	73°F-79°F (summer) 68°F-74.5°F (winter)	ASHRAE 55
Relative Humidity	30% - 50%	EPA Asthma Home Environment Checklist
NaOCl sanitizer	< 50-100 ppm	OAC 3717-1-04.4
QAC sanitizer	<200 ppm	OAC 3717-1-04.4
Dampness of building materials	<14%-19%	EPA 402-F-13053
Ventilation fans	Capture airstream	IACHI Standards

Figure 4. Asthma ED Visits by Race & Gender per Age Range – 2016. (SRMC ED data)

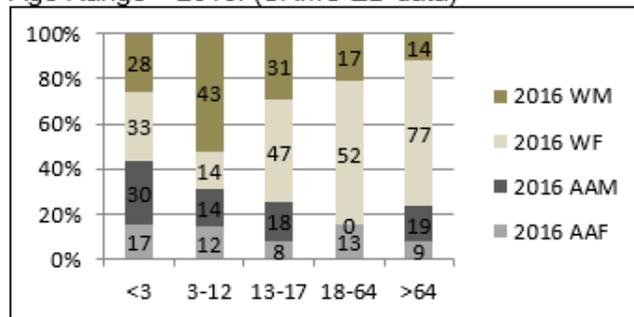
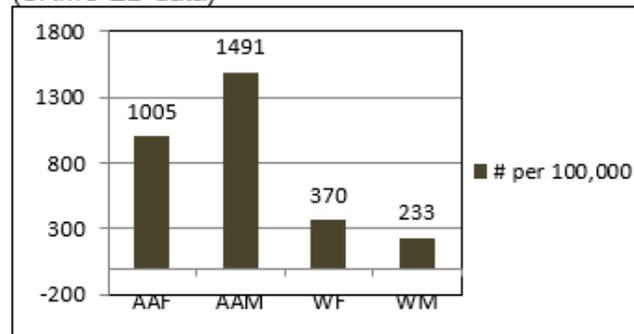


Figure 5. Asthma Health Disparities in Clark County. (SRMC ED data)



**What were the most common IAQ issues and asthma triggers found in homes?**

Figure 6 lists the most common asthma and IAQ issues identified in homes (by percentage), with the testing method, examples of teachable moments/empowerment opportunities for each, the supplies provided, and the percent correction (as observed at the 30-day contact). The most common issues were use of too-strong cleaning products; lack of bedding encasements; lack of knowledge of seasonal allergies and local air quality information sources; dust issues from clutter; mold growth from high humidity, leaks, and damp building materials; no or non-working exhaust fans or failure to use them when bathing; pet issues; elevated CO<sub>2</sub>; and exposure to secondhand tobacco smoke (STS).

**What action steps were most needed to improve IAQ issues and reduce asthma triggers?**

The most needed action steps were exhaust fan checks, consultations on sources of leaks and moisture, recommendations to reduce dampness and increase fresh air, guidance on best ways to clean dusty and moldy areas, recommendations for

repairs, local tobacco cessation resources, and use of air quality phone apps and e-mail notifications.

**What supplies were available for clients?**

The program could provide mattress and pillow-encasements (covers), replacement HEPA vacuum cleaner filters, furnace filters, no-smoking window stickers, and green-cleaning kits and recipes.

**What is a green-cleaning kit?**

Green-cleaners are common household products (like soap, vinegar, lemon juice, and salt) that clean surfaces without generating fumes or leaving toxic residues (21). Green-cleaners are old-school, but they work well and are cheap. Moreover, leftover mixes don't need to be disposed at household hazardous waste collection events. The asthma program provided free green-cleaning kits with a bucket, spray bottle, labels, white vinegar, salt, baking soda, microfiber towels, and recipes (Fig. 7).

