Board of Health Meeting

Tuesday, September 24, 2024

Agenda

Surmeet Bedi, M.D.	Jennifer Forrester, M.D.	Edward B. Herzig, M.D.
Christopher Lewis, M.D.	Monica Mitchell, Ph.D, MBA	Raynal Moore
Ken Patel	Kiana Trabue	Ashlee Young

6:00 pm – 6:05 pm Call to Order and Roll Call

6:05 pm – 6:10 pm Review and Approval of Minutes

- Vote: **Motion to Approve** the Minutes from August 27, 2024, Board of Health Meeting.

Old Business

6:10 pm – 6:20 pm Food License & Facility Review Fees for License Year 2025-2026 Presentation: Reading #2—Antonio Young

6:20 pm – 6:30 pm Commissioner's report—Dr. Grant Mussman

6:30 pm – 6:40 pm COVID-19 Update – Ms. Kim Wright

6:40 pm - 6:50pm Finance Committee – Ms. Ashlee Young

- Vote: **Motion to Approve** Talbert Services, Incorporated – Contract 55x10701

6:50 pm – 7:00 pm Finance Update – Mr. Mark Menkhaus Jr.

7:00 pm – 7:05 pm Personnel Actions—Dr. Grant Mussman

- Vote: **Motion to Approve** Personnel Actions dated September 24, 2024

New Business

7:05 pm – 7:15 pm Elections of Officers

- Vote: **Motion to Elect** nominee Ms. Ashlee Young as Board Chair
- Vote: **Motion to Elect** nominee Dr. Jennifer Forrester as Board Vice-Chair

7:15 pm – 7:20pm Additional New Business and Public Comments

7:20 pm Adjourn

Next Meeting October 22, 2024

[Mission]

To assure access to quality services and to improve community health and wellness.

CINCINNATI BOARD OF HEALTH
BOARD OF HEALTH MEETING
August 27, 2024

Dr. Monica Mitchell, Chair of the Board of Health, called the August 27, 2024, meeting of the Cincinnati Board of Health to order at 6:00 p.m.

I. **ROLL CALL:**

Board Members Attending: Dr. Jennifer Forrester, Dr. Edward Herzig, Dr. Christopher Lewis, Dr. Monica Mitchell, Ms. Raynal Moore, Mr. Ken Patel, Ms. Ashlee Young

Absent: Dr. Surmeet Bedi, Ms. Kiana Trabue

Others Present: Mr. Harry Barnes, Mr. Timothy Collier, Ms. Sa-Leemah Cunningham-Clerk, Dr. Michelle Daniels, Mr. Ian Doig, Mr. Jose Marques, Mr. Mark Menkhaus Jr, Ms. Chante Randolph, Ms. Ashanti Salter, Mr. Robert Smith, Ms. Kim Wright, Mr. Antonio Young

AGENDA

August BOH Agenda Packet-8.27.24.pdf

ITEM	TOPIC	RESPONSIBLE PARTY	ACTION/MOTION
Minutes	**Motion** that the Board of Health approves the minutes from the July 23, 2024, Board of Health Meeting. *(Dr. Forrester and Dr. Lewis joined after this vote)*	Sa-Leemah Cunningham	**Vote: Approval of Minutes** **Motion**: Dr. Edward Herzig **2nd:** Ms. Raynal Moore **Action: 5-0 Passed**
Old Business			
Commissioner's Report	**Discussion Items:** Memo included in the agenda packet. Dr. Grant Mussman presented his commissioner's report to the Board. **Facilities planning** • Dr. Mussman informed the board that the team is working with the Department of Planning and Engagement to host a public information session in the following 4-6 weeks. The agenda of the session will be to share the findings from the Jensen Partners report with the public and introduce a survey to gather information from the public. • Dr. Mussman explained that this meeting will be an information session, it will not be a decision-making session.	Dr. Grant Mussman, Commissioner	n/a

	Welcome back to our school nurses! • Dr. Mussman updated the board that CHD had welcomed back its school nursing staff He gave Kudos to the amazing CHD nursing leadership and to Assistant Commissioner Dr. Michelle Daniels for a busy summer of planning and preparation. The team looked forward to a great school year. **OneOhio Opioid Settlement local funds** • Dr. Mussman informed the board hat CHD will be leading an RFP for local distribution of Cincinnati's OneOhio local funds. • He explained that the OneOhio plan is a process for combining settlements of local jurisdictions with pharmaceutical companies for their role in the opioid crisis. 30% of the funds are distributed directly to cities and municipalities to address immediate needs, 55% are distributed to regional boards under the OneOhio Foundation to plan for and sustain efforts to address the epidemic, and 15% is retained for projects scoped at the state level. The team will be collaborating with the Hamilton County Office of Addiction Response to engage stakeholders, determine priorities for funding, and avoid duplication of effort with the County's process. • Lastly, Dr. Mussman stated the team had been working on establishing a timeline for the RFP.		
COVID-19 Update	**Discussion Items:** Memo included in the agenda packet.  COVID-19 update BOH 8.16.2024 (1).doc Ms. Wright updated the Board on the COVID-19 Data for August 2024. **Highlights** • As of August 15, 2024; 95,563 cases of COVID were reported. • There were 3,530 hospitalizations reported. • There were 808 deaths reported. • Transmission levels were substantial. • The highest incident rate was amongst the 70+ age group. The lowest was the 0-19 age group. • CHD received more reports of outbreaks amongst long-term care and congregate settings. • There had already been reports of outbreaks in schools. • There had been more requests from the community for free test kits.	Dr. Kim Wright	n/a

	• Ms. Wright spoke at the Midwest Regional Black Family reunion regarding COVID and was invited by the National Council of Negro Women. She also provided them with free test kits. • COVID levels were very high in wastewater. • ER visits due to COVID had increased. • KP3.1.1, KP3, KP2.3 variants are responsible for most of the wastewater activity nationally. • FDA approved the 2024-2025 COVID Vaccines. All ages 6 months and older are recommended to get the vaccine. ○ If someone recently had COVID, they are recommended to wait 3 months to receive a vaccination. • There was 1 Flu "Type A" hospitalization reported. • CDC reported the highest hospitalization rate was the 65 and older age group. • RSV levels were reportedly increasing in 0-4 age group. • Mpox Update: the FDA approved the JYNNEOS vaccine to prevent Mpox for commercial use. ODH would discontinue providing it from the national strategic stockpile at that point.		
Food License & Facility Review Fees for License Year 2025-2026 Presentation—Reading #1	Attachment 4.docx Attachment 3 RESOLUTION_Amendi Attachment 2.docx Attachment 1.docx 2025 - 2026 BOH Memo.docx **Discussion Items:** Document and Presentation included in the agenda. Mr. Antonio Young Discussed the Food License & Facility Review Fees for License Year 2025-2026 and BOH resolution 2024-003. • Food license calendar goes from March 1-March 1 • The Ohio food code requires that all local health departments calculate their costs and come up with fees yearly. This ensures that our fees are fair and consistently cover the costs of administering the program. • Everything that is calculated from the previous calendar goes into these fees. • Fees are not for profit and ensure smooth operation. • Mr. Young proposed the following Food Fee Resolution 3 reading timeline: ○ August 27, 2024: Proposed Food fees document presented to BOH for discussion - **1st Reading**. Mail proposed fees schedule and public notification letter to license holders by September 4,	Mr. Antonio Young	n/a

	2024, inviting their comments at the September 24, 2024, BOH meeting. ○ September 24, 2024: Public comments and **2nd reading** of the proposed Food Fees document. ○ October 22, 2024: **3rd Reading** of the proposed fees by staff. BOH resolution of 2025-2026 fees. • Mr. Young discussed how the fees are calculated. ○ The cost methodology calculates the maximum allowable fees for risk-based restaurants and grocery stores, mobile (food trucks), temporary (5 days or less), and vending food licenses. ○ Calculations are based solely on inspections, enforcement, and administration of food programs. • Mr. Young reviewed the projected fees/revenues. The food fees increase naturally each year and CHD does not set out to make a profit from fees.		
Sewage Treatment System Variance Resolution 2024-004	8.27.24 AY_HSTS Variance PP.ppt Sewage treatment system variance resol **Discussion Items:** Document included in the agenda. Mr. Antonio Young Discussed the Sewage Treatment System Variance Resolution 2024-004. • Mr. Young explained to the Board that the Household Sewage Treatment System Replacement Variance is related to a household sewage treatment system that needed replacement on Shepherd Road. • Mr. Young explained that a household sewage treatment system treats the wastewater that comes out of homes to not harm the environment. ○ There are 486 in CHD jurisdiction. ○ Usually located in areas that do not have access to public sanitary sewars. ○ CHD inspects these at least once per year; but with this type of system, it is usually inspected twice a year. ○ Inspections are conducted to ensure systems are working efficiently and not contaminating water. • The system at Shepard Road is currently failing and Mr. Young presented a picture to the board. • The reason for the variance was due to the optimal location for the installation of the sewage system being within 10 feet of the property line. • Mr. Young discussed the Proposed system location of the installation. • **Motion to Suspend** the statutory rule requiring three readings of Resolution No. 2024-004	Mr. Antonio Young	**Vote:** Waive 3x reading for Resolution 2024-004 **Motion:** Dr. Monica Mitchell **2nd**: Dr. Edward Herzig **Action: 7-0 Passed** **Vote:** Approval of Resolution 2024-004 **Motion:** Dr. Edward Herzig **2nd**: Ms. Raynal Moore **Action: 7-0 Passed**

	Motion to Approve Resolution 2024-004, approving Tahoe Real Estate Investments LLC's request for limited variance to waive the horizontal isolation distance requirement in OAC for components of a replacement HSTS at 5227 Shepherd Rd in accordance with the Ohio Revised Code and the Ohio Administrative Code.		
Lead Safe Ohio Program- Contract # 55x10689	 CONTRACT INFO SHEET -Lead Safe OI **Discussion Items:** Document included in the agenda. Mr. Mark Menkhaus Jr. Presented the Lead Safe Ohio Program– Contract 55x10689 to the Board. This contract did not make the board packet and was a late and emergent submission. • The Cincinnati Health Department (CHD) was granted funding from the Ohio Department of Development (ODOD) for Lead Safe Ohio funding. ODOD's funding provides opportunity to have lead safe renovations conducted as a source of primary prevention to reduce the risk of lead exposure to youth in the City of Cincinnati. This funding will give The Hamilton County Land Reutilization Corporation an opportunity to provide lead safe renovations to their owned properties in the City of Cincinnati. **Motion to Approve** Lead Safe Ohio Contract – Contract 55x10689	Mr. Mark Menkhaus	**Motion:** Dr. Edward Herzig **2nd**: Ms. Raynal Moore **Action: 7-0 Passed**

Finance Update	**Discussion Items:** Memo and materials were included in the agenda.
	
	Mr. Menkhaus gave an update on CHD Financials for June 2024 and Year over Year.
	
	Highlights
	• Overtime hours decreased by 10%.
	• Revenue total was $74,113,239.97, an increase of 1.71%.
	  ○ Tattoo/body increased by 14.70%.
	  ○ Private Pay Insurance increased by 4.49%.
	  ○ Prior Year Reimbursement increased by 53.99%.
	  ○ Medicare decreased by 1.39%.
	  ○ Medicaid decreased by 14.09%.
	  ○ Medicaid managed care increased by 11.67%.
	  ○ Self-Pay patients decreased by 5.06%.
	  ○ Board of Ed Svcs (School Nurse's Salary) increased by 12.09%.
	  ○ Grants/Federal decreased by 13.05%.
	• Expenses were $67,022,821,40, an increase of 11.16%.
	  ○ Property expenses increased by 32.72%.
		Mr. Mark Menkhaus Jr.	N/A

	○ Personnel expenses increased by 3.60%. ○ Contractual costs increased by 5.35%. ○ Material costs increased by 128.62%. ○ Fixed costs increased by 13.05%. ○ Fringes increased by 3.86%. **The total available is $8,317,418.57, decreased by 55.75%**		
Personnel Actions	**Motion to Approve** the personnel actions dated August 27, 2024	Dr. Grant Mussman	**Motion:** Dr. Monica Mitchell **2nd:** Dr. Christopher Lewis **Action: 7-0 passed**
New Business			
Chair and Board Chair Nominations	**Dr. Monica Mitchell Accepted Nominations for Board Chair and Vice-Chair Roles** **Board Chair Nominations** • Dr. Christopher Lewis Nominated Ms. Ashlee Young for Board Chair. Dr. Lewis explained the reasons for his nomination. 1. Dr. Lewis spoke about Ms. Young's unwavering commitment to the community for many years. He spoke about Ms. Young's time serving on the Hamilton County Mental Health and Recovery Services Board, Board of the Urban League, Ensemble Theater Board. 2. Dr. Lewis spoke about her extensive experience with other community businesses and non-profits. 3. Ms. Young has spent the last 2 years as the Chair of the Board of Health Finance Committee and done excellently in the role. • Dr. Lewis feels Ms. Young would be an amazing leader for the Board of Health; as she has demonstrated the commitment and work ethic the Board of Health needs in a Board chair. • Ms. Young accepted the nomination. **Board Vice-Chair Nominations** • Dr. Edward Herzig nominated Dr. Jennifer Forrester for Board Vice-Chair. Dr. Herzig explained the reasons for his nomination. ○ Dr. Herzig spoke about Dr. Forrester's extensive background as a clinical researcher, full professor at the University of Cincinnati College of Medicine and Department of Infectious Disease. Dr. Forrester has been a tremendous resource that has assisted	Dr. Monica Mitchell	n/a

	the board in the understanding of the pandemic. ○ Dr. Herzig stated Dr. Forrester's experience, background, and knowledge would make her an exceptional candidate for Board Vice-Chair. ○ Dr. Lewis added that he worked with Dr. Forrester on the University of Cincinnati COVID team. He shared that in addition to her knowledge of infectious diseases, she is an exceptional leader and knows how to get things accomplished. Dr. Lewis believes Dr. Forrester would serve very well in the role of Board Vice-Chair. • Dr. Forrester accepted the nomination. Dr. Mitchell added that she had the chance to work with both Ms. Young and Dr. Forrester and they have been excellent and committed board members with very high attendance at the board meetings. Their commitment to the work shows and she feels both are excellent candidates. Formal Elections will take place at the September 24, 2024 meeting and a quorum will be required for voting.		
Executive Session	**Motion for Executive Session** – That the Board of Health enter an Executive Session pursuant to Ohio Revised Code Section 121.22(G)(1) to discuss discipline of an employee. **Motion to Approve** the adaptation of the recommendation of disciplinary action decided upon in the Board Executive Session.	Dr. Monica Mitchell	**Vote:** Enter Executive Session **Motion:** Dr. Monica Mitchell **2nd:** Dr. Edward Herzig **Action: 7-0 passed** **Vote:** the adaptation of the recommendations of disciplinary actions decided upon in the Board Executive Session. **Motion:** Dr. Monica Mitchell **2nd:** Dr. Jennifer Forrester **Action: 7-0 passed**
Additional New Business and Public Comments	**Public Comments** • There were no public comments.	Dr. Monica Mitchell	n/a

7:25 p.m. adjourned.

Next meeting: Tuesday, September 24, 2024, at 6pm via Zoom.

THE MEETING CAN BE VIEWED AT https://archive.org/details/boh-8-27-24

Minutes Approved by:

_____	_____
Sa-Leemah Cunningham	Monica Johnson Mitchell
Cincinnati Board of Health Clerk	Chairperson, Board of Health

August 27, 2024 Meeting Attendance/vote sheet

Board Members	Roll Call	7.23.24 BOH Meeting Minutes	Waive 3x reading for resolution 2024-004	Approval of Resolution 2024-004	Lead Safe Ohio Contract – Contract 55x10689	Personnel Actions dated 8.27.24	Motion to move into Executive Session to discuss personnel action	Adoption of the recommendation of HR for employee discussed in executive session
Dr. Surmeet Bedi								
Dr. Jennifer Forrester	x			M				2nd
Dr. Edward Herzig	x	M	2nd		M		2nd	
Dr. Christopher Lewis	x					2nd		
Dr. Monica Mitchell-Chair	x		M			M	M	M
Ms. Raynal Moore	x	2nd		2nd	2nd			
Mr. Ken Patel	x							
Ms. Kiana Trabue								
Ms. Ashlee Young	x							
Motion Result:	**Quorum**	**Passed**	**Passed**	**Passed**	**Passed**	**Passed**	**Passed**	**Passed**

x	***Present***
	Yay
	Nay
	Absent
	Didn't vote but present
M	***Move***
2nd	***Second***

STAFF	
Sa-Leemah Cunningham (clerk)	x
Dr. Grant Mussman-Commissioner	x
Antonio Young	x
Ian Doig	x
Mark Menkhaus Jr.	x
Ashanti Salter	x
Kim Wright	x
Jose Marques	x
Timothy Collier	x
Dr. Michelle Daniels	x
David Miller	x
Dr. Camille Jones	x
Harry Barnes	x
Robert Smith	x
Chante Randolph	x

city of CINCINNATI
Interdepartment Correspondence Sheet

Date: August 27, 2024

To: Members of the Board of Health

From: Grant Mussman, MD, MHSA, Health Commissioner

Subject: Food License and Facility Review Fees for LY 2025-2026

Environmental Services has completed the prescribed cost methodology and proposes license fee changes for retail food establishments (RFE)/ food service operations (FSO), mobile food businesses, temporary food stands, and vending machines.

Background: RFEs refer to those entities whose primary business is selling prepackaged food, not necessarily meant to be consumed on the premises (e.g. grocery stores, supermarkets). FSOs are entities whose primary business is selling food prepared for consumption on the premises (e.g. restaurants). For locations with both types of sales, a single license is given for the primary business (based on sales volume) with a rider permitting the secondary business. Mobile businesses are RFEs or FSOs "on wheels" (e.g. ice cream truck, hot dog stand). Temporary businesses are typically stands set up for short-term events like Oktoberfest and Taste of Cincinnati.

For FSOs and RFEs, the license fees and number of inspection are all based on the risk level the operation falls into. Risk levels are based on potential risk to the public in terms of sanitation and are generally determined by menu, preparation, and cooking processes. A higher risk level (categorized I-IV) indicates a higher potential for health risk. Additional detail on these risk levels is found in Attachment 1.

LY 2025-26 Fees: The license fees for license year 2025-26 (LY 2025-26) are based on costs derived from time staff spent in calendar year 2023 (CY 2023) fulfilling licensing, inspection, and administration requirements. The State of Ohio mandates the methodology used to calculate these costs. RFEs, FSOs, and vending machines have additional legislative constraints (caps) on how fees are calculated, while mobile and temporary businesses have no additional caps. A table depicting a more complete analysis of the changes in license fees and expected revenue is provided in Attachment 2.

Timetable: To accommodate the legal requirements for the Board to amend BOH Regulation 00079, I am proposing the following timetable:

Month	Action
August 27th	Proposed Food fees document presented to BOH for discussion - 1st Reading. Mail proposed fees schedule and public notification letter to license holders by September 4th, 2024, inviting their comments at September 24, 2024 BOH meeting.
September 24th	Public comments and 2nd reading of the proposed Food Fees document.
October 22nd	3rd Reading of the proposed fees by staff. BOH resolution of 2025-2026 fees.

Attachment 1

OAC 3701-21-02.3 Risk level of food service operations.

The licensor shall determine the risk level based on the highest risk level activity of the food service operation in accordance with the following criteria:

(A) Risk level I poses potential risk to the public in terms of sanitation, food labeling, sources of food, storage practices, or expiration dates. Examples of risk level I activities include, but are not limited to, an operation that offers for sale or sells:

(1) Coffee, self-service fountain drinks, prepackaged non-potentially hazardous beverages;
(2) Pre-packaged refrigerated or frozen potentially hazardous foods;
(3) Pre-packaged non-potentially hazardous foods; or
(4) Baby food or formula.

(B) Risk level II poses a higher potential risk to the public than risk level I because of hand contact or employee health concerns but minimal possibility of pathogenic growth exists. Examples of risk level II activities include, but are not limited to:

(1) Handling, heat treating, or preparing non-potentially hazardous food;
(2) Holding for sale or serving potentially hazardous food at the same proper holding temperature at which it was received; or
(3) Heating individually packaged, commercially processed potentially hazardous foods for immediate service.

(C) Risk level III poses a higher potential risk to the public than risk level II because of the following concerns: proper cooking temperatures, proper cooling procedures, proper holding temperatures, contamination issues or improper heat treatment in association with longer holding times before consumption, or processing a raw food product requiring bacterial load reduction procedures in order to sell it as ready-to-eat. Examples of risk level III activities include, but are not limited to:

(1) Handling, cutting, or grinding raw meat products;
(2) Cutting or slicing ready-to-eat meats and cheeses;
(3) Assembling or cooking potentially hazardous food that is immediately served, held hot or cold, or cooled;
(4) Operating a heat treatment dispensing freezer;
(5) Reheating in individual portions only; or
(6) Heating of a product, from an intact, hermetically sealed package and holding it hot.

(D) Risk level IV poses a higher potential risk to the public than risk level III because of concerns associated with: handling or preparing food using a procedure with several preparation steps that includes reheating of a product or ingredient of a product where multiple temperature controls are needed to preclude bacterial growth; offering as ready-to-eat a raw potentially hazardous meat, poultry product, fish, or shellfish or a food with these raw potentially hazardous items as ingredients; using freezing as a means to achieve parasite destruction; serving a primarily high risk clientele including immuno-compromised or elderly individuals in a facility that provides either health care or assisted living; or using time in lieu of temperature as a public health control for potentially hazardous food. Examples of risk level IV activities include, but are not limited to:

(1) Reheating bulk quantities of leftover potentially hazardous food more than once every seven days; or
(2) Caterers or other similar food service operations that transport potentially hazardous food.