Figure 6. Most Common Asthma Trigger and IAQ Issues Found in Assessed Homes. (CCCHD data)

Asthma or IAQ Issue	Testing Method <i>Teachable Moment &amp; Empowerment Opportunity</i>	% of homes	Supplies provided	% fixed at 30-days
Use of too-strong cleaning products	Test strips <i>Use detergents (soap and hot water) to clean</i> <i>Use green cleaning kit to reduce fumes &amp; residues</i>	87	Green-cleaning kit and guidance document	48
No bedding encasements	Check of bed <i>Use encasements to reduce exposure to dust mites</i>	76	Bedding encasements	100
Lack of insight on seasonal allergens	Discussion of issue <i>Use daily local air quality information to plan activities</i>	56	Info on phone apps and email forecasts	50
Dust from clutter	Check of house <i>Reduce clutter to make cleaning easier</i>	51	Green-cleaning kit and guidance document	50
Mold growth associated with humidity, leaks, or damp areas	IAQ meter & moisture meter <i>Dry damp areas and clean with detergents</i> <i>Repair leaks and replace absorbent materials</i> <i>Use bathroom exhaust fan during &amp; after bathing</i>	48	Green-cleaning kit and guidance document	43
No or non-working exhaust fan	Smoke pen <i>Replace old exhaust fan or install an exhaust fan</i>	47	n/a	20
Pet issues	Discussion of issue <i>Keep pets out of bedroom and off furniture</i>	43	n/a	25
Elevated CO <sub>2</sub>	IAQ meter <i>Open windows on days with good air quality forecasts</i>	24	Info on phone apps and email notifications	70
Exposure to STS	Discussion <i>Create and maintain a smoke-free home</i>	29	Window stickers and smoking cessation info	10

**Why provide free supplies – why not just advise people to buy their own?**

Many clients could and did buy their own supplies, but the intent of the program was to provide supplies for any client who needed them, regardless of income or ability to pay. Also, some supplies were too expensive for some low-income clients. So, since the Boston Children’s Hospital found that having mattress- and pillow- covers and using less-harsh cleaning products decreased hospital visits and admissions (22), the program chose to provide them at no charge.

**How did the program pay for these supplies?**

Clark County is served by a philanthropic foundation (Community Health Foundation) that provides funding for health safety net services. A \$3,240 grant in 2017 allowed the program to purchase a large number of supplies (wholesale and with bulk discounts) for the program.

**Okay, so why bother with the home visits? Why not just provide free supplies?**

The Tulane University School of Public Health found that assessing homes, identifying triggers, and providing bedding covers was *more effective* than just providing free covers with no home visit (23).

**How did the program address seasonal trends in asthma visits to the hospital?**

Asthma visits to hospitals vary per season in all parts of the world (24, 25) and Clark County’s trends can be easily seen when SRMC ED data is charted by month (Fig. 8). The *peaks* represent the Mid-Winter Peak, thought to be induced by URI’s, dust, and possibly inadequate ventilation (26); the Spring Peak, thought to be induced by seasonal allergies (27); and the September Epidemic, thought to be induced by URI’s and to be improved by an early flu shot (28, 29). The asthma program addressed seasonal peaks by producing infographics (Fig. 9) and other materials to share at home visits and with school nurses, PCP’s, local pharmacies, and the public via meetings, mailings, and social media. Suggested actions:

1. Schedule a pre-school-season office visit
2. Get or update your asthma action plan
3. Acknowledge the known link to URI’s

Figure 7. Free Green-Cleaning Kit. (CCCHD photo)

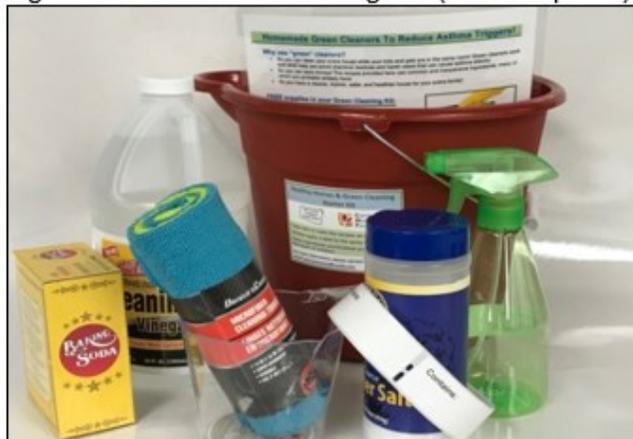


Figure 8. February, May, and September Peaks in Asthma SRMC ED Visits – 2016. (SRMC ED data)