Attachment 2

Analysis of LY 2025-2026 License Fees and Projected Revenues

Food License Type	Risk Class	Actual Cost-based Maximum	Allowed Cost-based Maximum	Proposed Fee	Current Fee	Number of Licenses	Projected Cost	Projected Revenue	Shortfall using proposed
	I	$323.06	$323.06	$323.00	$292.00	199	$64,288.94	$64,277.00	$11.94
<25,000 ft.2	II	$364.48	$364.48	$364.00	$330.00	400	$145,792.00	$145,600.00	$192.00
	III	$700.76	$700.76	$700.00	$635.00	685	$480,020.60	$479,500.00	$520.60
	IV	$889.62	$889.62	$889.00	$805.00	789	$701,910.18	$701,421.00	$489.18
Risk-based RFE & FSO									
	I	$468.84	$468.64	$468.00	$423.00	0	$0.00	$0.00	$0.00
	II	$493.69	$493.69	$493.00	$447.00	0	$0.00	$0.00	$0.00
>25,000 ft.2	III	$1,760.99	$1,760.99	$1,760.00	$1,596.00	6	$10,565.94	$10,560.00	$5.94
	IV	$1,867.01	$1,867.01	$1,867.00	$1,692.00	13	$24,271.13	$24,271.00	$0.13
Temporary RFE & FSO		$220.59	$220.59	$220.00	$154.00	210	$46,323.90	$46,200.00	$123.90
Mobile RFE & FSO	High Risk	$154.63	$154.63	$154.00	$151.00	200	$30,926.00	$30,800.00	$126.00
	Low Risk *	$77.32	$77.32	$77.00	$0.00	0	$0.00	$0.00	$0.00
Vending #		$98.49	$13.89	$13.89	$13.44	82	$8,076.18	$1,138.98	$6,937.20
							$1,512,174.87	**$1,503,767.98**	**$8,406.89**

# Vending is limited to last year's fee + CPI. In this case $					x3.4%=0.45	$13.44+0.45=13.89			
* Low Risk Fee for FSO and RFE mobiles were adopted in 2024									

Attachment 3

Cincinnati Board of Health
Resolution No. 2024-___

RESOLUTION
BOARD OF HEALTH OF THE CITY OF CINCINNATI

A RESOLUTION of the Board of Health of the City of Cincinnati, amending Board of Health Regulation No. 00079, "Fees Retail Food Establishments; Food Service Operations," to establish updated fees for the licensing of retail food establishments and food service operations, and to establish new fees for the licensing of mobile food service operations in accordance with the new risk level established in the Ohio Administrative Code.

WHEREAS, Ohio Revised Code ("ORC") §§ 3717.21 and 3717.41 require all retail food establishments and food service operations in Cincinnati to obtain a license from the Board of Health of the City of Cincinnati (the "Licensor"), which issues new licenses and renewals through the Cincinnati Health Department ("CHD"); and

WHEREAS, ORC §§ 3717.25 and 3717.45 permit Licensors to establish fees for the licensing of retail food establishments and food service operations; and

WHEREAS, Ohio Administrative Code ("OAC") § 3701-21-02.2, "Cost analysis and calculation," and OAC § 901:3-4, "Cost analysis and license fee calculation," require Licensors to reassess these fees on an annual basis; and

WHEREAS, the Board of Health, acting as a Licensor of retail food establishments and food service operations in the City of Cincinnati, has determined that its licensing fees in Regulation 00079 should be amended in accordance with its annual reassessments; and

WHEREAS, OAC § 3701-21-2.3, "Risk Level of Food Service Operations," previously did not differentiate risk levels for mobile food service operations, but effective as of September 1, 2024, the Ohio Department of Health amended OAC § 3701-21-2.3 to create two new risk levels for mobile food service operations: "low risk" and "high risk"; and

WHEREAS, OAC § 3701-21-02.1(A)(4) requires that the licensing fee for "low risk" mobile food service operations must be equal to fifty percent of the mobile food service operation fee otherwise established pursuant to the rule; and

WHEREAS, Regulation 00079 must be amended to reflect these two new risk levels for mobile food services operations, and to describe the licensing fees associated with these new risk levels; now, therefore,

BE IT RESOLVED by the Board of Health of the City of Cincinnati, State of Ohio:

Section 1. That the Board of Health Regulation 00079 is hereby amended to read as follows:

§00079—Fees Retail Food Establishments; Food Service Operations

The cost of a license for a Retail Food Establishment or Food Service Operation as defined in Section 3717.01 of the Ohio Revised Code shall be any amount determined pursuant to Sections 3717.45 and 3717.25 of the Ohio Revised Code, plus the following license fees, based on the risk levels established in Ohio Administrative Code Sections 3701-21-02.3 and 901:4-4-05:

(A) Retail Food Establishment/Food Service Operation Fees

1) < 25,000 ft.^{2}

Risk Class Level 1	~~$292.00~~ $323.00
Risk Class Level 2	~~$330.00~~ $364.00
Risk Class Level 3	~~$635.00~~ $700.00
Risk Class Level 4	~~$805.00~~ $889.00

2) ≥ 25,000 ft.^{2}

Risk Class Level 1	~~$423.00~~ $468.00
Risk Class Level 2	~~$447.00~~ $493.00
Risk Class Level 3	~~$1,596.00~~ $1,760.00
Risk Class Level 4	~~$1,692.00~~ $1,867.00

(B) Fees for Temporary Food Service Operations (per single event, not to exceed a maximum of five consecutive days) ~~$154.00~~ $220.00

(C) Fees for Mobile Food Service Operations ~~$151.00~~

1)	High Risk	$154.00
2)	Low Risk	$77.00

(D) Fees for Mobile Retail Food Establishments

1)	High Risk	~~$151.00~~ $154.00
2)	Low Risk	~~$75.50~~ $77.00

(E) Fees for Vending Food Service Operations ~~$13.44~~ $13.89

(F) Facility Review/Equipment Specification Fees For New Construction or Major Changes (for example: structural changes; installation of new equipment; operational changes such as converting the building use or type of food service; or modifying facilities that have not previously been licensed as a food service).

1) $< 10{,}000$ ft.^{2}

Risk Class Level 1	$200.00
Risk Class Level 2, 3 & 4	$400.00

2) $\geq 10{,}000$ ft.^{2}

Risk Class Level 1	$300.00
Risk Class Level 2, 3 & 4	$600.00

(G) Facility Review/Equipment Specification Fees For Minimal Changes (such as floor layout alteration, equipment placement, or facilities that have not been operated in over a year as a food service).

1) $< 10{,}000$ ft.^{2}

Risk Class Levels 1	$100.00
Risk Class Levels 2, 3 & 4	$200.00

2) $> 10{,}000$ ft.^{2}

Risk Class Levels 1	$150.00
Risk Class Levels 2, 3 & 4	$300.00

(H) Facility Review/Equipment Specification Fees for Change of Ownership only $100.00

(I) Any such fee or portion of such fee retained by the Board of Health shall be paid into a special fund as provided in Sections 3717.45 and 3717.25 of the Ohio Revised Code and used only for the purpose of administering and enforcing Sections 3717.01 to 3717.99 of the Revised Code.

(J) If a license fee is received by the Board of Health after March 1 of each year, a penalty of 25 percent of the applicable fee for that year shall be imposed and paid as provided in Sections 901:3-4-02 and 3701-21-02 of the Ohio Administrative Code. This subsection does not apply to Mobile Food Service Operations, Temporary Food Service Operations, Mobile Retail Food Establishments, Temporary Retail Food Establishments, or to a new Food Service Operation or Retail Food Establishment that opened for business subsequent to March 1 of that year.

Section 2. That the benefit of the reduced licensing fee for “Low Risk” Mobile Food Service Operations implemented by this Resolution shall inure to all ”Low Risk” mobile food service operations receiving licenses after September 1, 2024.

Section 3. That the Health Commissioner and his designee(s) are authorized to do all things necessary and proper to comply with the terms of this Resolution.

Section 4. That this Resolution shall take effect and be in force from and after the earliest period allowed by law.

ADOPTED: _____, 2024

_____
Monica Mitchell, PhD, MBA
Chairperson, Board of Health

_____
Grant Mussman, MD, MHSA
Health Commissioner
Cincinnati Board of Health

New language underscored. Deleted language indicated by strikethrough.

Attachment 4

August 30, 2024

Dear Food Service/Food Establishment/Temporary Food Service/Mobile Food Service/Vending Food Service Operator:

Ohio Revised Code 3717.071 mandates a food license cost recalculation each year. This enables the local health department to compare costs and revenues, adjusting as needed. Therefore, we are proposing that the Board of Health revise its food license fees for the 2025-2026 licensing year. The revised fees are shown on the reverse side of this letter.

You may contact John Sanders at (513) 564-1757 for questions concerning these new fees or food protection program laws.

In accordance with the law, a public hearing regarding the new food fees will be held on September 24, 2024. Following is an announcement of the public hearing.

Respectfully,

Grant Mussman, MD, MHSA
Interim Health Commissioner

NOTICE OF
BOARD OF HEALTH
PUBLIC HEARING

The Board of Health for the City of Cincinnati Health Department will hold a Public Hearing to receive comments from the public concerning proposed new Board of Health Regulation 00079 (Fees Retail Food Establishments/ Food Service Operations) to establish fees for licensing Retail Food Establishments and Food Service Operations.

Requests for copies of the proposed new Regulation 00079 (Retail Food Establishments; Food Service Operations) should be directed to Sa-Leemah Cunningham, Cincinnati Health Department, at (513) 357-7362.

The hearing will be held on **Tuesday, September 24, 2024, at 6:00 PM** during the regular monthly Board of Health meeting. The Board of Health meeting is being held via video conference, the link is below. To be permitted to the meeting, please pre-register to speak at this public hearing, or to request interpretation services for the hearing impaired, contact Mrs. Cunningham, at BOHClerk@cincinnati-oh.gov.

Zoom link: https://cincinnati-oh.zoom.us/j/86845515616?pwd=bT4btdTd1ZQ69z2Tp8PtCKjMot7j17.1

Food Protection License Fees 2025-2026

Food License Type	**Size**	**Risk Class**	**New License Fee**
Risk Based Operations	<25,000 ft.^{2}	Level 1	$323.00
		Level 2	$364.00
		Level 3	$700.00
		Level 4	$889.00
	≥25,000 ft.^{2}	Level 1	$468.00
		Level 2	$493.00
		Level 3	$1,760.00
		Level 4	$1,867.00
Temporary Food Operation*			$220.00
Mobile Food Operation		High Risk	$154.00
		Low Risk	$77.00
Vending Food Operation			$13.89

* Per single event, not to exceed a maximum of 5 consecutive days

This table does not reflect the Ohio Department of Health and Ohio Department of Agriculture state fees that must be added to the base fee.

DATE: September 20, 2024

TO: Board of Health Members

FROM: Dr. Grant Mussman, Health Commissioner

SUBJECT: Health Commissioner Executive Summary

Information session regarding CHD's health centers:

- We held a public meeting on September 19th to discuss the recommendations made by a consultant regarding its facilities. This meeting served as a platform for us to share the findings of the Facilities Master Plan with the community and initiate a transparent engagement process. We are dedicated to ensuring robust public participation throughout the decision-making process. During the meeting, we outlined the steps involved in evaluating the consultant's recommendations and how final decisions will be made. Furthermore, the CHD detailed the mechanisms through which public feedback will be collected, considered, and integrated into the planning process.

- It is important to emphasize that no decisions have been made concerning CHD facilities at this time. The public meeting marks the beginning of an ongoing dialogue to ensure that the future of CHD facilities aligns with the needs and priorities of the community.

Association of Ohio Health Commissioners (AOHC) Fall Public Health Conference

- I was able to attend the AOHC fall public health conference was held September 18th and 19th.
- The program included important content including updates on the challenges and success with public health and health equity in Ohio, as well as topical content on emerging public health issues including marijuana regulation, PFAS chemicals, and infectious disease threats.
- This also is an important opportunity to network with other health commissioners in Ohio and spread learnings and best practices.

Ohio Association of Community Health Centers (OACHC)Fall 2024 Conference

- The OACHC annual fall conference will be held **on September 26th – 27th.** CHD clinical leadership will be in attendance.
- The OACHC is the primary care association for the state of Ohio. OACHC advocates for issues concerning the vitality of health centers and their ability to provide high-quality, comprehensive health care to the residents of Ohio.

DATE: September 20, 2024

TO: Cincinnati Health Department Board of Health

FROM: Kim Wright, Supervising Epidemiologist Communicable Disease Prevention and Control - CHES

SUBJECT: September COVID-19 and CDU Update

Cincinnati COVID-19 Data Highlights:

- As of September 12, 2024, CHD reported a cumulative total of 93,693 COVID-19 confirmed and probable cases (92,563 were reported last meeting), 3558 (3505) COVID-19 hospitalizations, and 809 (809) COVID-19 deaths.
- The Cincinnati community transmission peaked at 115.0 (56.3) new cases per 100,000 cumulative over a 7-day period, which is High (>100) at the end of August and is 55 or Moderate at time of this report
- The Greater Cincinnati Pandemic Dashboard updated on September 13, 2024, notes the Hamilton County transmission level similarly peaked in the High range and returned to Moderate. Age groups visualizations no longer display numerical rates in the report, but it appears the 80+ age group had the highest weekly incidence rate, well over 200 (90), followed by the 70-79 age group *and* 0-19 age group that peaked around 150. 0-19 closer to 50 and once again the lowest rate of all the age groups at the time of this report. The full report is included in the packet.
- Deaths remain low in the region and there are no deaths reported in Cincinnati since our last report.

COVID-19 Vaccination Updates

- On June 27, 2024, the CDC Director adopted the ACIP's recommendations for use of 2024–2025 COVID-19 vaccines in people ages 6 months and older as approved or authorized by FDA. The 2024–2025 vaccines are expected to be available in fall 2024. This page will be updated at that time to align with the new recommendations. Learn more: www.cdc.gov/media/releases/2024/s-t0627-vaccine-recommendations.html.
- The Bridge Program offering free COVID-19 vaccine to unvaccinated and under vaccinated ended in August.2024 according to CDC as well as the updates formerly provided on Get ready for the fall and winter virus season (vaccines.gov). CDC plans to offer vaccine locator resources again when the new 2024-2025 COVID-19 vaccine is available. The webpage currently shares the following Frequently Asked Questions and resources:

Get ready for the fall and winter virus season

Updated flu and COVID-19 vaccines are coming soon. Until then, here are a few ways you can prepare:

1. Talk to your doctor about vaccines recommended for you.
2. Check your health insurance benefits.
3. Learn about how to protect yourself and others from flu, COVID-19 and RSV .

Frequently Asked Questions

Q: When will updated vaccines for respiratory illness be available?
A: We expect that updated influenza and COVID-19 vaccines will be widely available in September. RSV vaccines are currently available.

Q: If I skipped the recommended flu or COVID-19 vaccinations last season, should I get them now?
A: CDC recommends that everyone 6 months and older get a COVID-19 vaccine. It is not too late to get vaccinated if you haven't received a 2023-2024 COVID-19 vaccine and are at high risk for serious COVID-19 . For influenza vaccination, CDC recommends annual vaccination for everyone 6 months or older with rare exception. Influenza vaccination in July and August is not recommended for most adults but can be considered for some groups. Vaccination by the end of October is recommended, if possible.

Q: Should I get an RSV vaccination?
A: CDC recommends RSV vaccines for adults aged 60–74 years who are at increased risk of severe RSV, and for everyone aged 75 years and older. Adults ages 60-74 are at increased risk if they have certain medical conditions, such as chronic heart or lung disease, a weakened immune system, or live in a nursing home.
RSV vaccine is not currently an annual vaccine, meaning older adults do not need to get a dose every RSV season. That means if you have already gotten an RSV vaccine, you do not need to get another one at this time.
If RSV vaccine is recommended for you, the best time to get vaccinated is late summer or early fall, just prior to the fall and winter respiratory virus season.

Resources

Children may be eligible for free vaccinations through the Vaccines for Children Program.
The Disability Information and Access Line (DIAL) helps people with disabilities access vaccinations. DIAL can also connect you with local transportation and health insurance counseling resources.
1-800-677-1199
DIAL@n4a.org
Vaccinations may be available through your local health department .
CDC-INFO agents are trained to search available CDC resources for the most relevant information.
1-800-232-0233
1-800-720-7489

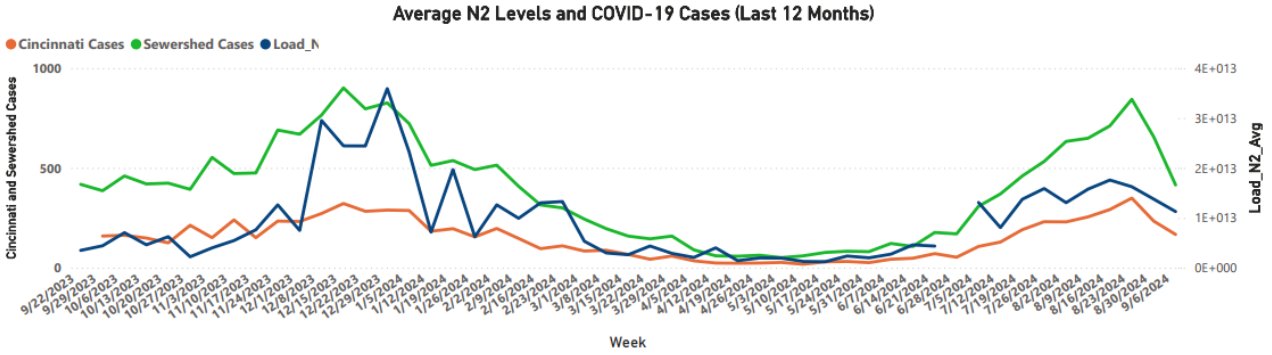
COVID-19 Test to Treat

- https://aspr.hhs.gov/TestToTreat/Pages/default.aspx provides information about the available resources in the community.
- CHD continues to offer free home test kits to the community and congregate settings while supplies last.

COVID-19 Wastewater Analysis

- CHD reports the Greater Cincinnati Wastewater COVID-19 levels detected by ODH below on the City of Cincinnati COVID-19 Report and this data is also available to the public on the CHD website. N2 COVID levels increasing over the time period from August 20, 2024 to September 8, 2024 at Little Miami WWTP, steady at and Muddy Creek and Taylor Creek WWTPs, and decreasing at Mill Creek WWTP during the same time period. Sporadic Influenza B was detected in the Muddy Creek WWTP samples at the beginning of September, Influenza A and B were detected in the Taylor Creek WWTP. For more information visit ODH WW Dashboard.

Wastewater Data

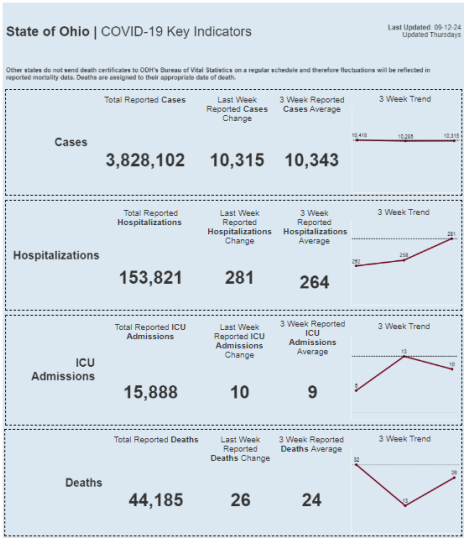


*The graph above represents the number of reported cases in the City of Cincinnati, reported cases in each greater Cincinnati sewershed (Little Miami, Mill Creek, Muddy Creek, and Taylor Creek), and compared to the wastewater data (Load N2 Average).
**On 9/25/22, a new method was implemented to improve extraction efficiency (from an average of 15% to about 50%) resulting in about 50% higher gene copies/L.
**Sample collections paused for the month of September 2023
*Note the date differences for each variable (all grouped by week)
*Sewershed cases based on symptom onset date
*Cincinnati cases based on case report date
*Load N2 Average based on sample collection date

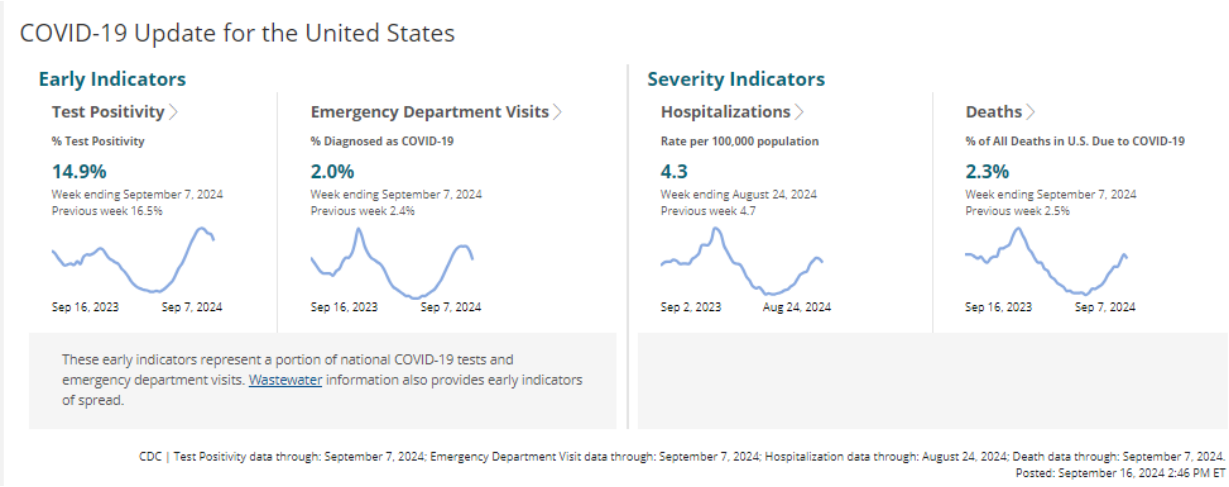
**Updated Weekly
Source: Ohio Disease Reporting System (ODRS), https://coronavirus.ohio.gov/dashboards/other-resources/wastewater

ODH COVID Reports September 12, 2024

- Key State Indicators at right show cases steady over the last 3 weeks, hospitalizations rising, ICU admissions peaked the week prior and are trending down, while death dropped the week prior but increased slightly, averaging 24 per week.

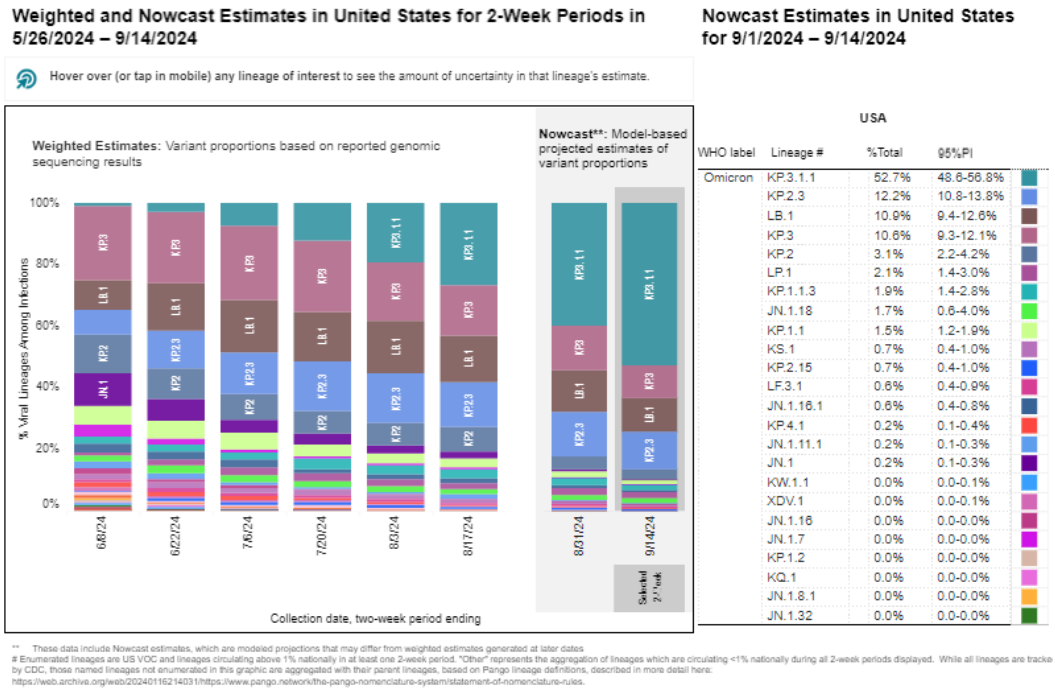


CDC [COVID Reports](#) September 16, 2024



CDC COVID Variant Report

Nationally, CDC Nowcast estimates KP.3.1.1 at 52.7% (36.8%), KP2.2 at 12.2% (14.4%), and LB.1 at 10.9% (14.4%) of the variants detected in clinical specimens in the US as of September 14, 2024. For more variant analysis please visit [https://covid.cdc.gov/covid-data-tracker/#variant-proportions.](https://covid.cdc.gov/covid-data-tracker/#variant-proportions)

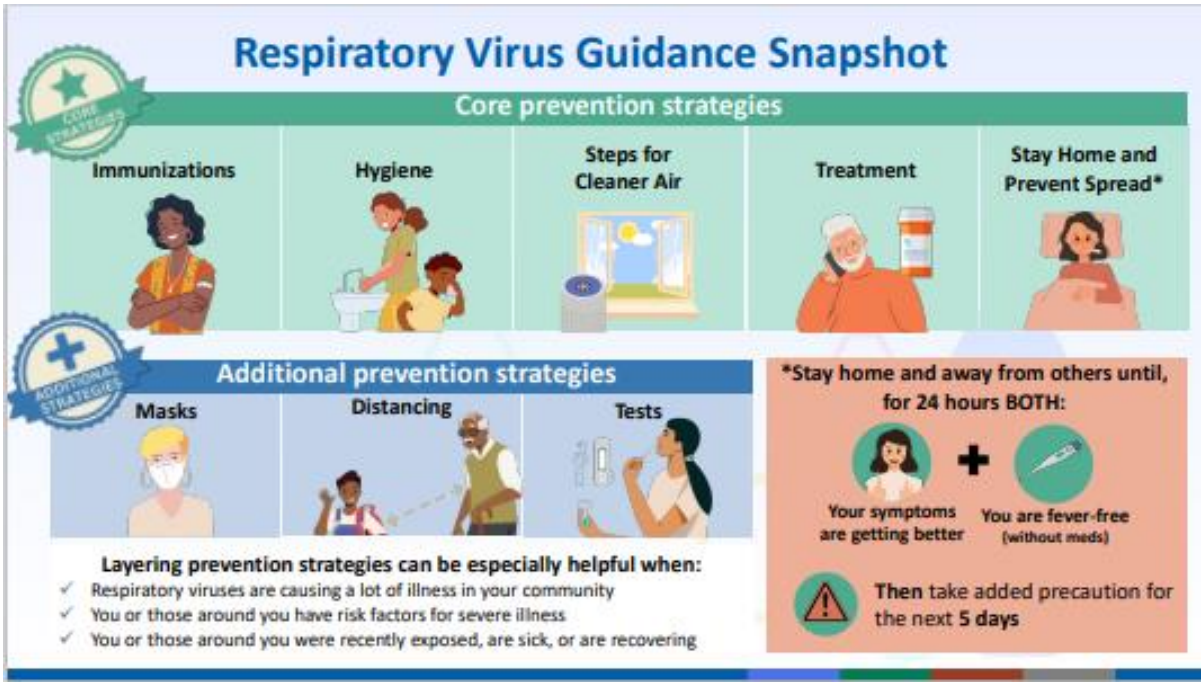


** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
# Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one 2-week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all 2-week periods displayed. While all lineages are tracked by CDC, those named lineages not enumerated in this graphic are aggregated with their parent lineages, based on Pango lineage definitions, described in more detail here: https://web.archive.org/web/20240116214031/https://www.pango.network/the-pango-nomenclature-system/statement-of-nomenclature-rules.

CDC Respiratory Guidance Links

- As of March 1, 2024 CDC aligned COVID-19 guidance with other [Respiratory Guidance](#) that recommends people stay home until they have been fever free for 24 hours without having taken fever reducing medication, and then continue to take precautions to prevent spread of disease, as illustrated in the CDC graphic below. This change did not include [health care workers](#) who have COVID-19.

- CHD issued a media release on April 15, 2024 to provide updated guidance to the public.



CDC Respiratory Guidance

- CDC offers a respiratory activity locator that displays the current trends and prevention recommendations. Ohio trends pictured below.

Overall respiratory virus activity in **Ohio**

Minimal

Based on healthcare visits for fever and cough or sore throat. Read more »

Wastewater viral activity level in **Ohio**

COVID-19	Flu†	RSV
Very High	Minimal	Limited Coverage

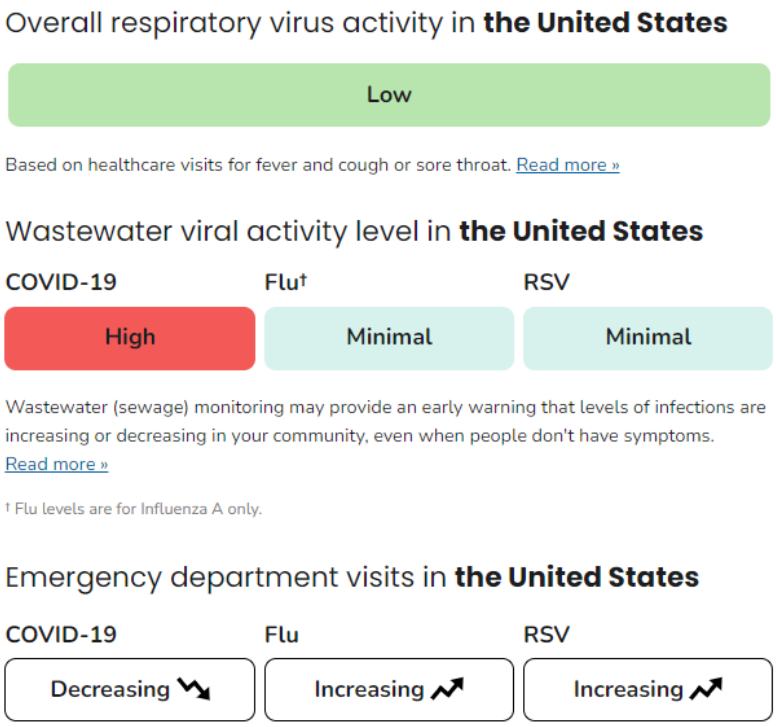
Wastewater (sewage) monitoring may provide an early warning that levels of infections are increasing or decreasing in your community, even when people don't have symptoms. Read more »

† Flu levels are for Influenza A only.

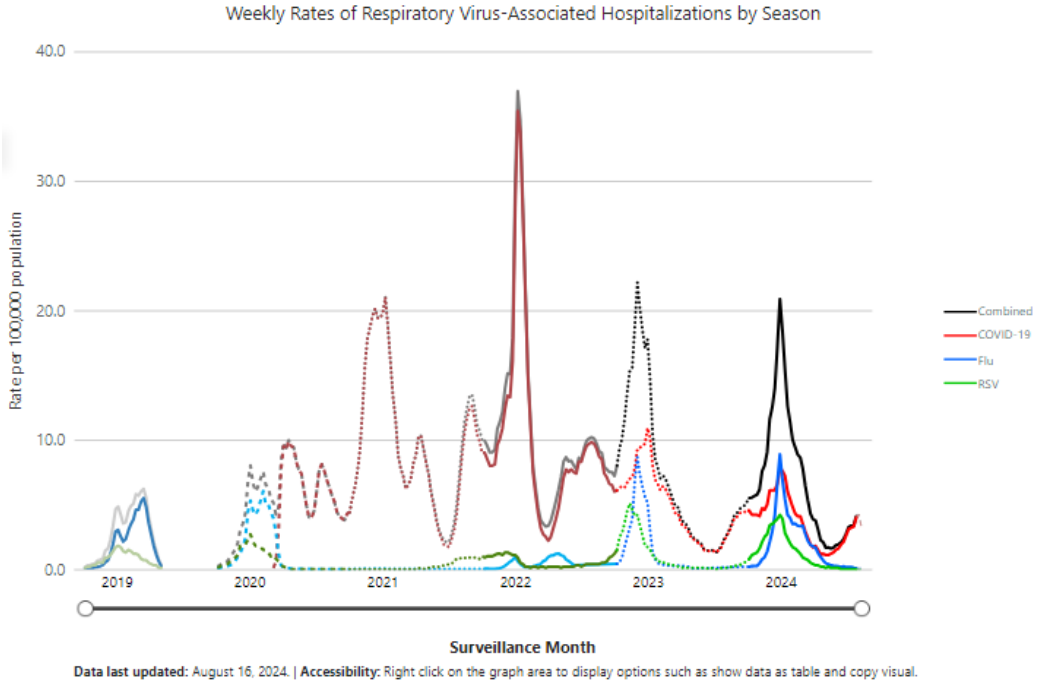
Emergency department visits in **Ohio**

COVID-19	Flu	RSV
Increasing ↗	No Change	No Change

- However, for all of the United States, CDC shows increasing influenza and RSV visits to emergency departments.



- **CDC Respiratory Virus Hospitalization Surveillance Network (RESP-NET)**
Weekly Rates of Respiratory Virus-Associated Hospitalizations by Season



COVID Command Center Highlights

- CHD is currently fielding approximately 100 calls per week to our 513-357-7462 line from residents seeking COVID-19 vaccination or testing opportunities in Cincinnati, having questions about isolation or in need of a replacement vaccination card. They continue to receive calls regarding JYNNEOS vaccine and measles as well.
- On-site 3 contractual staff are currently making approximately 200 calls per week. This includes investigations, and returning calls made after regular business hours.
- Designated Command Center staff continue communicate regularly with congregate setting facilities, in support of the LV23 and CF23 grant funded activities and resources that can be offered. CHD was able to purchase handheld indoor air monitoring equipment and portable UV light disinfection units to assist congregate settings with prevention of COVID-19 transmission in their facilities and mitigation through infection control. These are offered to City of Cincinnati long term care settings and related congregate settings under free lease agreements with terms required by the grants.
- Free COVID-19 Test Kits are offered to congregate settings, households of positive cases, community groups, daycares and other settings where the residents of Cincinnati can have access to free testing resources, while supplies last.
- CHD continues to also assist residents with proof of COVID-19 vaccination or testing results as needed for work, school, and/or travel.
- In December the COVID Command Center was briefed about mpox and plans to offer JYNNEOS Vaccine. They will receive Bookings training to help schedule patients when and if the demand exceeds CDU's capacity to manage appointment scheduling and questions from the public. These activities are supported by the same grant.
- On March 15, 2024, Command Center staff were briefed on measles response and provided talking points to assist CDU in the measles response which may include testing symptomatic persons. Weekly updates are provided to the team to keep them prepared for calls that may come in.

Communicable Disease Prevention and Control Unit Updates

- Mpox updates:
    - CDU reports a total of 26 cases of mpox (25 total cases were reported last month).
    - Clade I has not yet been detected in the United States. CDC issued a Health Advisory on August 7, 2024 regarding the spread of mpox clade I from the Democratic Republic of the Congo (DRC) to neighboring countries, and a Swedish traveler.
    - The ongoing global mpox outbreak that began in 2022 and is responsible for the local cases has been caused by clade II, which is described as not as severe. Clade I is also reported by the World Health Organization to be spreading by skin to skin contact in children more so than the 2022 outbreak.
    - CDU has scheduled 3 all day free JYNNEOS vaccination sessions in addition to each regular Thursday afternoon session as demand for the free vaccine has increased. The vaccine is FDA approved for and expected to protect against both clades and all subclades of mpox according to the CDC.
    - A media release was issued by the communications director and both our nurse supervisor and epi supervisor were interviewed regarding the end of the free vaccination clinics October 31, 2024, as JYNNEOS vaccine is approved for commercial use by the FDA and ODH announced it would

discontinue supplying JYNNEOS vaccine from the Strategic National Stockpile (SNS) inventory. All current inventory at ODH and CHD expires October 31, 2024.

- CHD's TPOXX for the treatment of Mpox does not expire until 2025 and continues to be available for providers who diagnose Mpox in patients at high risk for severe disease.
- CDU updated its Jynneos brochure, and the metro bus and bus stop advertisements continue to run until October.

Influenza A(H5N1) Bird Flu [Current Situation]

Humans

Total Reported Human Cases in the United States: **15** (since 2022)
4 following exposure to dairy cows (reported between 4/1/2024 and 7/3/2024) | Full Report
10 following exposure to poultry (reported between 4/28/2022 and 7/25/2024) | Full Report
1 with no immediately known animal exposure (reported on 9/6/2024) | Full Report

States with Reported Case(s): **4**
**10 of the 15 H5 human cases reported in the US have been confirmed as H5N1.*

- **H5 Bird Flu Detections in USA**
  - Dairy cattle: Ongoing multi-state outbreak
  - Wild Birds: Widespread
  - Poultry Flocks: Sporadic outbreaks
  - Mammals: Sporadic infections
  - Person-to-person spread: None
  - Current public health risk: Low

- Local providers in Cincinnati were provided guidance and encouraged to continue influenza surveillance through the summer, provided instructions for reporting Novel Influenzas (Class A) and submitting specimens to ODH for further typing and H5/H7 rule out. Seasonal influenza surveillance begins again in Ohio in October.

Healthcare Associated Infections/Antimicrobial Resistance

- On Friday, September 13, 2024 CDU staff attended the APIC Chapter 26 Annual Education Conference with fellow Infection Preventionists from our region.
- CDU nurses are sharing education and best practices for the prevention and control of Candida auris and other multidrug-resistant organisms (MDROs) with acute and long-term care providers as cases are diagnosed and clusters are detected in healthcare facilities in Cincinnati.

Southwest Ohio Public Health Regional Epidemiologists and Disease Investigators (SWOH REDI)

CHD will host the October 2022 SWOH REDI meeting at B & K. The guest speaker will be the Director of Animal Health at the Cincinnati Zoo & Botanical Garden, Michael Wenninger DVM, CertAqV.

CHD CDU Reports and Dashboards

- Please find the July Communicable Disease Report included in the packet or visit the Communicable Disease Dashboard, available on the CHD website.
- ODH also announced recently the creation of a dashboard for the state that can be found on the ODH website: Summary of Infectious Diseases in Ohio | DataOhio.

CHD Environmental Health Reports

CHD Environmental Health Epidemiologist, Merial Vigran has submitted two reports included in the board packet this month. If you would like more information about either of these, please reach out to her.

- The **2023 Lead Annual Report** will be available to the public and interested parties on the Epidemiology Lead Page and our Lead Poisoning Prevention Program page.
- **The Cincy Air Watch Project Overview** document is a brief synopsis of the launch of an air quality monitoring research project in partnership with the Office of Environment and Sustainability. A more comprehensive project packet will be sent out separately, including the project methodology, air quality epidemiological brief, a sample dashboard, and project specifics.

City of Cincinnati Board of Health Finance Committee

Ashlee Young, Chair of the Board of Health Finance Committee, called the Tuesday, September 17, 2024 Finance Committee meeting to order at 5:02 p.m.

Roll Call

Members present: Tim Collier (5:14), Dr. Edward Herzig, Mark Menkhaus Jr., Commissioner Dr. Grant Mussman, and Ashlee Young.

Topic	Discussion	Action/Motion
Approval of Minutes	The Chair asked Committee members if everyone had the opportunity to review the minutes from July 16, 2024. Motion: That the Board of Health (BOH) Finance Committee approves the minutes from July 16, 2024.	**Motion:** Herzig **Second:** Mussman **Action:** Pass
Review of Contracts for BOH Approval: Sept. 17, 2024	The Chair began reviewing contracts going to BOH for approval. **Talbert Services, Incorporated-55x10701** Mr. Menkhaus Jr. explained that this is a renewal agreement for the Western Hills WIC office located at 4966 Glenway Ave. Our real estate office has reviewed the proposed 3.5% annual rent increase and considers it to be fair and reasonable. **Motion**: That the BOH Finance Committee recommends approval.	**Motion**: Young **Second**: Herzig **Action**: Pass
Review of Contracts for BOH Information: Sept. 17, 2024	The Chair began reviewing the following contract going to BOH for information. **Findlay Market Agreement** Dr. Mussman shared that this agreement allows Findlay Market merchants to park in our employee lot on Saturdays and Sundays when the Bobbie Sterne health center is closed. This arrangement, which involves 30-35 parking spaces, has been successful for the past year. No funds are exchanged. Dr. Herzg inquired about liability concerns. Mr. Menkhaus clarified that the agreement outlines the associated risks, stating that we are not responsible for guaranteeing parking spaces or any loss of property. Findlay Market will not cover their merchants' losses, and any damage or theft will be the owner's responsibility. Dr. Herzig further asked if signage indicating "park at your own risk" would be displayed. Mr. Menkhaus confirmed that it would. Dr. Jones inquired about the timeframe for exiting the agreement if necessary. Mr. Menkhaus explained that both the previous and current agreements are for one year, and termination is possible with a 30-day notice.	

Financial Update	Mr. Menkhaus provided an overview of the financial statement for the period ending in July 2024 **Total Revenue:** As of the end of July was $4,335,802.42. Which is a 67.21% increase from July of 2023. ○ Expenses as of July 2024 totaled $4,050,574.92 which is a 56.43% increase from July 2023. Total net gain after the capital revenue transfer was $2,468,528.10. ○ As of July, we had $18,574.01 in overtime compared to July of 2023's total of $9,911.14. Neither year had any disaster overtime in the month of July. ○ Capital revenue transfer for FY25 in the amount of $2,187,000. In FY24 we received partial revenue transfer in December and the balance in February for a total of $1,227,000.00. **Total Expenses**: $29 million in FY '24. ○ 71--Personnel increased by 293.97%. This increase is due to the month of July in the calendar year 2024 having a total of 3 pay periods. In FY24 the 3 pay period month occurred in August of 2023. ○ 75-Fringes: Fringes saw a corresponding increase of 32.47%. ○ 72-Contractual and 73-Material: - Contractual Services saw a decrease of 16.26%), and Materials & Supplies increased by 35.58%. The increases are due to the timing of invoices paid. Cardinal invoices from FY24 were paid in FY25. ○ 74-Fixed Cost: increased by 35.92%. The increase is the timing of invoices paid. Rent for WIC locations, Millvale, and Crest Smile Shoppe were paid in July. ○ 76-Property: Property increased by 32.47%. This was due to an AHU leak repair at B&K **Total Available**: **$2,472,227.50**	
New Business	Mr. Menkhaus Jr. brought to the committee's attention the upcoming public information session regarding our facilities master plan. This session will take place on September 19th at the Administration Building, 3101 Burnet Avenue. At this time no final decision has been made. Members of the public are welcome to attend.	
Public Comment	Ms. Salter stated that as of 5 p.m. today, no questions or comments from the public were received.	

Meeting Adjourned: 5:15 p.m.
Next Meeting: **Tuesday, October 15, 2024, 5 p.m.**
Minutes prepared by Ashanti Salter
The meeting can be viewed and is incorporated in the minutes: https://fb.watch/pD-N3kOzkN/

Board of Health Finance Committee Roll Calls for September 17, 2024

	Roll Call	Minutes	Talbert Services, Incorporated-55x10701
Tim Collier	-	-	-
Dr. Edward Herzig	Y	2Y	2Y
Dr. Camille Jones	Y	-	Y
Mark Menkhaus Jr.	Y	Y	Y
Dr. Grant Mussman	Y	Y	2Y
Joyce Tate	Y	Y	Y
Ashlee Young	Y	MY	MY

Y=Yes | N=No | A=Abstain | P=Present | R=Recuse | M=Moved | 2=Second

Others present: Dr. Michelle Daniels, Ashanti Salter (Clerk).

Preparation Date: 9/12/24

CINCINNATI HEALTH DEPARTMENT CONTRACT AND GRANT INFORMATION SHEET

This information must be supplied to the Contract Liaison no less than one week prior to the Board of Health meeting.