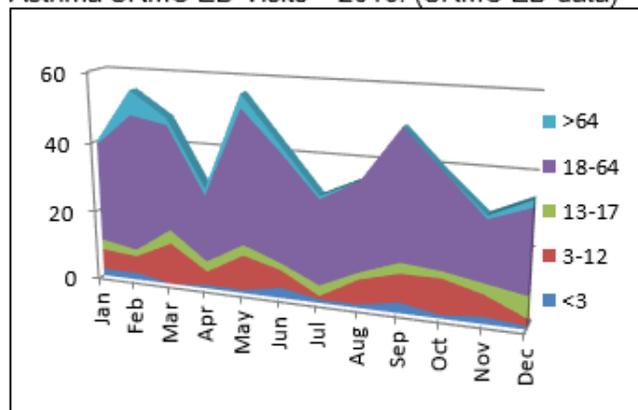


Figure 9. Beat the Peak Infographic. (CCCHD)



4. Wash hands frequently and correctly
5. Get an early flu shot
6. Learn about seasonal allergies
7. Have your home checked for asthma triggers

**Did the program work?**

Yes! The program has served 74 children and 58 adults so far, with an average 63% reduction in asthma triggers/IAQ issues in homes; an average 48% reduction in the use of too-strong cleaners; and reductions in ED and unscheduled PCP visits of 89% at 30-days and 75% at 6-months (Fig. 10).

**Limitations of the program**

There are two limitations. First, information on ED and PCP visits at 30-days and 6-months is *self-reported*. Second, there is *no routine referral of asthmatics from SRMC ED to the asthma program* even though many ED asthma visits were *repeat visits* (35% in 2016, 33% in 2017, and 28% in 2018) from patients who visited 2-10 times each. So, there is no cause-and-effect relationship between the asthma program and SRMC ED data. However, the trend line for asthma visits to SRMC ED decreased from 2016 to 2018 and is promising (Fig. 11).

Figure 10. Before and After Contact with Clients. (CCCHD data)

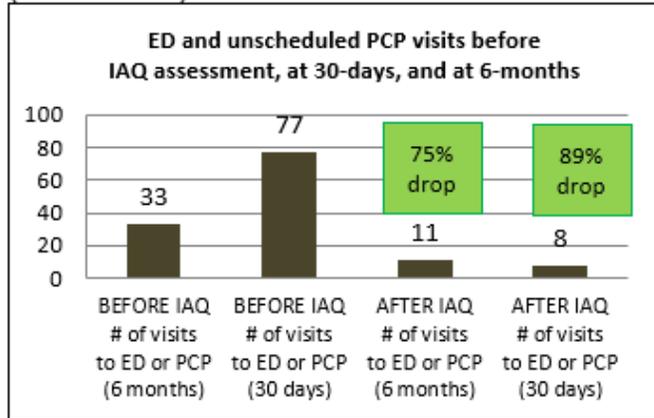
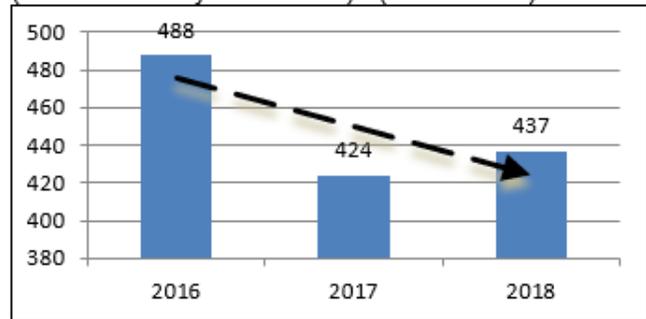