Vendor **Talbert Services, Incorporated**

Contract # **55x10701**

Person and Division responsible for administering contract/grant/lease:

InitiatorPerson& Phone # **Betsy Buchanan 513-821-7188**

Division Head& Phone # **Joyce Tate, 513-357-7361**

Division **Health-WIC**

Type of Contract/Agreement ____ Accounts Payable ____ Accounts Receivable

____ Service Contract (no $) **X** Lease

Funding Source ____ General Fund **X** Grant Fund ____ Other Funding

Action Required: **X** Board Approval ____ Board Information

CONTRACT DOLLAR AMOUNT

Original Amount **$121,776.38**

TERM

Original Term Start Date **October 1, 2024** End Date **9/30/2025 w/2 add 'l 1 - year renewals**

EXECUTIVE SUMMARY

The WIC grant operates ten offices in the Cincinnati area. This contract is a lease agreement for the Western Hills WIC office located at 4966 Glenway Ave., Cincinnati, OH 45238. This is the location of our west side WIC office serving approximately 2,200 participants. This location is on the bus line and ADA accessible. WIC has worked out of this location since 2004. This contract is needed to serve the low-income at-risk families living in this part of our city.

PERIOD	BASE RENT / (Annually/Quarterly)
November 1, 2024 – October 31, 2025	$39,203.98 annually / $9,801.00 per quarter
November 1, 2025 – October 31, 2026	$40,576.12 annually / $10,144.03 per quarter
November 1, 2026 – October 31, 2027	$41,996.28 annually / $10,499.07 per quarter

DATE: September 24, 2024

TO: City of Cincinnati Board of Health

FROM: Mark Menkhaus, Jr., CFO

SUBJECT: Fiscal Presentation 2025

FINANCIAL STATEMENTS REVIEW FOR THE FISCAL YEAR 2025 – July

2024 July Highlights:

- Revenue as of the end of July was $4,335,802.42. Which is a 67.21% increase from July of 2023. Expenses as of July 2024 totaled $4,050,574.92 which is a 56.43% increase from July 2023. Total net gain after the capital revenue transfer was $2,468,528.10.

Year over Year:

- As of July, we had $18,574.01 in overtime compared to July of 2023's total of $9,911.14. Neither year had any disaster overtime in the month of July.

- We received capital revenue transfer for FY25 in the amount of $2,187,000. In FY24 we received partial revenue transfer in December and the balance in February for a total of $1,227,000.00.

- 7100-Personnel increased by 293.97%. This increase is due to the month of July in the calendar year 2024 having a total of 3 pay periods. In FY24 the 3 pay period month occurred in August of 2023. 7500-Fringes saw a corresponding increase of 32.47%.

- 7200- Contractual Services saw a decrease of 16.26%, and 7300- Materials & Supplies increased by 35.58%. The increases are due to the timing of invoices paid. Cardinal invoices from FY24 were paid in FY25.

- 7400-Fixed Costs increased by 35.92%. The increase is the timing of invoices paid. Rent for WIC locations, Millvale, and Crest Smile Shoppe were paid in July.

- 7600-Property increased by 32.47%. This was due to an AHU leak repair at B&K.

Cincinnati Board of Health Financial Statement for the period of July

	FY25 Actual	FY24 Actual	Variance
Revenue			
8236-Pools/Spa	$18.25	$1,218.98	-98.50%
8237-Household Sewage System	$530.00	$150.00	253.33%
8239-Tatto/ Body, Environmental Waste License Fee	$0.00	$600.00	-100.00%
8241-Food Service (Mobile-Temporary)	$26,714.00	$14,497.00	84.27%
8242-Vending Machine Licenses	$0.00	$0.00	0.00%
8244-Food Establishments	$14,396.25	$0.00	0.00%
8249-Food, NOC	$9,955.25	$6,863.75	45.04%
8432-Vending Machine Proceeds	$0.00	$0.00	0.00%
8536-Grants\State	$61,690.95	$52,500.00	17.51%
8541-Grant Community Development	$0.00	$0.00	0.00%
8556-Grants\Federal	$830,500.59	$541,928.52	53.25%
8563-Bd of Ed Svc (School Nurses Sal.)	$12,867.52	$47,893.21	-73.13%
8564-Ham Co Service	$55,945.26	$0.00	0.00%
8571-Specific Purpose\Private Org.	$58,445.32	$0.00	0.00%
8617-Non-Department Fringe Benefit Reimbursement	$0.00	$0.00	0.00%
8731-Birth & Death Certificates	$42,975.16	$50,069.34	-14.17%
8732-Vital Stats - Other	$246.48	$370.12	-33.41%
8733-Self-Pay Patient	$83,228.53	$79,270.69	4.99%
8734-Medicare	$433,373.73	$262,730.80	64.95%
8736-Medicaid	$366,849.84	$304,698.70	20.40%
8737-Private Pay Insurance	$96,639.95	$83,528.11	15.70%
8738-Medicaid Managed Care	$690,762.73	$436,683.90	58.18%
8739-Misc. (Medical rec.\smoke free inv.)	$138,745.66	$22,983.61	503.67%
8784-Private Lot Litter & Weed	$0.00	$0.00	0.00%
8811-Unclaimed Remains	$0.00	$0.00	0.00%
8914-Bond/Note Proceeds	$0.00	$0.00	0.00%
8917-Deferred Sewer Assessment Collections	$0.00	$0.00	0.00%
8932-Prior Year Reimbursement	$22,750.00	$0.00	0.00%
% That is attributable from 416	$1,389,166.95	$687,080.56	102.18%
Total Revenue	$4,335,802.42	$2,593,067.29	67.21%
Expenses			
71-Personnel	$1,631,329.09	$414,078.26	293.97%
72-Contractual	$698,115.80	$833,633.95	-16.26%
73-Material	$267,510.29	$197,314.73	35.58%
74-Fixed Cost	$213,469.24	$157,053.35	35.92%
75-Fringes	$1,232,202.50	$981,287.60	25.57%
76-Property	$7,948.00	$6,000.00	32.47%
Total Expenses	$4,050,574.92	$2,589,367.89	56.43%
Net Gain (Losses)	**$285,227.50**	**$3,699.40**	7610.10%
8936-Transfer	**$2,187,000.00**	**$0.00**	
Total Available	**$2,472,227.50**	**$3,699.40**	66727.80%

Interdepartmental Correspondence Sheet

Date: 9/24/2024

To: MEMBERS of the BOARD of HEALTH

From: Grant Mussman, MD MHSA, Health Commissioner

Copies: Leadership Team, HR File

Subject: PERSONNEL ACTIONS for September 24, 2024 BOARD of HEALTH MEETING

NON-COMPETITIVE APPOINTMENT –pending EHS and/or background check

OTTERIA MILLER	**DENTIST**	**CCPC**
(Resignation)		
Salary Bi-Weekly Range:	$6,170.69 to $7,908.46	Grant

Dr. Otteria Miller is a graduate of University of Louisville School of Dentistry (May 2016) where she received her Doctorate in Dental Medicine. Since graduating from dental school, Dr. Miller has over eight years of experience working in general dentistry. She currently owns her own private office, providing care to a diverse patient population, including 40-45% of patients with Medicaid. Dr. Miller has a passion for working with underserved populations and will provide valuable services to Cincinnati Health Department dental patients.

ALYSSA O'BRYANT	**MEDICAL ASSISTANT**	**CCPC**
(Promotion)		
Salary Bi-Weekly Range:	$5,607.18 to $6,500.26	Revenue

Alyssa O'Bryant received her associate's degree in health science technology which included becoming a certified medical assistant, from Cincinnati State and Technical College in 2016.

Ms. O'Bryant has an extensive history of working in the medical field. She was a Health Unit Coordinator at The Christ Hospital from 2009 through 2016. After becoming a certified medical assistant in 2016, she worked at Mercy Health Physicians as a medical assistant with a focus on primary care, floating between 4 providers. Ms. O'Bryant is also a previous employee of the Cincinnati Health Department, working as a medical assistant in the School Health Program from 2018 through 2021. After leaving the Health Department, she has worked with worker's comp claims at Sheakly Unicorp and is currently working as a human resources specialist at Hamilton County Education Services.

The skills and experience Ms. O'Bryant has directly aligned with the medical assistant position in the School Based Health Center Program. Ms. O'Bryant has a desire to serve students, family, and the community. Her skills, knowledge, and caring attitude with children and families will be an asset for both the Cincinnati Health Department and the School Based Health Centers.

Ms. O'Bryant is excited to have the opportunity to return to the Health Department and grow in her field within the organization.

NON-COMPETITIVE APPOINTMENT –pending EHS and/or background check

AISHA OLIVER	**PHARMACIST**	**CCPC**
(Resignation)		
Salary Bi-Weekly Range:	$5,607.18 to $6,500.26	Revenue

Aisha Oliver is a registered pharmacist with eleven years of experience. She received her Doctor of Pharmacy from Ohio Northern University and her bachelor's from Interamerican University of Puerto Rico.

Aisha comes to us from CVS where she served as a Pharmacist, Pharmacy Supervisor, and District Manager, mostly serving patients in underprivileged locations. Aisha is bi-lingual in English and Spanish and her references indicate that she has experience in MTM interventions as well as excellent patient counseling service skills, excellent attendance, strong organizational skills, and extensive people-management skills. She will be an asset to the city's Pharmacy program.

AMANDA SOKOL	**DIETITIAN**	**WIC**
(Retirement)		
Salary Bi-Weekly Range:	$2,029.55 to $2,794.68	Grant

Amanda Sokol received her bachelor's and master's degrees in clinical nutrition and dietetics from the University of Pittsburgh. She is a registered dietitian with two years of WIC experience. She currently provides telehealth nutrition and breastfeeding support to pre and postnatal women. Amanda is a certified lactation counselor which will be beneficial to the WIC Program's breastfeeding team. She has interim supervisor experience and has a positive attitude. She will be an asset to the WIC Program.

LUCAS YOUNG	**ENVIRONMENTAL HEALTH SPECIALIST**	**CHES**
(Promotion)		
Salary Bi-Weekly Range:	$2,519.22 to $2,793.61	General

Lucas Young is being presented for the position of Environmental Health Specialist. Mr. Young has a Bachelor of Science degree from Miami University and recently passed the exam to become a Registered Environmental Health Specialist while working for the Butler County General Health District. He brings over three years of experience, particularly in the field of household sewage treatment systems. Lucas' skills and enthusiasm for public health will be an asset to the Technical Environmental Services office.

PROMOTIONS

TONYA S. BANKS	**HEALTH COUNSELOR**	**CCPC**
(Resignation)		
Salary Bi-Weekly Range:	$2,295.94 to $3,085.55	Grant

The City of Cincinnati Primary Care would like to hire Tonya S. Banks as a Health Counselor. Ms. Banks earned her Master of Arts in Clinical Mental Health and Counseling from Xavier University in 2021. She is licensed by the State of Ohio as a Counselor, Social Worker, and Marriage & Family Therapist and has a certification as a Licensed Professional Counselor (LPC). Ms. Banks has a desire to serve the community, and her skills, knowledge, and empathy will be an asset to CCPC.

Date: September 24, 2024
To: Board of Health
From: Grand Mussman, MD, Health Commissioner
Subject: Health Commissioner's Report, Reflects August 2024

WIC Updates August 2024

1. The WIC caseload in August was 15,870. Women:3673, Infants:4059, Children:8138
2. August breastfeeding initiation rate for WIC infants was 62%. Breastfeeding at 6 months was 35%. Breastfeeding rates have been stable.
3. WIC's goal for FY24 is to inform all women of the Urgent Maternal Warning Signs. WIC reviews warning signs and provides a handout to all pregnant and postpartum women during their visit. In August WIC provided this education to 412 women participants.
4. WIC distributed 1,288 sets of coupons equaling $30 per set to families to purchase fresh fruits and vegetables with local farmers. This is a part of the annual Farmer Market Nutrition Program. WIC was at Findlay market and had two markets at the Roselawn WIC office with local farmers. WIC ran out of farmer market coupons due to popular demand. This is a great opportunity to support local farmers and provide WIC participants with local produce.
5. WIC celebrated World Breastfeeding Week on August 5th alongside the Farmer's Market at the Roselawn WIC office. Local community agencies joined in on the celebration. Agencies that set up tables at the outside event included representatives from AMEN (sharing with LECHE and Southwest Ohio Breastfeeding Coalition), BOOBS, Cradle/Queens Village/Mama Certified, UC and Mercy Baby Cafes, Every Child Succeeds, and Imagination Library.

Community Health and Environmental Services (CHES) Updates for CHD BOH Meeting 9.24.2024

Community Health and Environmental Services (CHES) updates:

- Cincinnati Health Department is partnering with the City Manager's Office to launch a medical debt relief project in response to Mayor Pureval's Financial Freedom Blueprint
- Cincinnati Health Department continues to meet with the Cincy CHIP action teams on the five priorities set for the next three years. 1) Access to Care, 2) Mental and Behavioral Health, 3) Nutrition and Food Access, 4) Infant Vitality, 5) Housing. More information in the Accreditation section.
- Alternative Response to Crisis (ARC) pilot diverting low acuity 911 calls to a behavioral health and EMT team is continuing in the Cincinnati community, more information can be found with the link below:

Alternative Response to Crisis (cincinnati-oh.gov)

Epidemiology

Epidemiology Data Briefs and Educational Guides:

Data Briefs and Educational Guides can be found using the website below.

https://www.cincinnati-oh.gov/health/community-health-data/epidemiology-data-briefs/

The Emergency of Antimicrobial Resistance in Cincinnati (2017-2022)

C:\Users\KIMBER~1.WRI\AppData\Local\Temp\msoA228.tmp (cincinnati-oh.gov)

2022 Annual Lead Report:

2022-LEAD-ANNUAL-REPORT-FINAL.pdf (cincinnati-oh.gov)

Epidemiologic Infant data:
These numbers are provisional for 2021-2024:
**** May 2024's report is delayed due to ODH data warehouse update**

Deaths for 2020:
City 2020 = 44
County (minus the city) 2020 = 33
Total Hamilton County 2020 = 77

The finalized number of births for 2020 (births extracted from Ohio Resident live births database (by residence city/county) as of 9.20.22):
City of Cincinnati = 4,220
Hamilton County births outside of the City limits = 6,110
Hamilton County inclusive of the City = 10,330

The finalized infant mortality rate for 2020 based on our current numbers:
City of Cincinnati IMR = 10.4 per 1,000 live births
Hamilton County outside the City limits = 5.4 per 1,000 live births
Hamilton County IMR = 7.5 per 1,000 live births (inclusive of the city numbers)

Provisional deaths for 2021:
City 2021 = 41
County (minus the city) 2021 = 24
Total Hamilton County 2021 = 65

The provisional number of births for 2021 (births extracted from Ohio Resident live births database (by residence city/county) as of 2.9.23):
City of Cincinnati = 4,111
Hamilton County births outside of the City limits = 6,154
Hamilton County inclusive of the City = 10,265

The provisional infant mortality rate for 2021 based on our current numbers:
City of Cincinnati IMR = 10.0 per 1,000 live births
Hamilton County outside the City limits = 3.9 per 1,000 live births
Hamilton County IMR = 6.3 per 1,000 live births (inclusive of the city numbers)

Provisional deaths for 2022:
City 2022 = 47
County (minus the city) 2022 = 42
Total Hamilton County 2022 = 89*
*three deaths OOJ excluded

The provisional number of births for 2022 (births extracted from Ohio Resident live births database (by residence city/county) as of 2.28.24):
City of Cincinnati = 4,155
Hamilton County births outside of the City limits = 6,034
Hamilton County inclusive of the City = 10,189

The provisional infant mortality rate for 2022 based on our current numbers:
City of Cincinnati IMR = 11.3 per 1,000 live births

Hamilton County outside the City limits = 7.0 per 1,000 live births
Hamilton County IMR = 8.7 per 1,000 live births (inclusive of the city numbers)

Provisional deaths for 2023:
City 2023 = 29
County (minus the city) 2023 = 29
Total Hamilton County 2023 = 58

The provisional number of births for 2023 (births extracted from Ohio Resident live births database (by residence city/county) as of 2.28.24):
City of Cincinnati = 4,122
Hamilton County births outside of the City limits = 5,907
Hamilton County inclusive of the City = 10,029

The provisional infant mortality rate for 2023 based on our current numbers:
City of Cincinnati IMR = 7.0 per 1,000 live births
Hamilton County outside the City limits = 4.9 per 1,000 live births
Hamilton County IMR = 5.8 per 1,000 live births (inclusive of the city numbers)

Provisional deaths for 2024:
City 2024 = 13
County (minus the city) 2024 = 10
Total Hamilton County 2024 = 23

The provisional number of births for 2024 (births extracted from state database (by residence city/county) as of 8.12.24):
City of Cincinnati = 2472
Hamilton County births outside of the City limits = 3436
Hamilton County inclusive of the City = 5908

The provisional infant mortality rate for 2023 based on our current numbers:
City of Cincinnati IMR = 5.3 per 1,000 live births
Hamilton County outside the City limits = 2.9 per 1,000 live births
Hamilton County IMR = 3.9 per 1,000 live births (inclusive of the city numbers)

Communicable Disease

COVID-19 Summary

Cincinnati Health Department continues to participate in weekly conference calls with the Ohio Department of Health in which routine COVID-19 updates are provided. Our Command Center and Communicable Disease Unit staff continue conducting positive case investigations and working with ODH for active monitoring of positive cases as well as follow up regarding outbreak investigations. CHD closed the vaccination operations at our main building March 31, 2023, and Hamilton County Public Health closed the vaccination operations as of June 2, 2023. Community members can seek vaccination with local pharmacies

as well as our City of Cincinnati Primary Care Health Centers. We extend great appreciation to the entire CHD team for all their tremendous efforts. Our CCPC sites will be providing COVID-19 vaccinations for the Pfizer 6 months to 4 years of age. The new COVID-19 vaccine is available this Fall at our CCPC sites in limited quantity, our COVID-19 Command Center is prepared to assist callers with locations of how to get the vaccine at local pharmacies.

CCPC UPDATE

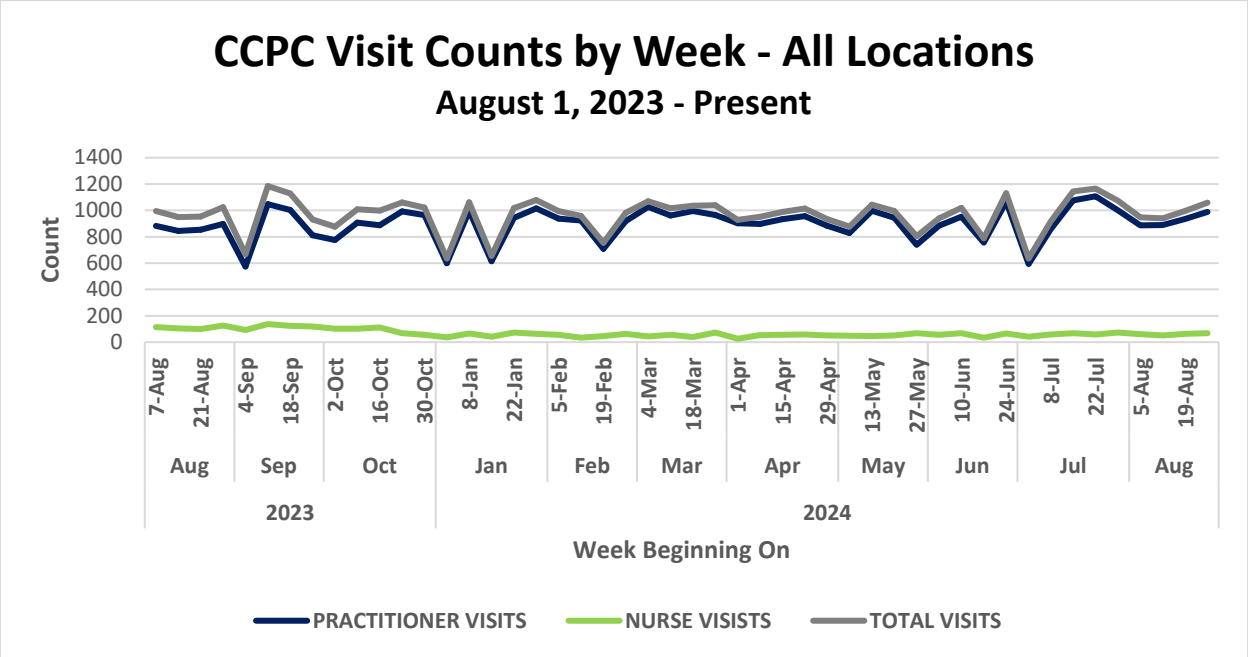


Figure 1. Number of Completed Patient Visits to All CCPC Community Health Center Sites

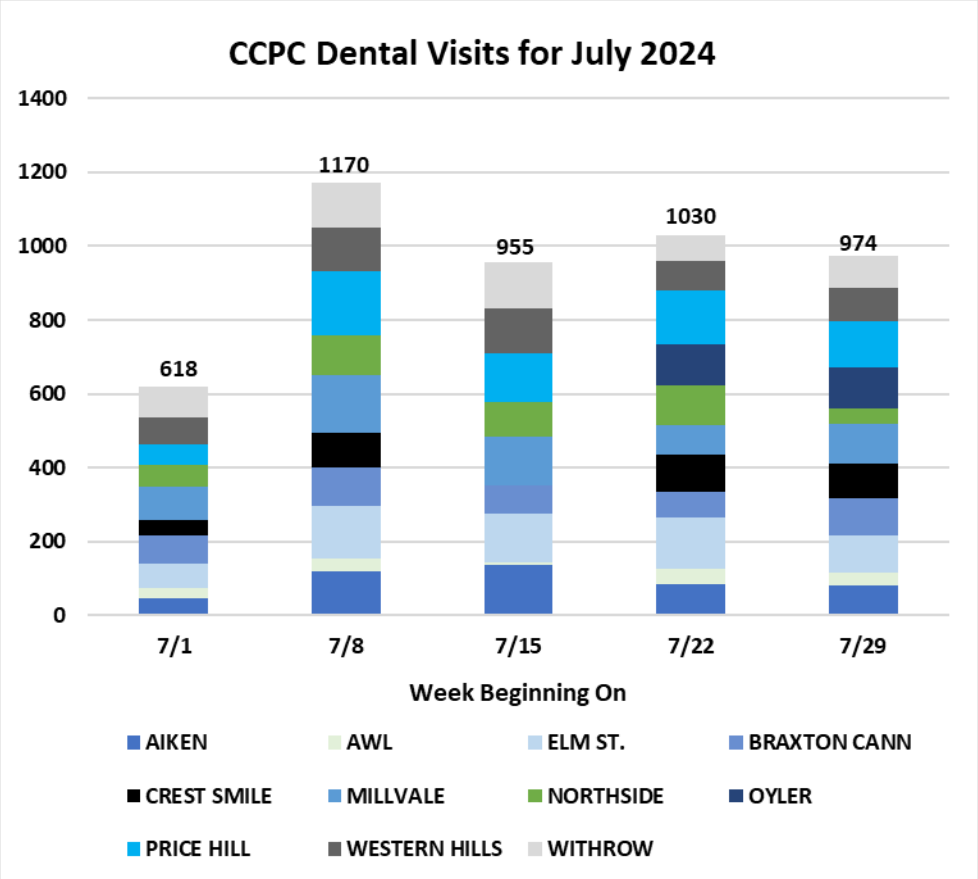
Table 1. Number of Completed Patient Visits by Location for August 2024 and FYTD