Figure 11. Asthma Visits to SRMC ED 2016-2018 (2019 data not yet available). (SRMC data)



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## **Were there any side benefits of the program?**

**Yes!** Benefits included radon testing, providing mattresses and bed linens, and treating bedbugs.

## **Are materials available to start a program?**

**Yes!** Customizable inspection checklists, English- and Spanish-language pamphlets, posters, and infographics are available at [akaup-fett@ccchd.com](mailto:akaup-fett@ccchd.com).

## **Should you consider an Asthma Program at your health department?**

**Yes!** Asthma is a chronic disease of concern in every county in Ohio, not just Clark County! The Ohio Department of Health's Asthma Program maintains asthma statistics for each Ohio county. Contact [Adrienne Damicis](#) at 614-728-3620 to request asthma data for your county.

## **Acknowledgements:**

Thank you to the *Breathing Easy in Clark County* Asthma Subgroup partners. Special thanks to the Community Health Foundation for funding. Thank you also to Dayton Children's Hospital, Rocking Horse Center, and Ohio Department of Health's Asthma Quality Improvement Collaborative for your assistance.

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# Change in Ohio's R.S. Exam Score



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Mike DeWine, Governor  
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Amy Acton, M.D., MPH, Director

Date: August 28, 2019  
To: Interested Parties  
From: W. Gene Phillips, MPH, RS  
Chief, Bureau of Environmental Health & Radiation Protection  
RE: Change in Ohio's RS Exam Score

## Memorandum

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Effective April 22, 2019, the passing score accepted by the Ohio Department of Health for the NEHA REHS/RS Examination is 650.

This change was precipitated by a change in exam forms utilized by NEHA on April 22, 2019. All applicants who are affected by this change have been notified.

Please be aware that we are in the process of revising registered sanitarian rules to reflect this change in score. Once they are released for comment, you may submit any comments to the Department.

Any questions may be directed to Stephanie Youst at (614) 466-1772 or [stephanie.youst@odh.ohio.gov](mailto:stephanie.youst@odh.ohio.gov)

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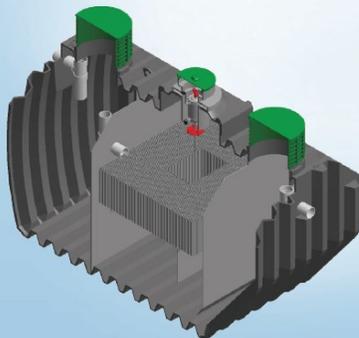
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# Announcements

*Have a grant, educational opportunity, move, promotion, or other announcement you would like to share? Please email a member of the publications committee.*

**Open Positions** (Posted to the OEHA website with an opening of at least 9/25/19)

- Registered Sanitarian/SIT  
Stark County Health Department
- Community & Disaster Resource Planner  
Toledo-Lucas County Health Department
- Registered Sanitarian/SIT  
Pickaway County General Health District
- Grant Coordinator Program Manager  
Cuyahoga County Board of Health
- Performance & Quality Improvement  
Administrator  
Cuyahoga County Board of Health
- Emergency Preparedness Coordinator  
Madison County Public Health
- Medical Director / Health Commissioner  
Ross County Health District
- Environmental Health Division Manager  
Franklin County Public Health
- Director of Community Health/Nurse  
Shelby City Health Department
- Registered Sanitarian/SIT  
East Liverpool City Health District

## **Retirements**

- *Mike Buchanan - Public Health—Dayton & Montgomery County*

Mike Buchanan retired from Public Health – Dayton & Montgomery County (fka Montgomery County Health Department) on July 31st after 35 years of public service. Mike spent his entire career at Montgomery County, being hired right out of college. Mike cut his teeth on public health as a general sanitarian until he replaced another sanitarian, Sam Tilton, as the Vending Specialist upon his retirement. At that time, Mike spent his working hours conducting vending machine and mobile food truck inspections. As the number of vending locations shrank, his workload was “repopulated” with inspections at festivals, Farmer’s Markets, smoking complaint investigations and tattoo/body art facility inspections. There isn’t much that he hasn’t seen or done but all good things must come to an end! So he is retiring to spend the remainder of this summer on his sailboat and then, hopefully, to do some traveling (with his wife of course)! Mike says he plans to remain active in OEHA and keep his R.S – at least for a while! CONGRATULATIONS MIKE!

- *Tracy Buchanan - Ohio Environmental Protection Agency*

Tracy Buchanan retired from the Ohio Environmental Protection Agency August 30, 2019. Tracy spent 35 years protecting the health of Ohioans and the Environment. During her career Tracy worked in public health, served on the State Board of Sanitarian Registration, was an active member of OEHA, and for the past 16 years worked at the Ohio EPA. Congratulations Tracy and thank you for your commitment to making Ohio a healthy place to live!

# OEHA Committees & Chairs

## **Body Art**

Sarah Badenhop, R.S. - Columbus Public Health

## **Campground**

Mark Janowich, R.S. - Huron County Health Department

## **Food**

Christina Ritchey Wilson, JD, R.S. - Columbus Public Health

Greg Chumney, MPH, RS - Licking County Health Department

## **Lead**

Greg Putka, R.S. - Lorain County Public Health

## **Private Water Systems**

Randy Ruszkowski, R.S. - Stark County Health Department

## **Sewage**

Laura Kramer Kuns, R.S., REHS - Kramer Kuns Consulting, LLC

Eric Cherry, R.S.—Huron County Public Health

## **Solid Waste**

Chuck De Jonckheere, R.S. - Hamilton County Public Health

## **Swimming Pool, Spa, and Special Use Pool**

Barry Grisez, R.S. - Cuyahoga County Board of Health

## **Vector Control**

Scott Pozna, R.S. - Lorain County Health Department

## **Archives**

Melissa Adams, R.S. - Delaware General Health District

## **Constitution & By-laws**

Ken Sharkey, R.S., MPH - Cleveland Department of Public Health

## **Exhibits**

Shannon Self, R.S. - Delaware General Health District

## **Professional Development**

Steve Ruckman, MPH, R.S. - Worthington Schools

## **Resolutions**

Jennifer Wentzel, MPH, R.S. - Public Health - Dayton & Montgomery County

## **Website**

Garrett Guillozet, MPA, R.S., REHS, AEMT - Franklin County Public Health

## **Auditing**

Jennifer Wentzel, MPH, R.S. - Public Health - Dayton & Montgomery County

## **Awards & Recognition**

Gus Dria, R.S., REHS - Canton City Health Department

## **Finance**

Chad Brown, R.S., REHS, MPH - Licking County Health Department

## **George Eagle Scholarship**

Joe Ebel, MS, MBA, R.S. - Licking County Health Department

## **Membership**

Open

## **Nominations & Elections**

Open

## **Public Affairs**

Stephan Ruckman, MPH, R.S. - Worthington Schools

## **Publications**

Adam R. Howard, MPH, R.S., REHS - Delaware General Health District

## **Training Scholarships**

Open

## **Concentrated Animal Feed Facility**

Jason Menchhofer, R.S. - Mercer County - Celina City Health Department

## **Ohio Public Health Advisory Board**

Stephan Ruckman, MPH, R.S. - Worthington Schools

## **Ohio Public Health Partnership**

Chad Brown, R.S., REHS, MPH - Licking County Health Department

## **Sewage Treatment System Technical Advisory Committee**

Dan Lark, R.S., REHS - Lake County General Health District

**OJEH**

Ohio Environmental Health Association  
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