CCPC Community Health Centers	8/5	8/12	8/19	8/26	August 2025 Total	August 2024 Total	2025 FYTD Total	2024 FYTD Total
VISITS	**886**	**889**	**934**	**989**	**3698**	**3476**	**8330**	**8275**
AMBROSE CLEMENT	154	124	130	110	518	155	1070	373
AMBROSE CLEMENT BH	28	33	36	40	137	88	278	218
BRAXTON CANN	92	87	91	52	322	347	796	915
BRAXTON CANN BH	0	0	0	0	0	0	0	0
ELM ST. BH	14	8	14	12	48	17	98	36
ELM ST.	88	141	125	134	488	698	1320	1568
MILLVALE	107	68	95	124	394	587	882	1245
MILLVALE BH	11	2	0	3	16	61	78	118
NORTHSIDE	141	134	143	185	603	487	1334	1284
NORTHSIDE BH	2	4	0	3	9	61	17	138
PRICE HILL	223	241	288	294	1046	802	2189	2051
PRICE HILL BH	26	47	12	32	117	173	268	329
NEW PATIENTS	**56**	**52**	**66**	**67**	**241**	**209**	**524**	**476**
AMBROSE CLEMENT	12	10	17	13	52	9	99	22
AMBROSE CLEMENT BH	0	0	2	0	2	2	6	7
BRAXTON CANN	6	3	3	11	23	29	50	64
BRAXTON CANN BH	0	0	0	0	0	0	0	0
ELM ST. BH	0	0	0	1	1	0	1	0
ELM ST.	2	4	2	12	20	32	69	77
MILLVALE	5	3	6	2	16	57	54	119
MILLVALE BH	0	0	0	0	0	0	0	0
NORTHSIDE	11	7	15	12	45	37	93	87
NORTHSIDE BH	0	0	0	0	0	1	0	4
PRICE HILL	20	25	21	16	82	39	150	91
PRICE HILL BH	0	0	0	0	0	3	2	5

Table 2. Number of Pharmacy Fills for August 2024 and FYTD

CCPC PHARMACY LOCATION	8/5	8/12	8/19	8/26	August 2025 Total	August 2024 Total	2025 FYTD Total	2024 FYTD Total
NUMBER OF FILLS	2083	1924	1897	2106	8010	8128	20381	19939
AMBROSE CLEMENT	310	311	369	291	1281	1064	3289	2439
BRAXTON CANN	293	309	260	286	1148	1135	2685	2967
ELM ST.	373	418	369	382	1542	2079	3857	4727
MILLVALE	294	253	243	324	1114	1325	2962	3151
NORTHSIDE	270	191	267	296	1024	865	2734	2445
PRICE HILL	543	442	389	527	1901	1660	4854	4210

Figure 2. Number of Completed CCPC Dental Visits for July 2024 by Location



*AUGUST dental data will be updated next month

Reproductive Health and Wellness Program (RHWP) Data Report

Figure 1a. City of Cincinnati Primary Care Health Center Reproductive Health Visits by Gender and Month, Fiscal Year 2024 – 2025

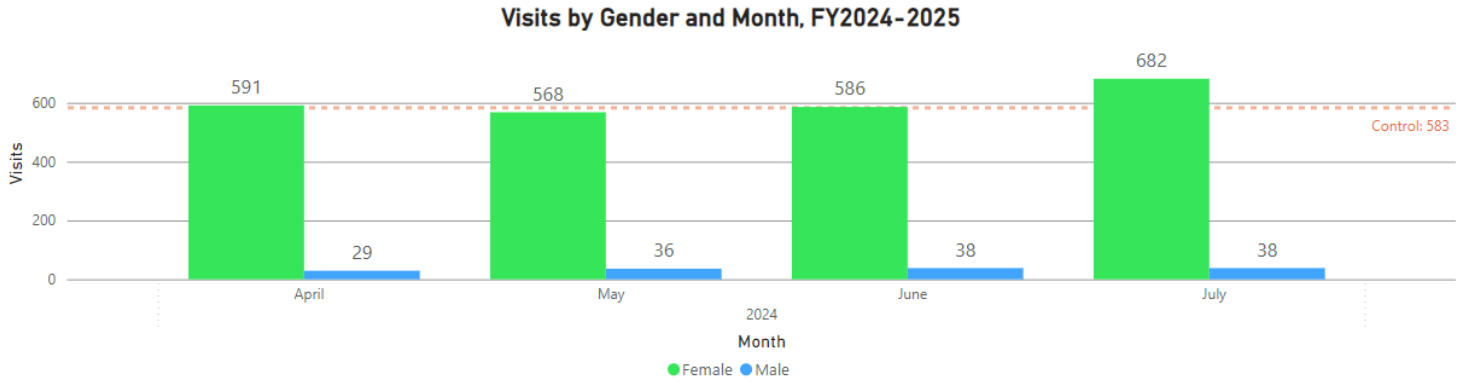
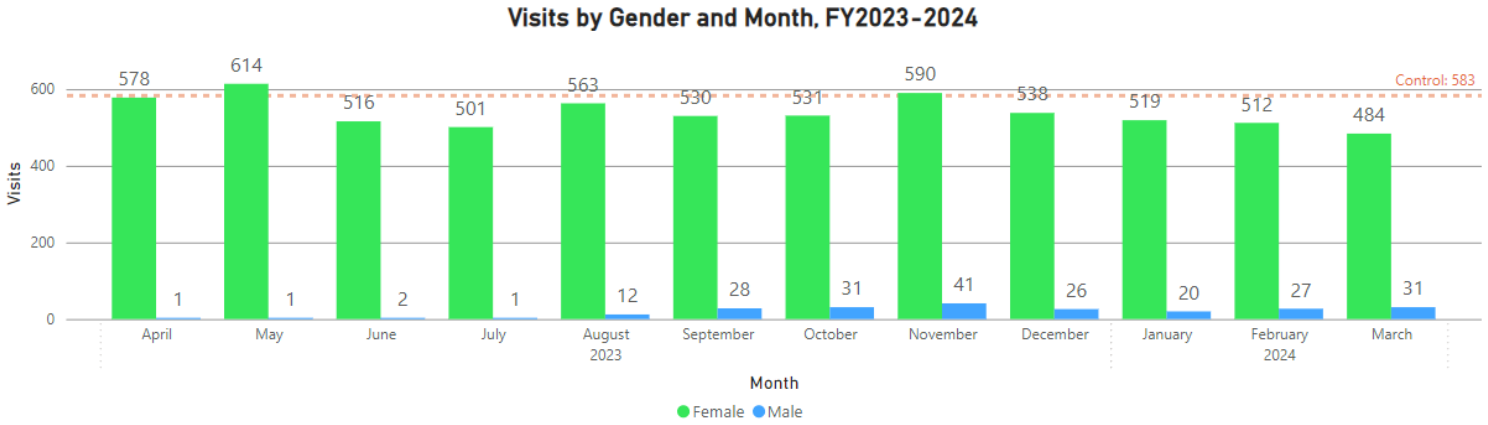


Figure 1b. City of Cincinnati Primary Care Health Center Reproductive Health Visits by Gender and Month, Fiscal Year 2023 – 2024



FY23/24 Visits with Men: 221 patients
FY23/24 Visits with Women: 6476 patients
FY23/24 Visits Combined (men/women): 6697 patients
FY23/24 Control (Expected) Visits: 7000 patients
FY23/24 Visits as % of Control Total: 95.7%
FY24/25 Visits with Men: 141 patients
FY24/25 Visits with Women: 2427 patients
FY24/25 Visits Combined (men/women): 2568 patients
FY24/25 Control (Expected) Visits: 2332 patients
FY24/25 Visits as % of Control Total: 110.0%

Figure 2a. Long-acting Reversible Contraception (LARC) (Intrauterine Devices) provision by Month and Insurance Type for patients seen at our City of Cincinnati Primary Care Health Centers, Fiscal Year 2024 – 2025

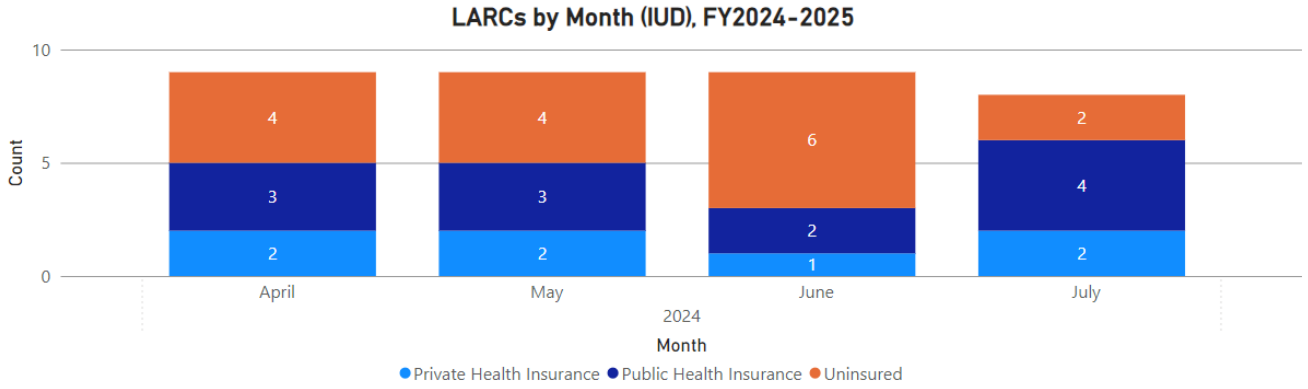


Figure 2b. Long-acting Reversible Contraception (LARC) (Intrauterine Devices) provision by Month and Insurance Type for patients seen at our City of Cincinnati Primary Care Health Centers, Fiscal Year 2023 – 2024

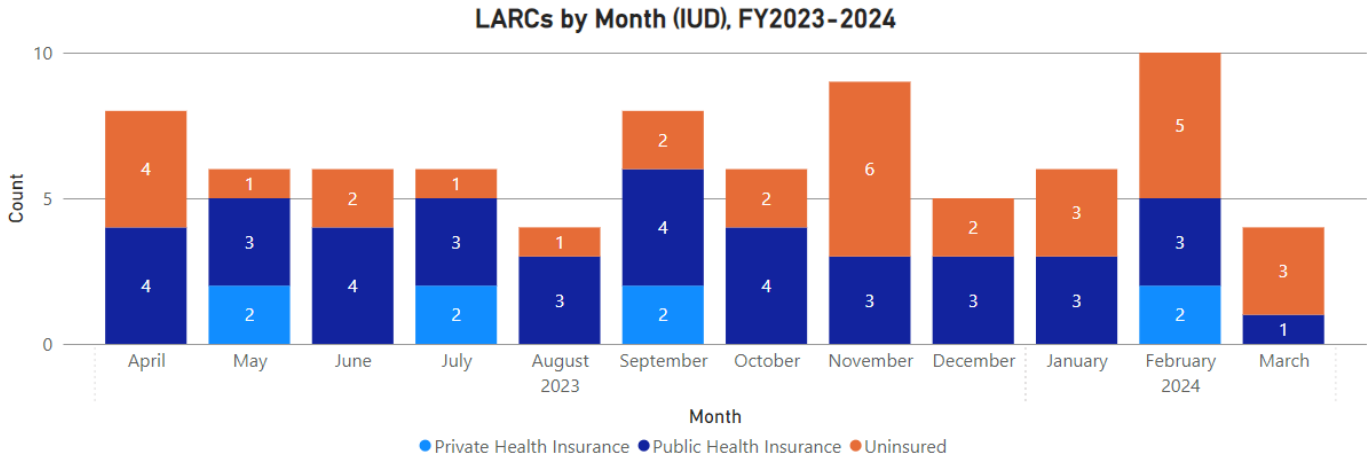


Figure 3a. Long-acting Reversible Contraception (LARC) (Implants) provision by Month and Insurance Type for patients seen at our City of Cincinnati Primary Care Health Centers, Fiscal Year 2024 – 2025

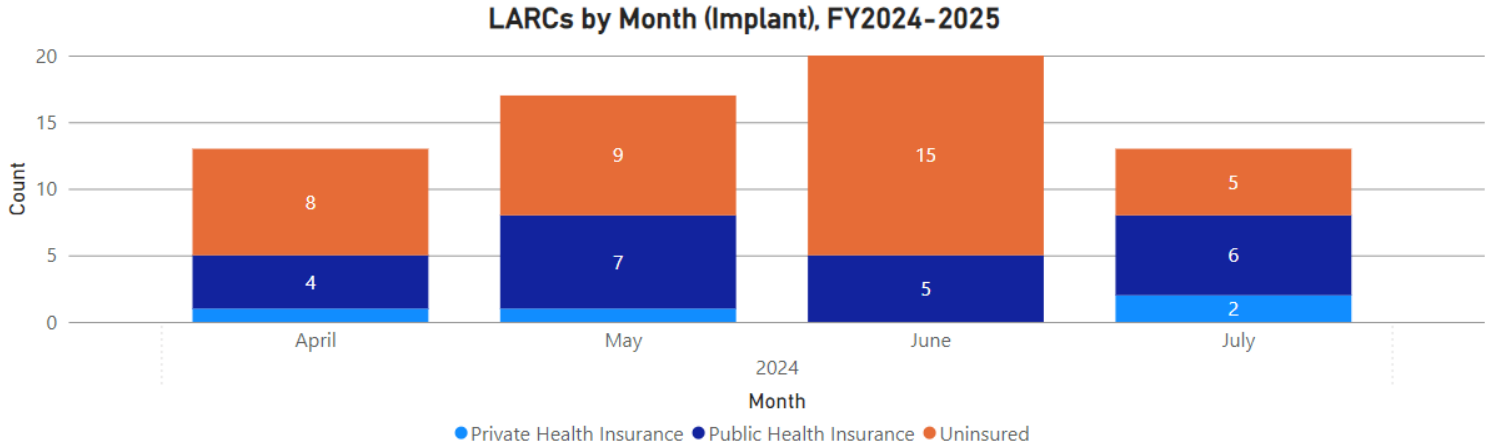


Figure 3b. Long-acting Reversible Contraception (LARC) (Implants) provision by Month and Insurance Type for patients seen at our City of Cincinnati Primary Care Health Centers, Fiscal Year 2023 - 2024

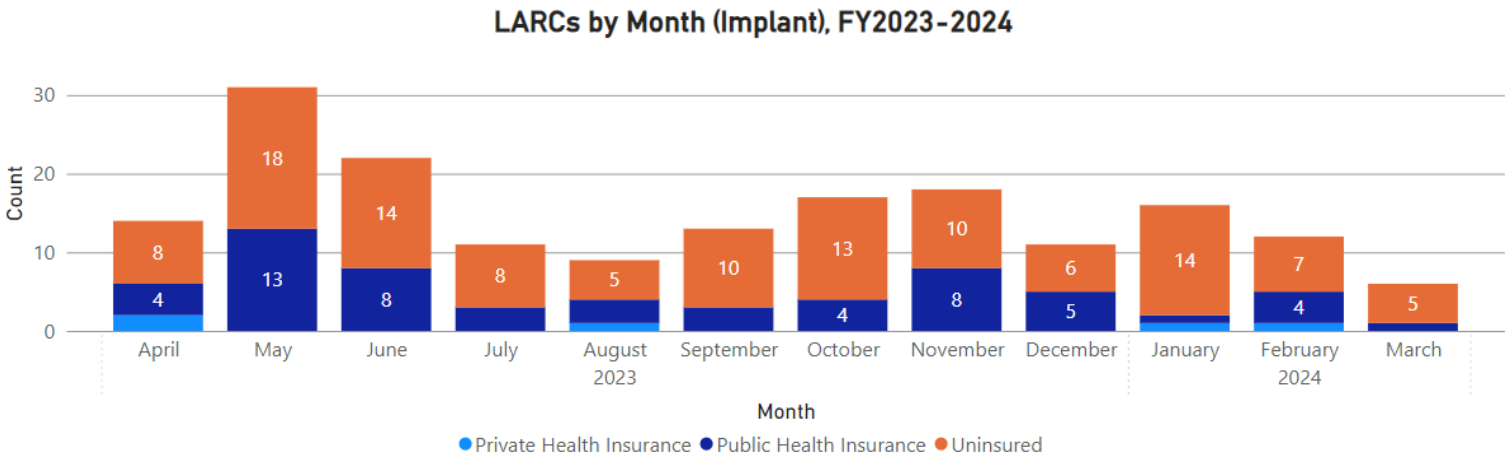


Table 1. Selected Demographic Characteristics of Unduplicated RHWP Patients, July 2024

	Female	% in col.	Male	% in col.	Total	% in col.
Race						
AI/AN	5	0.73%		0.00%	5	0.69%
Asian	10	1.47%	1	2.63%	11	1.53%
Black	360	52.79%	27	71.05%	387	53.75%
PI/HN	7	1.03%		0.00%	7	0.97%
Unknown	88	12.90%		0.00%	88	12.22%
White	212	31.09%	10	26.32%	222	30.83%
Ethnicity						
Hispanic	245	35.92%	1	2.63%	246	34.17%
Non-Hispanic	437	64.08%	37	97.37%	474	65.83%
Income						
<=100% FPL	601	88.12%	25	65.79%	626	86.94%
101-249% FPL	77	11.29%	12	31.58%	89	12.36%
>=250% FPL	4	0.59%	1	2.63%	5	0.69%
Insurance						
Private	70	10.26%	17	44.74%	87	12.08%
Public	302	44.28%	8	21.05%	310	43.06%
Uninsured	310	45.45%	13	34.21%	323	44.86%
Age (years)						
<15	4	0.59%	1	2.63%	5	0.69%
15-49	627	91.94%	33	86.84%	660	91.67%
>50	51	7.48%	4	10.53%	55	7.64%
Limited English						
No	409	59.97%	36	94.74%	445	61.81%
Yes	273	40.03%	2	5.26%	275	38.19%

Table 2. Unduplicated RHWP Patients by CCPC Health Center, July 2024

	Female	% in col.	Male	% in col.	Total	% in col.
Health Center						
Ambrose Clement	83	12.17%	36	94.74%	119	16.53%
Braxton Cann	53	7.77%		0.00%	53	7.36%
Bobbie Sterne	154	22.58%	1	2.63%	155	21.53%
Millvale	51	7.48%	1	2.63%	52	7.22%
Northside	122	17.89%		0.00%	122	16.94%
Price Hill	219	32.11%		0.00%	219	30.42%

* Reproductive health data is based on services as part of the Title X grant provided by our City of Cincinnati Primary Care (CCPC) Health Centers.

Accreditation

PHAB Action Plan Update:

The PHAB annual report was submitted for 2024, it focused on the foundational capabilities of the health department surrounding quality improvement efforts. The 2025 annual report will include an application for PHAB to conduct a reaccreditation readiness assessment as our annual report submission in preparation for reaccreditation in 2026.

CHD CHA Update:

Cincinnati Health Department has completed the CHD Community Health Assessment (CHA). The CHA was posted on the CHD website and the public comment period has closed. CHD will continue to seek feedback from the community through our partnerships by attending several community events throughout the year.

Cincy CHIP Update:

The Cincy CHIP action teams continue to work on developing strategies to address their specific focus area. The action team chairs met to discuss the intersection of strategies and potential alignment opportunities.

The Cincy CHIP focus areas for the upcoming Cincy CHIP cycle are as follows:

- Access to Care
- Behavior and Mental Health
- Infant Vitality
- Nutrition and Food Access
- Housing

Regional CHNA and CHIP Update:
The Regional CHNA lead by The Health Collaborative (THC) was released January 2022. CHD is participating in the Regional Behavioral Health Continuity of Care group, 2024 Regional CHNA Advisory committee, and 2024 CHNA Public Health Task Force.

Quality Improvement/ Quality Assurance

Clinical QI committee has resumed meeting. Public Health QI is working with CCHMC to build the systems dashboard for public health programs. QI training sessions have completed their training for the Healthy Homes and Lead Programs and are in monitoring stages. Through our continued partnership with Children's Hospital, several CHD staff members have been selected to attend their improvement science course, ImpactU which begins in October. Our CHD QI Steering Committee continues to meet monthly to review progress on highlighted projects and provide feedback to colleagues.

GET VACCINATED GRANT- MONTHLY DATA TABLE 2024-2025										
MONTH	**RM 0-18 Years**	**RC 0-18 Years**	**IQIP Initial Site visit With office**	**IQIP 2 M Follow up**	**IQIP 6 M Follow up**	**IQIP 12 M Follow up**	**MOBI**	**TIES**	**PERI HEPB NEW CASES**	**PERI HEPB CLOSED CASES**
July	570	642	0	0	0	0	0	0	0	2
August	906	1124	0	0	6	2	10	10	0	0

September										
October										
November										
December										
January										
February										
March										
April										
May										
June										
TOTAL										

RM=reminders to families for immunizations now due

RC=recalls to families behind on immunizations

IQIP= Immunization Quality Improvement Process (CDC tool including audit) (2M/6M/12M=follow ups with practices involved in QI process)

MOBI=Maximizing Office Based Immunization education presentation for providers

TIES=Teenage Immunization Education Session -immunization education for providers regarding adolescents

Peri HEPB=Peri-natal Hepatitis

***JULY- MOBI, TIES, (7/18) and IQIP (7/30) required ODH training completed. Training required PRIOR to initiating MOBI, TIES, IQIP outreach.**

Healthy Communities Program – Tiffany White

Live Work Play Cincinnati Coalition
A multi-sector coalition that works to improve health outcomes by addressing health-related social needs and social determinants of health at the community level.

Date of Meeting	Location & Presentations	Next Steps
09/11/24	**Location** 1701 Mercy Health Pl., Cincinnati, OH 45237 **Presentations** **QPR Training** Ashley Gray Community Program Manager & Kelly Barry Senior Program Manager 1N5	**Next meeting is October 9, 2024, at** 2533 Kemper Ln, Cincinnati, OH 45206 **Meeting frequency: 2nd Wednesday of each month.**

Infant Vitality – Malina Harris

ODH- Cribs for Kids Subgrantee
The Ohio Department of Health (ODH), Bureau of Maternal, Child and Family Health is partnering with Cribs for Kids® and local organizations throughout Ohio to provide Cribettes® and safe sleep education to eligible families.

# of families served since last report	Project Partners and Status	Next Steps
88 families	**Partners:** All In Cincinnati, Bethany House Services, Cherished Hearts CPR Family, Community Action Agency, Cradle Cincinnati Connections (CCC), Crossroad Health Center, First Step Home, Greater Cincinnati Behavioral Health Services, Healthcare Access Now (HCAN),Healthy Homes: Block by Block (Community Matters),Healthy Moms & Babes, Helping Young Mothers Mentor, Inc., Home Health/CHD, Interfaith Hospitality Network of Greater Cincinnati (IHNGC),Mercy Health – Perinatal Outreach Program, Nurse Family Partnership/ECS-Pathways to Home, Rosemary's Babies Co., Santa Maria Community Service, Sigma Gamma Rho Sorority, Inc. Su Casa Hispanic Center, The Children's Hospital/ECS, The Children's Home of Cincinnati/ECS/Costars, The Christ Hospital, The Community Builders (TCB),TriHealth, The Salvation Army, University of Cincinnati Medical Center (UCMC)/Hoxworth/Women's Center, WIC, Women's Center of Ohio, TriHealth --- **Status: Active**	**Plan:** Cribs for Kids and ODH contract for cribs is being evaluated. All 1,141crib have been ordered for the grant cycle as of 6/18. **Meeting frequency: ODH TA Meetings are Quarterly.** Last meeting 7/29/24 Next meeting: 9/16/24 Meetings are Quarterly

Sweet Cheeks Diaper Bank and Tidal Babe- Partner
Sweet Cheeks Diaper Bank partners with local social service agencies to provide free diapers to low-income families while raising awareness of the basic health need for diapers. Our vision is to eliminate the existence of diaper need in our community

so that ALL babies have a chance to be healthy, happy, and safe.		
# distributed since last report	**Project Partners and Status**	**Next Steps**
200 diapers have been distributed since the last BOH report.	**Partners:** Sweet Cheeks Diaper Bank HCAN, Mercy Health, Health Vine, UC Women's Center, Hamilton County OEI, Cincinnati Health Department Home Health, WIC --- **Status: Active**	**Plan:** **Families have been referred to other agencies to receive diapers** Planning Diaper drive at one of the CHD Health Centers during a health fair. Volunteered with HC Team. Facility is moving to Walnut Hills 2231 Terhune Alley, Cincinnati, OH 45203 **Meeting frequency:** Annually Next Meeting scheduled for: TBD
CAT- The Cincinnati-Hamilton County Community Action Team The mission of the Cincinnati-Hamilton County Community Action Team is to optimize equitable health outcomes for women, infants, children, and families in Cincinnati-Hamilton County through collaboration, education, and action. This group meets monthly.		
# of meetings since last report	**Project Partners and Status**	**Next Steps**
1-Last Meeting: 7/18/24	**Partners:** **Hamilton County** --- **Status: Active**	**Plan:** Discuss the results of the Maternal & Child Health Survey. The work Group is being reconfigured and will meet on a quarterly basis. **Meeting frequency: Quarterly** TBD
OIPP/CIAG- Ohio Injury Prevention Partnership: Child Injury Action Group The function of the Child Injury Action Group (CIAG) is to identify priorities and strategies to reduce child injury in Ohio. The CIAG has identified focus areas to address in their five-year strategic plan including teen driving, traumatic brain injury, safe sleep, youth suicide and child passenger safety.		
# of meeting since last report	**Project Partners and Status**	**Next Steps**
1	**Partners:** **Ohio Department of Health** --- **Status: Active**	**Plan:** Strategic Plan Update Shared progress on the standardized data presentation the subcommittee members will be able to brand as their own and share within their respected communities. The presentation includes quantitative and qualitative data from multiple reporting sources (OPAS, CFR, etc.), representing all of Ohio. Presented on current work being done in the Infant Vitality Program. **Meeting frequency:** Quarterly Next Meeting 9/12/24

Program supported projects/ meetings:

8/16/24- ODH Doula Webinar
8/21/24- MCHA NAXCHO workgroup Meeting
8/22/24- Produce Perks
8/27/24- CIAG Meeting
8/29/24- CHIP Infant Vitality Subgroup meeting
8/29/24- Produce Perks
9/3/24- Fatherhood collaborative meeting

9/6/24- OCPIM Statewide Townhall Meeting
9/21/24- CIAG Meeting

Food Equity (Healthy Eating)- Jasmine Robinson

Heart of Hamilton County
The Heart of Hamilton County Health Fair and Food Distribution is an event that includes food demos and giveaways and is a larger benefit for those who will attend by having health education, health screenings and more.

# of Meetings Since Last Report	Project Partners and Status	Next Steps
0	Hamilton County ReSource Wasted Food Stops with Us initiative, the Cincinnati Health Department's Food Equity Program, Love in Action, Freestore Foodbank, Last Mile Food Rescue, and La Soupe. --- **Status: Active** (next event on 8/30/24)	Serve as project lead and manage health partners; find new health partners to participate in events **Meeting frequency**: as needed

Produce Perks- Community Supported Agriculture Distribution (Fruit and Vegetable Program)
Produce Perks and CHD partnered to increase access to healthy fresh fruits and vegetables in the Winton Hills neighborhood. The partnership has distributed over $50,000 in healthy foods purchased directly from Mustard Seed Farms (a local, Cincinnati small-scale farm) strengthen healthy dietary habits and increasing nutritional/cooking knowledge in hundreds of Winton Hills community members.

# of Meetings Since Last BOH Report	Project Partners and Status	Next Steps
2	Produce Perks, CMHA, and Mustard Seed Farm --- **Status: Active** (event began 5/9/24; last distribution completed on 9/12/24- 24 total signups)	Plan for 2024 distribution and events. Find community champion **Meeting frequency:** as needed for planning

CHD Healthy Communities Freezer
The Cincinnati Health Department (CHD) Healthy Communities Program will partner with Cincinnati Recreation Commission (CRC) Hirsch and Millvale locations to implement a pilot community freezer program.

# of Meetings Since Last BOH Report	Project Partners and Status	Next Steps
1	COC Office of Environment and Sustainability, CRC, La Soupe, and Hamilton County ReSource --- **Status: Active** (award received)	Find a non-profit organization to own freezers; then, complete partner meeting to discuss kickoff and opening events **Meetings frequency:** as needed based on project updates.

Systems to Achieve Food Equity (SAFE) Network
a sub-network of All Children Thrive made up of individuals and organizations committed to improving food security in Cincinnati to ensure that all children have the food that they need to grow, develop, learn, and thrive.

# of Meetings Since Last	Project Partners and Status	Next Steps

BOH Report		
1	CCHMC, Freestore Foodbank, Hamilton County ReSource, La Soupe, and more. --- **Status: Active** (participating in SAFE's communication, stewardship, and food access teams as well.)	Network planning for food distribution in the City of Cincinnati; current project funding covers works in Avondale, East and Lower Price Hill **Meeting frequency:** 3rd Thursday of every month --- Stakeholder meeting to report on organizational updates, events, and needs working towards food equity in Cincinnati. **Meeting frequency:** 1st Thursday of every month
Food Equity Program Newsletter Each month, the Food Equity Coordinator sends a newsletter that includes local food related events such as food/produce distribution sites, pop ups, cooking improv learning sessions and more.		
# of Meetings Since Last BOH Report	**Project Partners and Status**	**Next Steps**
1	Newsletter sent to community members and partners by the 2nd Tuesday of each month. --- **Status: Active** (last newsletter sent on 9/4//24 to over 180 recipients)	Continue to mold newsletter content and layout to meet the reader's needs **Meeting frequency**: included in monthly program meeting with HCP program manager; as needed meetings scheduled with SAFE's SSF Communications team for discussion/ review

Program supported projects/ meetings:
8/21/24: Exclusive Services: Emotional Intelligence Training
8/22/24: Cincinnati Parks Foundation/ CHD Collaboration Discussion
8/26/24: Avondale Respite Center Discussion
8/28/24: Community Food Projects Competitive Grant Program August Webinar (pt.1)
8/29/24: Mandela Fellow Farewell Presentation and Celebration
8/30/24: CHD Food Equity and AHA Collaboration Discussion
9/3/24: Fatherhood Collaborative of Hamilton County Meeting
9/5/24: Monthly CCHMC Food Stakeholder Meeting- System to Achieve Food Equity (SAFE) in Cincinnati
9/6/24: OCPIM Statewide Townhall Meeting
9/6/24: 1n5/ Food Equity Collaboration Discussion
9/9/24: Urban Food Festival Resource Discussion
9/9/24: Jasmine: Mt. Airy Weekly Afterschool Presentation Series
9/10/24: Food Equity and CAA Collaboration Discussion
9/10/24: Dangers of Youth Vaping: What Parents Need to Know in 2024 webinar
9/13/24: Healthy Communities & WeTHRIVE! Meeting
9/14/24: Food Equity Youth MOVE Presentation (NAMI)

Tobacco Free Living (TFL) – Courthney Calvin

Project/ Meeting Title: Youth Vape Presentation **Educate Cincinnati youth on the dangers of e-cig use.**		
# of Students	**Project Partners and Status**	**Next Steps**
Schools on Summer Break	**Partners:** --- **Status: Active**	**Plan:** **Meeting frequency:**

Program supported projects/ meetings:
8/29/24: Mandela Fellow Farewell Presentation and Celebration
9/9/24: Jasmine: Mt. Airy Weekly Afterschool Presentation Series
9/12/24: Meeting with director of CHD pharmacy-Cessation project
9/12/24: Meeting with Title X/Reproductive health manager-Education in schools
9/13/24: University of Cincinnati Cancer Advisory Board Retreat

Tobacco 21/Tobacco Retail License (TRL) - Allyn Griffith

Tobacco Retail Licensing/T21 License any retailer in the City of Cincinnati selling tobacco products. Conduct underage buy attempts and issue citations to enforce tobacco 21 laws.		
	Status	**Next Steps**
	223 - TRL renewals made. 29 - Annual applications completed. 291 - Identified retailers registered. 160 of inspections (55% total retailers inspected).	**Plan:** • Continue Inspections until further notice. • Hire underage buyer(s).

Worksite Wellness & Active Living – Scott Dean

Healthy Eating Active Living (HEAL) Capacity Building Grant for Carthage Increased capacity for Carthage residents to engage in Healthy Eating and Active Living (HEAL) projects by conducting the PSE assessment and identifying 1 priority health strategy.		
# of Meeting since last report	**Project Partners and Status**	**Next Steps**
4	**Partners:** Identified 36 partner agencies --- **Status: Active** Completed Back to School event on Carthage Night Out and continued to push the usage of our CAGIS Pedestrian Hazard Map. Around 400 community members were in attendance.	• Walk audit with smaller groups. • Continue pushing usage of the CAGIS Pedestrian Hazard map we created for the community to track issues. **Meeting frequency:** Monthly with additional meetings as needed
Y.E.S on Bike & Pedestrian Safety The aim of this education series is to increase youth knowledge around the responsibilities of pedestrians, cyclists, and drivers to create a culture of safe transportation in neighborhoods.		
# of Meeting since last report	**Project Partners and Status**	**Next Steps**

1	**Partners:** Cincinnati Public School (CPS), Tri-State Trails, Green Umbrella: Green Schoolyards Team --- **Status: Active** Finalized pilot curriculum and began presentations. Continuing to find partners to present to	• Working with CPS contact to identify which schools to target for this education. • Continue work on developing a comprehensive curriculum. **Meeting frequency: Monthly**

Program supported projects/ meetings:
8/22/24 – Cincinnati Parks Foundation Meeting and Brainstorming
8/23/24 – 7Hills Neighborhood House Live on Linn event
8/28/24 – Healthy Lifestyles Wellness Committee Focus Group
8/28/24 – Monthly Steering Committee for Winton Hills Plan
8/30/24 – Eviction Prevention Meeting
8/30/24 – CHIP Housing Team Meeting
9/4/24 – Walk, Ride, and Roll Webinar Series: Celebrating Ruby Bridges Walk to School Day
9/4/24 – LEAP Traffic Garding Project and Funding Meeting
9/4/24 – Carthage Civic League Night out
9/6/24 – University of Cincinnati's Counselor and Community Meeting
9/9/24 – Making the case for increasing physical activity through community design
9/9/24 – Mt. Airy Afterschool Presentation
9/10/24 – Mill Creek Triangle Steering Committee Meeting
9/13/24 – Healthy Communities/WeTHRIVE Joint Meeting
9/13/24 – Eviction Prevention Meeting

Men's Health – Eric Washington

Project/ Meeting Title: Buckeye Health Plan and Men's Health		
# of Meetings Since Last BOH Meeting	**Project Partners and Status**	**Next Steps**
3 Meetings	**Partners:** Buckeye Health Plan – "What's your numbers." **Status: Ongoing**	**Plan:** • Final Report Submitted • Next Step: Review Barbershop Series for fall '24 **Meeting frequency:** Monthly x2
Project/ Meeting Title: Brother You're On My Mind Details/ description		
# of Events Since Last BOH Meeting	**Project Partners and Status**	**Next Steps**
Monthly (Barbershop) and Weekly for Mentorship	**Partners:** Omega Psi Phi – Barbershop Talk (Mental Health) and Youth Mentorship (Bowling) **Status:** (Ongoing Monthly)	**Plan:** • Conversation dealing w/ Mental Health and Youth Mentorship **Meeting frequency:** Monthly x1 & Weekly
Project/ Meeting Title: Men's Health Partnership/Resource (Maple Towers) **Details/ description**		
# of Events Since Last BOH Meeting	**Project Partners and Status**	**Next Steps**
1 Meeting	**Partners: Maple Towers**	**Plan:**

	Awareness, Education and Prevention **Status: Ongoing**	• Ask the Doctor with Mandela W. Fellow - Discuss around Chronic Disease, Mental Health **Meeting frequency: Monthly x1**
Project/ Meeting Title: Men's Health (Senior Chateau) Details/ description		
# of Meetings Since Last Meeting	**Project Partners and Status**	**Next Steps**
1 meeting	**Partners: Senior Chateau** -Awareness, Education, Resource and Prevention **Status: Ongoing/Pending**	**Plan:** • Establish meeting dates and times. • Future Topics (Men's Health) • Next Meeting March 15th 1-3:00 **Meeting frequency: Monthly x1**
Project/ Meeting Title: Men's Health Referral System and Survey **Details/ description**		
# of Projects Since Last BOH Meetings	**Project Partners and Status**	**Next Steps**
Project	**Partners:** Potential Partners: CHD Community Health Workers/Home Health Shared QR **Status: (**Ongoing)	**Plan:** • Review and Re-evaluate **Meeting frequency: Ongoing**
Project/ Meeting Title: Citi Camp Details/ description		
# of Meetings Since Last BOH Meetings	**Project Partners and Status**	**Next Steps**
3	**Partners:** • Cincinnati Police **Status:** (Ongoing/Pending	**Plan:** Planning meeting - TBD **Meeting frequency: Monthly x 3**

Meeting Dates:

8/19/24 – The Heart of Northside -Meeting with Dr. Florence Rothenberg

- Hamilton County Public Health Meeting w/ E. Ventus – Black Men's Wellness Walk

8/20/24 – Recovery Ohio Drug Trends Monthly Meeting

- Input Update TRL/T21 ON Policy Mapping

8/21/24 – CHIP Behavioral Health Workgroup

8/22/24 – CHES Core Staff Meeting
8/23/24 - OPP Youth Mentoring Meeting
8/26/24 - Community Tour Meeting w/ J. Berry
- AHA Meeting
- One Stop Meeting

8/27/24 - Community Meeting w/ J. Berry
- OneOhio Update Meeting

8/28/24 – Healthy Communities Meeting
- Healthy Lifestyles Committee Focus Group Meeting

8/29/24 – Title X Meeting

Mandela Fellow Farewell Presentation
Maple Tower Meet the Doctor

9/12/24 – LWPC Meeting

Community Outreach – Justin Berry (August)

Project/ Meeting Title – Community Outreach Details/ description		
# of …	**Project Partners and Status**	**Next Steps**
3 Meeting and Community Members reached) 89	**Partners:** GCB, City Gospel, Heroin Coalition Team, CCRC, Step Stone and DeCoach, First Step Home, Treatment Team, CRC Rec Center, Our daily Bread) **Status: (Ongoing)** Nacarn- 30 kits passed out in community Narcan trainings- Chase Park 8/21/24	**Plan:** **Meeting frequency:** (Monthly and Bi-Monthly) The month of August was a good month as far as connecting with people. Over the month of August I have successfully helped four people with changing lives events. The biggest highlight of the month was me helping someone receive a job. I assisted the client with filling out the application, checking and calling about the job, and assuring he had the proper attire for the interview. I was able to talk to the manager at a motel and he let my client say there for free so he could shower in the morning for his interview. I showed up to the motel, at 6am and gave client a hair cut. Client was thankful and he received the job. This client had been client for 20+ years but relapsed during Covid and had be struggling, but he has been client.

MONTH: (2024)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Open cases:	97	92	97	86	83	84	84	87				
3.5-9 µg/dL case mgt & follow-up: *	22&22	22&24	20/20	16/20	8/10	16/7	27/15	41/12				
10+ µg/dL case mgt & follow-up:	4&15	2&18	3/15	4/12	2/20	3/11	6/12	3/10				
Risk assessments:	4	1	2	2	3	1	5	3				
Orders issued:	0	2	0	4	2	0	5	2				
Clearances EBL:	1	1	1	3	4	1	1	1				
Clearances HUD:	0	0	1	2	0	0	6	2				
Owner meetings EBL:	1	3	0	0	3	0	0	0				
Owner meetings HUD:	1	1	0	0	4	1	1	1				
Compliance checks EBL:	23	25	19	22	21	62		20				
Compliance checks HUD:	0	0	3	0	1	0	1	1				
Contractor mtgs EBL:	0	0	1	0	0	0	2	0				
Contractor Meetings HUD:	3	5	4	3	1	9	5	7				
Filed for prosecution:	0	0	0	0	0	0	0	0				
LIRAs:	8	4	8	4	6	5	5	4				
Grant apps uploaded (ODH /ODD/HUD)	7&2	11	1/2	5/1	4/0	2/0	13/0	3/4/1				
Case Update w/ Lead Clinic:	10	12	13	10	11	9	7	11				
Affidavit of Fact	0	0	0	0	0	0	0	0				

Risk Assessment: If a child has a lead level of 10 ug/dL and above, a risk assessment of the property is conducted to determine the source of lead poisoning.

Orders issued: If lead hazards are present on the property, orders are issued to the property owner to ensure compliance.

Clearances: These include soil and dust sample analysis for lead on EBL & HUD grant properties.

Owner Meetings: Meet with owners to discuss compliance with orders; meet with owners to discuss the HUD grant program.

Compliance checks: These are conducted to inspect the licensed lead abatement contractors and workers on the project sites for the EBL as well as the grant program.

Contractor meetings: Meet with the licensed lead abatement contractor at the job site/property to discuss the orders/work specifications for the EBL/HUD grant program.

Filed for prosecution: When non-compliance is achieved, the property owner is referred to the Law Department for enforcement action.

PIRA's: Paint Inspection/Risk Assessment of the house to evaluate lead hazards for lead remediation by the HUD grant.

Case update with Lead Clinic: Collaboration with CCHMC Lead Clinic every Thursday.

Affidavit of Fact (AF): When all resources for compliance are exhausted, the AF is sent to the Auditor's Office to flag properties with lead hazards so new owners are aware of the BOH Lead orders on the property.

August 2024 BOH Report
Emergency Preparedness/Safety

Meetings, Grants, and Employee Safety

Attended and presented at the City-Wide Safety Task Force meeting on August 7.
Conducted respirator fit testing at the Burnet and Jing offices August 9.
Attended the ODH Integrated Preparedness Planning Workshop August 12.
Conducted respirator fit testing at Millvale Health Center August 19.
Attended DHS CWMD exercise team Final Planning Meeting for the BioWatch Functional Exercise on August 19.
Conducted respirator fit testing at Braxton Can Health Center August 22.
Attended CHES Core Staff Meeting August 22.
Conducted Respirator fit testing at Bobbie Sterne Health Center August 23.

Training Exercises and Improvement Plans
Staff successfully participated in the biannual MARCS radio communication test on August 6.

Response/Preparedness Activities
Staff conducted indoor air monitoring for carbon monoxide at the Monster Jam event at Heritage Bank Center August 24 and 25.

Cincinnati Vital Records and Statistics Program

Monthly Dashboard for August 2024

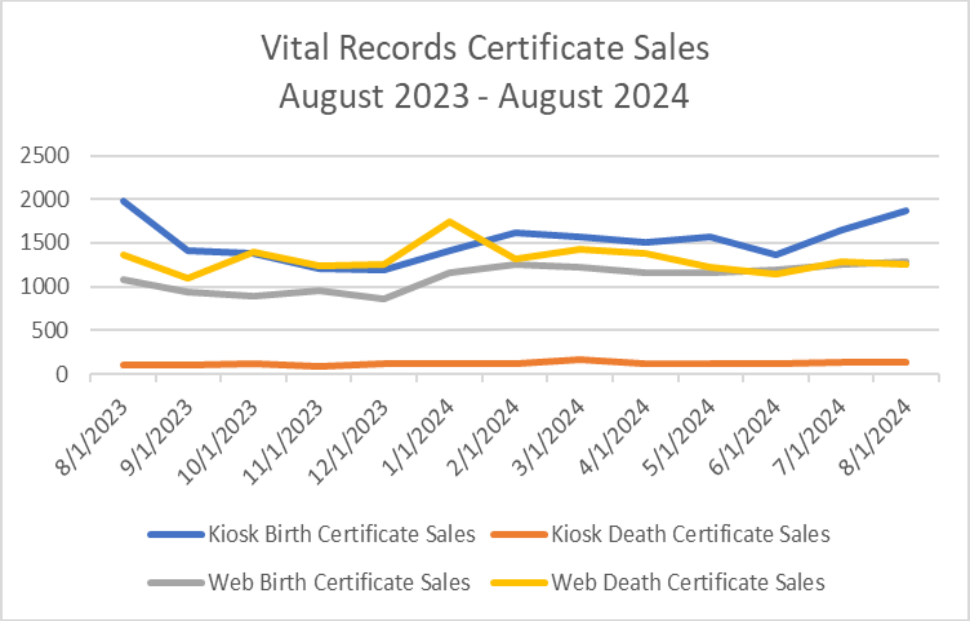
Vital Records received payment for 38 affidavits, staff assisted customers with birth certificate corrections using the affidavit process.

Vital Records staff assisted 9 families with paternity affidavit process to add the father to a birth certificate.

Vital Records received 138 payments for permits (burial, cremation, transport, or entombment).

Birth and Death Certificates requested from the kiosk, web system, mail and VitalChek are shown in the chart that follows.

May 2024	Kiosk	Web	VitalChek@	Mail
Birth Certificates	1867	1278	223	7
Death Certificates	138	1260	56	24
Total Payments	$44,881	$62,495	$6,418	$810



CITY OF CINCINNATI ENVONMENTAL HEALTH REPORT

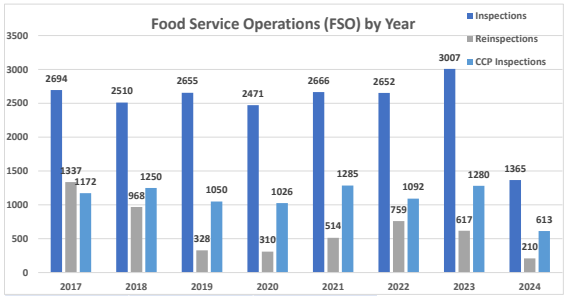
Environmental Health

The Environmental Health Division strives to provide quality community-based services to Cincinnati citizens through the enforcement of public health laws. Through five offices (including Licensing Administration), the Division issues licenses, investigates complaints, abates public health nuisances, and conducts inspections of Cincinnati's restaurants, food trucks, grocery stores, festivals, composting facilities, tattoo and body piercing parlors, infectious waste facilities, junk vehicles, solid waste open dumps, swimming pools and spray grounds, mosquitoes, rabies exposures, household sewage treatment systems, smoking in public places, mold, no water, no heat, rat and mouse, surfacing sewage, roaches, defective plumbing, schools, unsanitary living conditions, hotels, and institutions, along with other programs. The Environmental Health Specialists focus on prevention, consultation, and educating our thriving community on health risks and maintaining a safe environment.

*Averages for each category are based on the last five years average for the same month.

FOOD INSPECTION PROGRAM

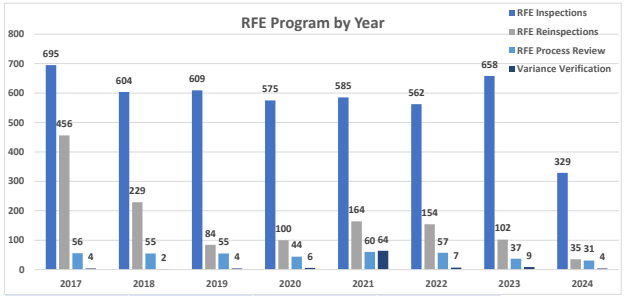
The Food Safety Program reported the new food license fees for 2025 to the Board of Health. We issued 18 Temporary licenses this month. Holy Cross Imaculata (8/2/24), Hard Rock Casino (8/9/24), Black Family Reunion (8/15/24), P&G Event (8/21/24), EWH Farmer's Market (8/22/24), Monster Jam (8/25/24), Hard Rock Casino (8/31/24).



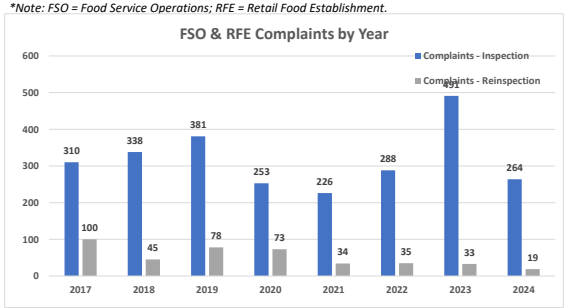
Inspections		Reinspections		CCP Inspections	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
249	226	62	29	113	142

*Note: CCP = Critical Control Point Inspections.

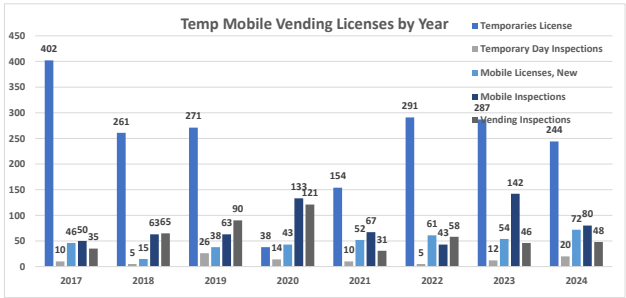
*Note: FSO = Food Service Operations; RFE = Retail Food Establishment.



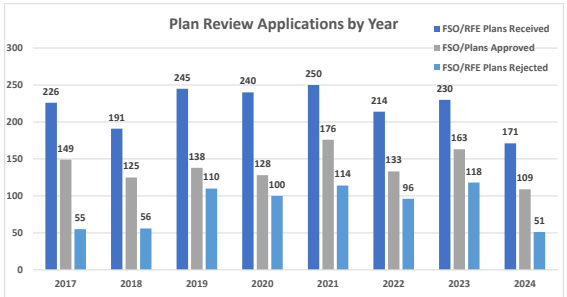
RFE Inspections		RFE Reinspections		RFE Process Reviews		Variance Verifications	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
52	40	13	4	6	8	1	0



Complaints - Inspection		Complaints - Reinspection	
AUG Average	Total Last Month	AUG Average	Total Last Month
26	2	4	2



Temporaries Licenses		Temporary Day Inspections		Mobile Licenses, New		Mobile Inspections		Vending Inspections	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
25	18	1	0	6	17	6	18	0	0

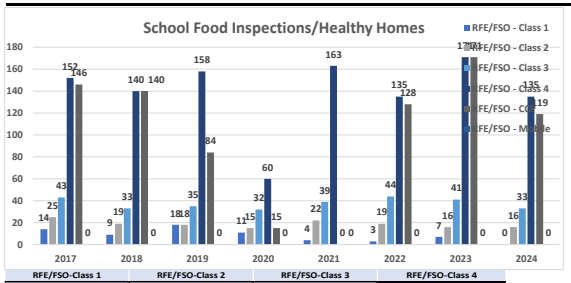


FSO/RFE Plans Received		FSO/RFE Plans Approved		FSO/RFE Plans Rejected	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
20	19	14	22	6	7

ServSafe Training Classes		PIC Training Classes	
AUG Average	Total Last Month	AUG Average	Total Last Month
1	1	1	1

HEALTHY HOMES PROGRAM

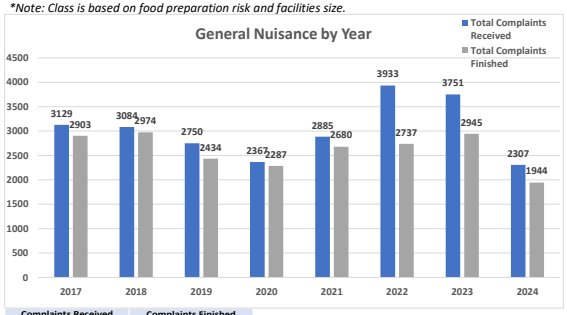
The Healthy Home Staff had a meeting with REM Capital, Law Department and B&I to discuss July inspections of their Cincinnati portfolios and lawsuit agreement. The team participated in CERT and PIVOT meetings.



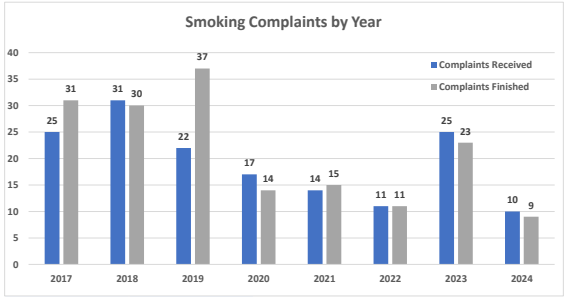
RFE/FSO-Class 1		RFE/FSO-Class 2		RFE/FSO-Class 3		RFE/FSO-Class 4	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
0	0	0	0	0	0	1	0

RFE/FSO-CCP		RFE/FSO-Mobile	
AUG Average	Total Last Month	AUG Average	Total Last Month
0	0	0	0

*Note: Class is based on food preparation risk and facilities size.

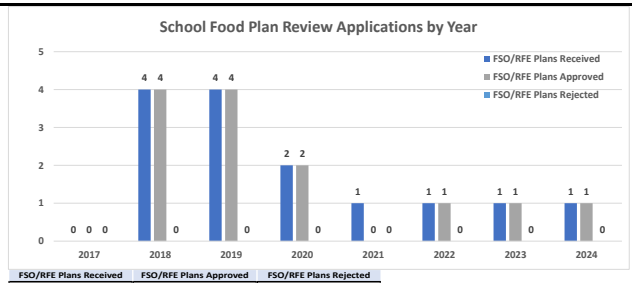


Complaints Received		Complaints Finished	
AUG Average	Total Last Month	AUG Average	Total Last Month
329	316	262	328



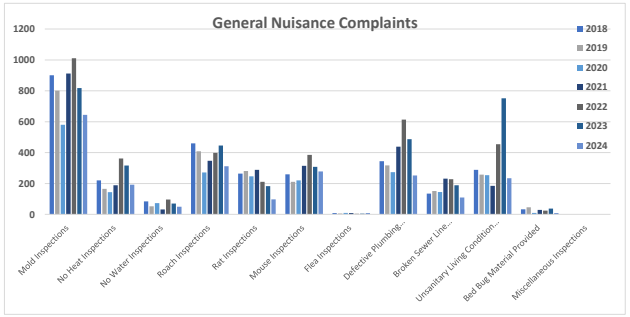
Complaints Received		Complaints Finished	
AUG Average	Total Last Month	AUG Average	Total Last Month
3	2	2	0

*Note: This data reflects the number of complaints received for the entire city



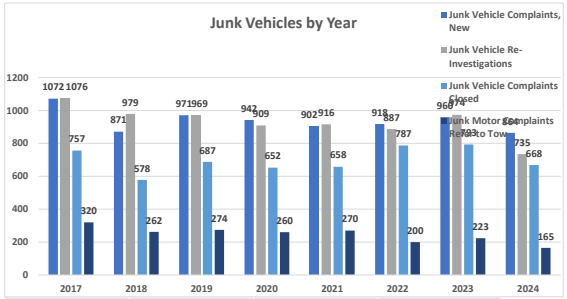
FSO/RFE Plans Received		FSO/RFE Plans Approved		FSO/RFE Plans Rejected	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
0	1	0	1	0	0

*Note: Plan Reviews are only completed when there is a new facility or renovation

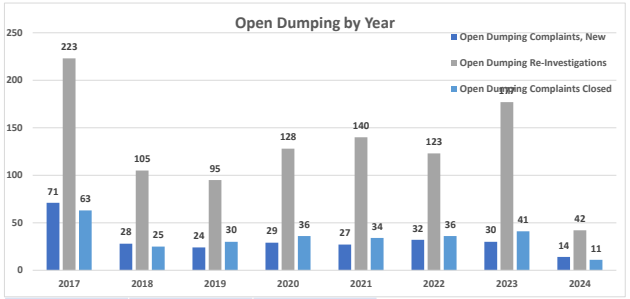


ENVIRONMENTAL WASTE PROGRAM

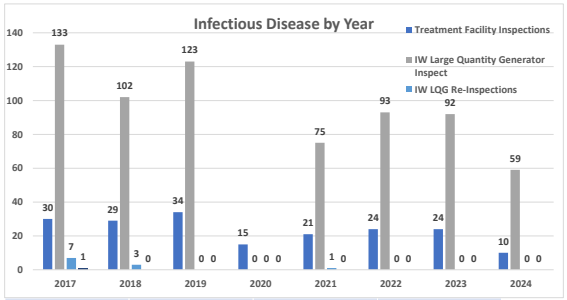
The Waste Unit conducted plan review, inspected and licensed one new body art establishment. Whitton Container Waste & Recycling was inspected and will be receiving their PTI for the Processing Facility.



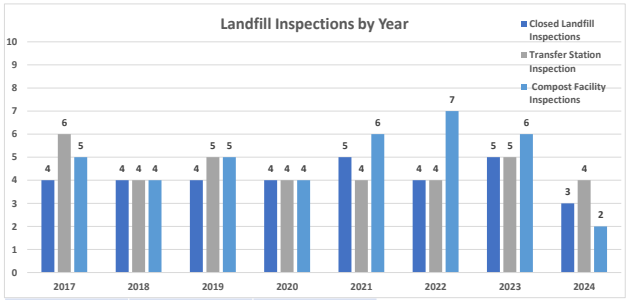
Junk Vehicle Complaints, New		Junk Vehicle Re-investigations		Junk Vehicle Complaints Closed		Junk Motor Complaints Refer to Tow	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
95	129	92	78	73	93	25	23



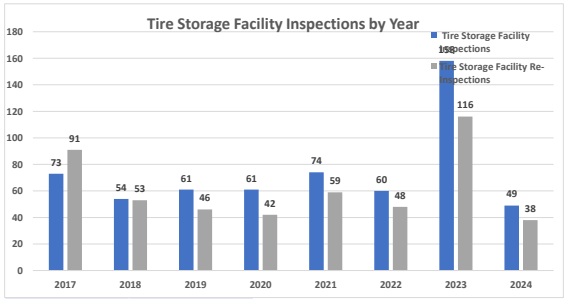
Open-Dumping Complaints		Open-Dumping Re-Investigations		Open-Dumping Complaints Closed	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
5	4	16	10	4	4



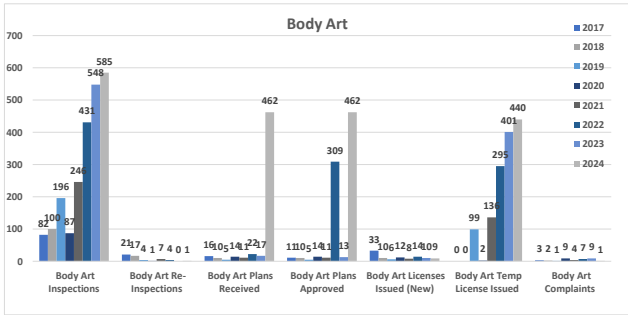
Treatment Facility Inspections		IW Large Quantity Generator Inspections		IW LQG Re-Inspections		IW Complaints	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
0	0	7	0	0	0	0	0



Closed Landfill Inspections		Transfer Station Inspection		Compost Facility Inspections	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
0	0	0	1	0	0

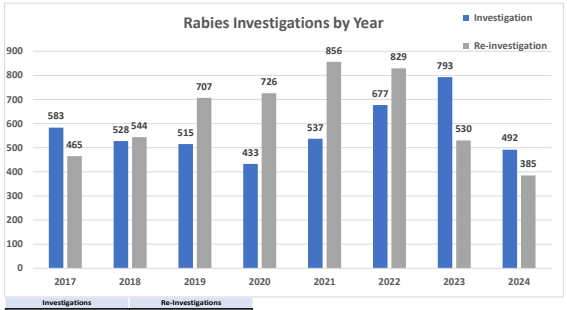


Tire Storage Facility Inspections		Tire Storage Facility Re-Inspections	
AUG Average	Total Last Month	AUG Average	Total Last Month
7	4	7	5

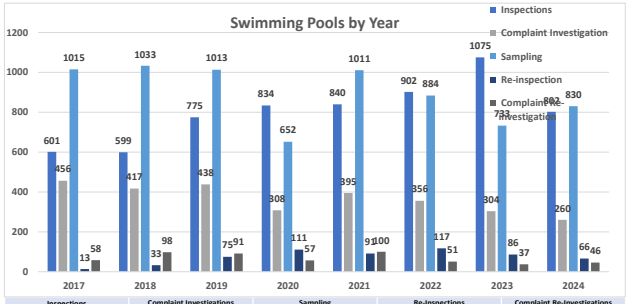


TECHNICAL ENVIRONMENTAL SERVICES (TES)

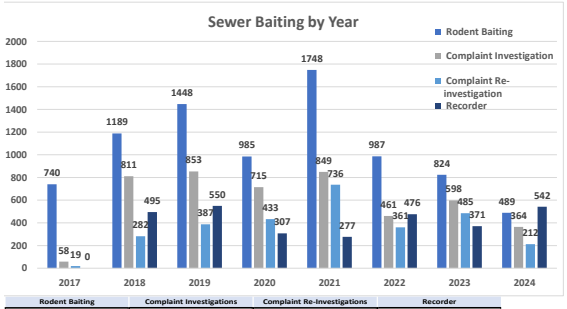
Technical licensed two new swimming pools and one new spa in August. Our three seasonal swimming pool techs finished their assignments at the end of the month. Staff interviewed candidates for an open EHS position.



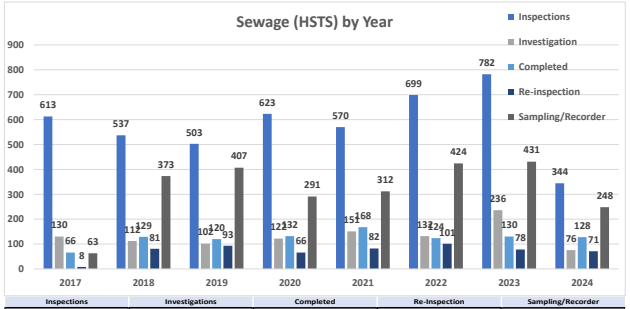
Investigations		Re-Investigations	
AUG Average	Total Last Month	AUG Average	Total Last Month
55	58	59	54



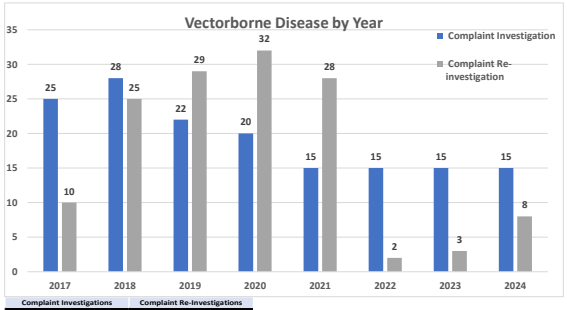
Inspections		Complaint Investigations		Sampling		Re-Inspections		Complaint Re-Investigations	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
155	136	87	53	254	223	14	13	7	0



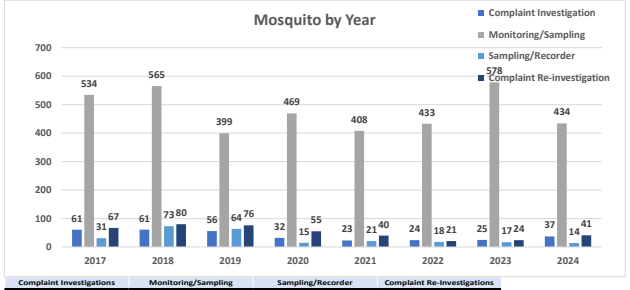
Rodent Baiting		Complaint Investigations		Complaint Re-Investigations		Recorder	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
53	10	50	23	29	6	9	20



Inspections		Investigations		Completed		Re-Inspection		Sampling/Recorder	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
8	6	1	4	2	1	2	0	4	6



Complaint Investigations		Complaint Re-Investigations	
AUG Average	Total Last Month	AUG Average	Total Last Month
2	1	1	1



Complaint Investigations		Monitoring/Sampling		Sampling/Recorder		Complaint Re-Investigations	
AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month	AUG Average	Total Last Month
7	9	121	151	5	4	7	7

Monthly Infectious Disease Surveillance Summary, August 2024

city of CINCINNATI HEALTH DEPARTMENT

Reportable Condition is by Category (For a description of listed conditions, see https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infectious-disease-control-manual/section3/idcm-section-3.)	2024 August	2024 YTD	2023 August	2023 YTD	2023 Rate	Cincinnati 5 Year Average Rate (2019-2023)	Ohio 5 Year Average Rate (2015-2019)
Food- or Waterborne	***15***	***94***	***20***	***100***	***46.22***	***47.32***	***12.32***
Amebiasis				1	0.33	0.19	0.10
Brucellosis						0.06	< 0.001
Botulism						0.06	0.10
Campylobacteriosis	1	18	2	22	10.0	10.65	18
Cryptosporidiosis	7	14	7	15	7.43	3.25	7.50
Cyclosporiasis				2	0.66	0.84	0.50
E. coli, Shiga Toxin-Producing O157:H7	1	5	1	8	4.52	3.76	0.70
Giardiasis		7	2	8	4.20	4.22	3.70
Hepatitis A (also vaccine-preventable)			2	2	0.66	2.86	6.10
Legionellosis - Legionnaires' Disease	1	5		8	3.88	3.96	5.90
Listeriosis						0.52	0.30
Salmonellosis	1	25	4	15	6.78	9.42	12.70
Salmonella Typhi*			1	1			
Shigellosis	3	11	1	12	5.17	6.30	5.80
Vibriosis (not cholera)		2			0.33	0.32	0.30
Yersiniosis	1	7		6	2.26	0.91	0.60
Vectorborne	***0***	***12***	***1***	***7***	***3.24***	***2.92***	***0.60***
Chikungunya Virus Disease*						0.13	<0.001
Dengue		2				0.13	0.10
Lyme disease		3	1	2	0.66	1.30	2.30
Malaria*		6		5	2.58	1.17	0.50
Spotted Fever Rickettsiosis						0.13	0.30
Ehrlichiosis-Ehrlichia chaffeensis						0.06	0.10
Anaplasmosis-Anaplasma phagocytophilum		1			0	-	
Vaccine-Preventable	***4***	***303***	***3***	***57***	***43.62***	***86.37***	***91.00***
Hemophilus influenzae, invasive disease		6		10	3.23	3.05	2.10
Influenza-associated hospitalization	1	253		15	23.9	67.34	77.30
Mumps		1				0.26	0.40
Pertussis		6		1	1.62	3.12	7.20
Meningococcal disease – Neisseria meningitidis					0.33	0.13	-

S. pneumoniae, invasive (abx susceptible/unknown)		20		23	11.63	9.68	-
S. pneumoniae, invasive (abx resistant)	1	7	3	5	0.97	2.79	-
Varicella (chickenpox)	2	10		3	1.94	2.39	3.90
Reportable Condition[2] by Category (For a description of listed conditions, see https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infectious-disease-control-manual/section3/idcm-section-3.)	**2024 August**	**2024 YTD**	**2023 August**	**2023 YTD**	**2023 Rate**	**Cincinnati 5 Year Average Rate (2019-2023)**	**Ohio 5 Year Average Rate (2015-2019)**
Viral Hepatitis	***29***	***288***	***33***	***292***	***144.76***	***178.58***	***193.12***
Hepatitis B, acute *(also vaccine-preventable)*		4			0.33	1.56	2.80
Hepatitis B, chronic, newly identified *(also vaccine-preventable)*	7	87	8	50	24.23	25.91	20.62
Hepatitis B, perinatal						0.13	-
Hepatitis C, acute		1		2	0.33	2.47	2.68
Hepatitis C, perinatal		3			0.33	0.52	<0.001
Hepatitis C, chronic, newly identified	22	193	25	242	119.54	147.99	167.02
Other Conditions[#]	***1237***	***4202***	***717***	***4018***	***2511.39***	***-***	***2.34***
Carbapenemase-Producing Organisms (CPO)	1	14	4	28	14.86	5.58	Not Yet Reportable
Candida Auris	4	63	13	84	38.45	18.44	<0.001
COVID-19	1226	4077	698	3852	2432.21	5,793.38 (4-year rate)	Not yet Reportable
Coccidioidomycosis		1		1	0.33	0.65	0.20
Creutzfeldt-Jakob Disease						0.06	0.10
Hemolytic uremic syndrome (HUS)						0.06	<0.001
Meningitis, aseptic	1	11		10	4.85	5.06	5.40
Meningitis, bacterial (not *N. meningitidis*)	2	7	1	4	2.26	2.60	1.10
MPOX		2		2	0.97	1.50 (2-year rate)	Not Yet Reportable
Multisystem Inflammatory Syndrome in Children (MIS-C) associated with COVID-19						1.17 (4-year rate)	Not Yet Reportable
Staphylococcal aureus - intermediate resistance to vancomycin (VISA)						0.06	0.10
Streptococcal, Group A, invasive	2	24	1	32	15.51	9.29	4.80
Streptococcal, Group B, newborn	1	3		3	1.29	0.84	-
Toxic Shock Syndrome (TSS)				2	0.66	0.39	<0.001
Typhus Fever						0.06	-
TOTAL CONFIRMED AND PROBABLE CASES	***1285***	***4899***	***777***	***4474***	***2749.23***	***-***	***299.38***
Dermatologic	1	3	1	8	3.86	0.93	
Gastrointestinal		3	1	5	1.62	1.46	
Respiratory	6	35	11	43	27.46	25.61	
Other		5			0.66	0.65	
Outbreaks (Investigation started)	**7**	**44**	**13**	**56**	33.60		

1) Confirmed and probable cases reported by health care providers and laboratories among residents of the City of Cincinnati by date of event (most frequently, the date of event is the date of illness onset).
2) List includes only reportable conditions for which at least one case was reported in either year; the full list of reportable conditions in Ohio can be found at https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infectious-disease-control-manual.
3) All data was provided through the Ohio Disease Reporting System – All data is provisional and subject to change.
*Acquired through international travel
^CP-CRE (Carbapenemase-Producing Carbapenem-Resistant Enterobacteriaceae) is a multi-drug resistant condition newly reportable as of March 2018.

[#]Note that sexually-transmitted infections, Human Immunodeficiency Virus (HIV) infections (including AIDS) and Tuberculosis are investigated and reported by Hamilton County Public Health and are not included here.

- Case rates use the 2019 5-year U.S Census estimates and are per 100,000 residents

Any dash (-) indicates there was no available data at the time this report was published due to either lack of cases in the last 10 years, or age restrictions when calculating rates with population.

CITY OF CINCINNATI COVID-19 REPORT

Updated 9/12/2024

KEY METRICS

TOTAL CASES	TOTAL DEATHS	Total Hospitalized	Median Age	Age Range
93693	809	3558	34	0 - 107
73535 Confirmed / 20158 Probable	693 Confirmed / 116 Probable	Males: 39680	Females: 53126	Onset of Symptoms: 1/5/2020 - 9/9/2024

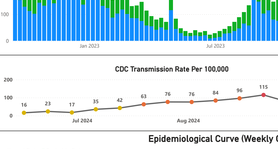
Active Cases	Recovered Cases	7 Day Cumulative New Cases Per 100,000
747	92125	54.9

DATA SHOWN FOR TODAY REFLECTS PAST 24 HOURS
*DATA IS PROVISIONAL CONTINGENT UPON COMPLETION OF CONTACT TRACING AND CONFIRMATION OF JURISDICTIONAL RESIDENCE
**IN ACCORDANCE WITH THE NEW CDC GUIDELINES, THE CDC EXPANDED (PROBABLE) CASE DEFINITION IS INCLUDED IN THIS REPORT. SEE: https://www.cdc.gov/coronavirus/2019-ncov/covid-data/faq-surveillance.html
***Presumed recovered cases is defined as cases with a symptom onset date/test date >21 days prior who are not deceased. Active cases are defined as cases with a symptom onset/test date <21 days.
****Jurisdictional transfers added based on the date they were originally reported to the local health department. These are not classified as new cases.
*****For more information including detailed maps of City of Cincinnati data, please visit https://insights.cincinnati-oh.gov/stories/s/KHF-58R5
******Transmission indicator based on CDC defined criteria
STATE DATA SOURCE: OHIO DISEASE REPORTING SYSTEM (ODRS)

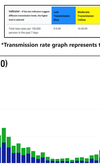
city of CINCINNATI HEALTH DEPARTMENT

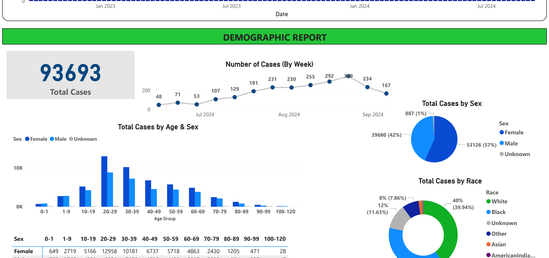
WEEKLY NEW CASE INFORMATION

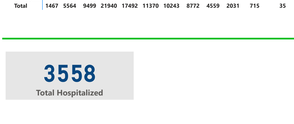
Total New Cases	New Confirmed	New Probable
167	75	92



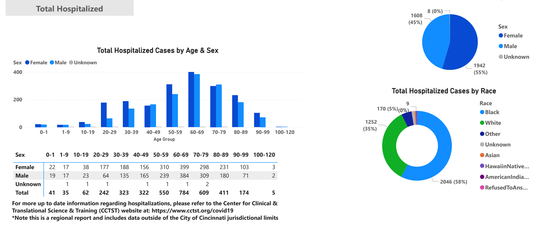
Sex	0-1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Female	1	3	14	19	9	7	10	13	9	7	
Male	2	8	6	9	2	6	8	13	12	7	1
Unknown									1		
Total	3	11	20	28	11	13	18	26	22	14	1





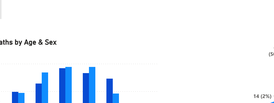


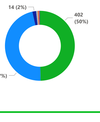
*Transmission rate graph represents the last 3 months

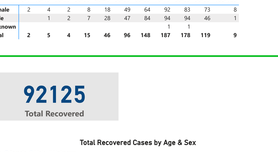


DEMOGRAPHIC REPORT

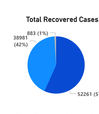
93693
Total Cases



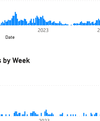


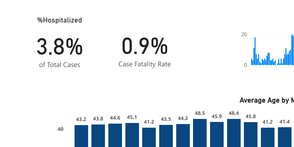


Sex	0-1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-120
Female	649	2719	5166	12958	10181	6737	5718	4863	2430	1205	471	28
Male	775	2765	4251	8801	7175	4536	4420	3817	2088	804	237	7
Unknown	43	80	82	181	136	97	105	92	41	22	7	
Total	1467	5564	9499	21940	17492	11370	10243	8772	4559	2031	715	35

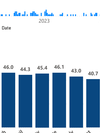


3558
Total Hospitalized



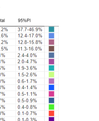


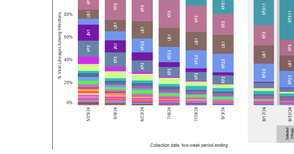
Sex	0-1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-120
Female	22	17	18	177	188	156	310	399	298	231	103	3
Male	19	17	23	64	135	165	239	384	309	180	71	2
Unknown		1	1	1		1	1	1	2			
Total	41	35	42	242	323	322	550	784	609	411	174	5



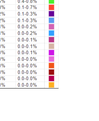
For more up to date information regarding hospitalizations, please refer to the Center for Clinical & Translational Science & Training (CCTST) website at: https://www.cctst.org/covid19
*Note this is a regional report and includes data outside of the City of Cincinnati jurisdictional limits

809
Total Deaths





Sex	0-1	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-120
Female	2	4	2	8	18	49	64	92	83	73	8
Male		1	2	7	28	47	84	94	94	46	1
Unknown							1				
Total	2	5	4	15	46	96	148	187	178	119	9



92125
Total Recovered

Sex	0-1	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-120
Female	635	2687	5100	12875	10102	6666	5635	4734	2302	1109	395	20
Male	763	2737	4207	8765	7146	4481	4350	3692	1956	686	188	6
Unknown	43	79	82	181	136	97	105	92	39	21	7	
Total	1441	5503	9389	21821	17384	11244	10090	8518	4297	1816	590	26

ADDITIONAL COVID-19 INFORMATION

%Hospitalized

3.8%
of Total Cases

0.9%
Case Fatality Rate

Regional COVID-19 Variant Report

The graphic below represents genomic surveillance by the CDC for the United States
Variant proportions can be found at https://covid.cdc.gov/covid-data-tracker/#variant-proportions
*Updated 9/12/2024

Weighted and Nowcast Estimates in United States for 2-Week Periods in 5/12/2024 – 8/31/2024

Hover over (or tap in mobile) any lineage of interest to see the amount of uncertainty in that lineage's estimate.

Nowcast Estimates in United States for 8/18/2024 – 8/31/2024

USA

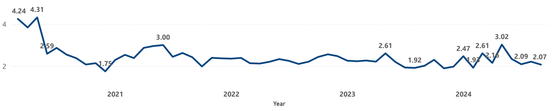
HHS label	Lineage #	% Total	95%PI
Omicron	KP.2.1.1	42.2%	37.7-46.9%
	KP.2.3	14.6%	12.4-17.0%
	KP.3	14.2%	12.0-16.8%
	LB.1	13.5%	11.3-16.0%
	KP.2	3.9%	2.9-5.1%
	LF.7	2.1%	2.0-4.7%
	KP.1.1.3	2.6%	1.9-3.6%
	KP.1.1	2.0%	1.5-2.6%
	KS.1	1.0%	0.6-1.7%
	KP.2.15	0.8%	0.4-1.4%
	LF.3.1	0.7%	0.5-1.1%
	JN.1.16.1	0.7%	0.5-0.9%
	JN.1.18	0.5%	0.4-0.8%
	KP.4.1	0.3%	0.1-0.7%
	JN.1	0.2%	0.1-0.3%
	JN.1.11.1	0.2%	0.1-0.3%
	XDV.1	0.1%	0.0-0.2%
	JN.1.13.1	0.1%	0.0-0.2%
	JN.1.16	0.1%	0.0-0.1%
	KP.1.2	0.0%	0.0-0.1%
	JN.1.7	0.0%	0.0-0.1%
	KQ.1	0.0%	0.0-0.0%
	JN.1.13.1	0.0%	0.0-0.0%
	JN.1.4.3	0.0%	0.0-0.0%
	XDP	0.0%	0.0-0.0%
	JN.1.8.1	0.0%	0.0-0.0%

KEY METRICS

Total Cases and %Interviews Completed by Month

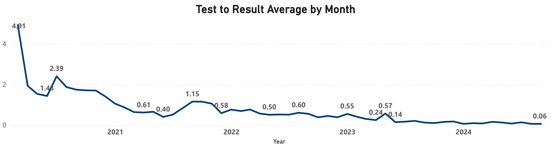
Year	%Interviews Completed	Total Cases
2020	57.1%	17113
2021	30.8%	32805
2022	27.7%	31804
2023	39.7%	7620
2024	31.1%	4351
Total	**35.3%**	**93693**

Symptom Onset to Test Average by Month



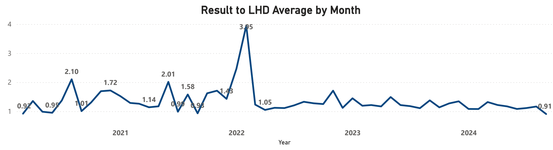
Year	Symptom Onset to Test Average
2020	2.43
2021	2.41
2022	2.30
2023	2.12
2024	2.26
Total	**2.34**

Test to Result Average by Month



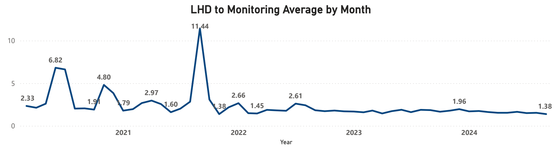
Year	Test to Result Average
2020	1.69
2021	0.84
2022	0.63
2023	0.25
2024	0.08
Total	**0.85**

Result to LHD Average by Month



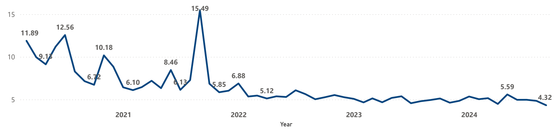
Year	Average of Result to LHD
2020	1.55
2021	2.07
2022	2.23
2023	1.59
2024	1.27
Total	**1.96**

LHD to Monitoring Average by Month



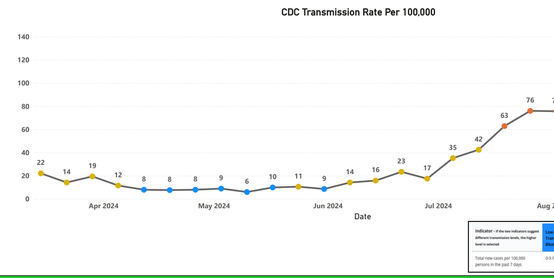
Year	Average of LHD to Monitoring
2020	4.16
2021	3.06
2022	2.09
2023	1.76
2024	1.59
Total	**2.89**

Symptoms to Monitoring Average by Month



Year	Average of Symptoms to Monitoring
2020	9.67
2021	7.32
2022	5.72
2023	4.90
2024	5.02
Total	**6.91**

CDC Transmission Rate Per 100,000

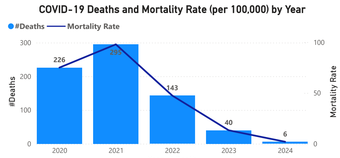


COVID-19 Mortality Data

710 #COVID-19 Deaths

47.11 Total Pop. Mortality Rate

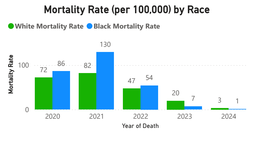
COVID-19 Deaths and Mortality Rate (per 100,000) by Year



44.72 White Mortality Rate

55.60 Black Mortality Rate

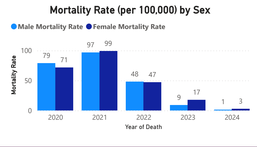
Mortality Rate (per 100,000) by Race



46.74 Male Mortality Rate

47.46 Female Mortality Rate

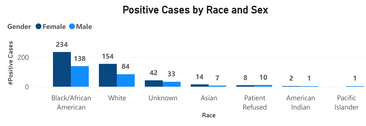
Mortality Rate (per 100,000) by Sex



Data Source: Ohio Department of Health, Office of Vital Statistics
***Note the difference between total deaths from vital statistics and the Ohio Disease Reporting System. This can be due to a variety of factors including: time lag of death certificate reporting, difference in residential address, and ICD coding.**
***Mortality data updated monthly**

City of Cincinnati Primary Care COVID-19 Information

Positive Cases by Race and Sex

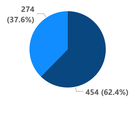


728 Total CCPC Confirmed Cases

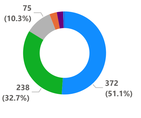
5258 Total CCPC Tested

13.8% CCPC Positivity Rate

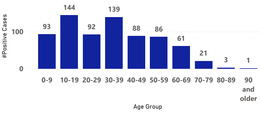
Positive Cases by Sex



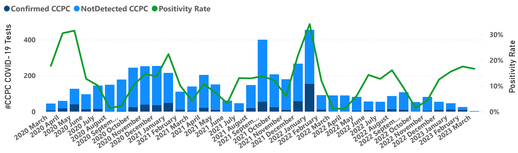
Positive Cases by Race



Positive Cases by Age Group



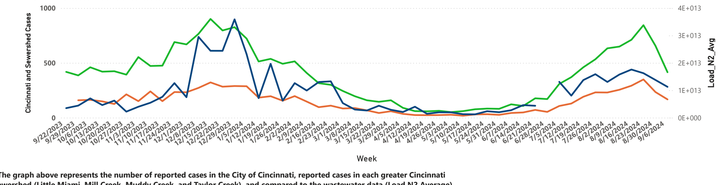
Total CCPC Tests and Positivity Rate



***CCPC data updated monthly**
***Data is provisional Contingent Upon Completion of Contact Tracing and Confirmation of Jurisdictional Residence**
***Data Source: Epic EMR for City of Cincinnati Primary Care**

Wastewater Data

Average N2 Levels and COVID-19 Cases (Last 12 Months)



***The graph above represents the number of reported cases in the City of Cincinnati, reported cases in each greater Cincinnati sewershed (Little Miami, Mill Creek, Muddy Creek, and Taylor Creek), and compared to the wastewater data (Load N2 Average).**
****On 9/25/22, a new method was implemented to improve extraction efficiency (from an average of 15% to about 50%) resulting in about 50% higher gene copies/L.**
****Sample collections paused for the month of September 2023**
***Note the date differences for each variable (all grouped by week)**
***Sewershed cases based on symptom onset date**
***Cincinnati cases based on case report date**
***Load N2 Average based on sample collection date**

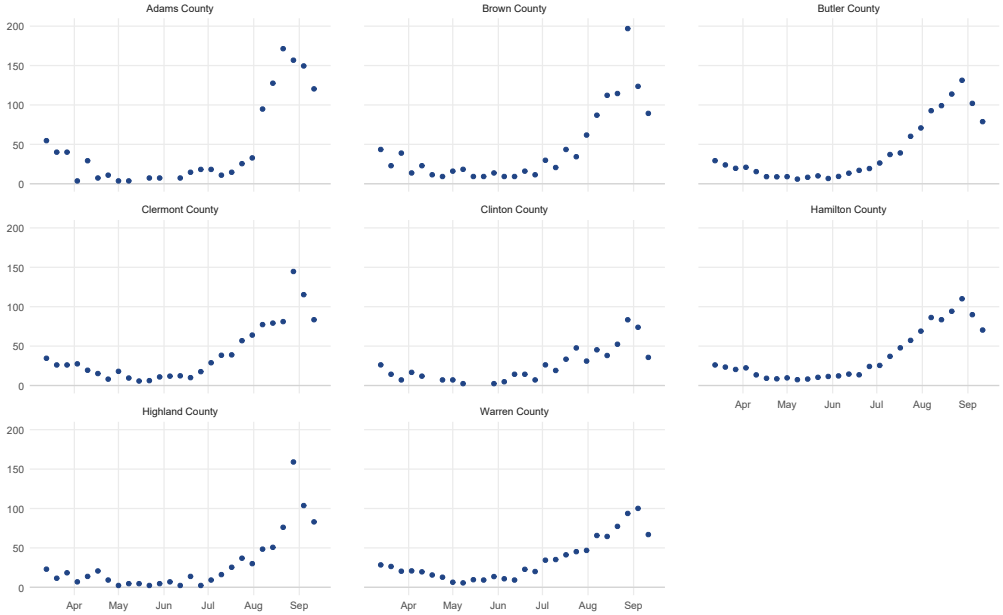
****Updated Weekly**
Source: Ohio Disease Reporting System (ODRS), https://coronavirus.ohio.gov/dashboards/other-resources/wastewater

Greater Cincinnati COVID-19 Situational Awareness*

September 13, 2024

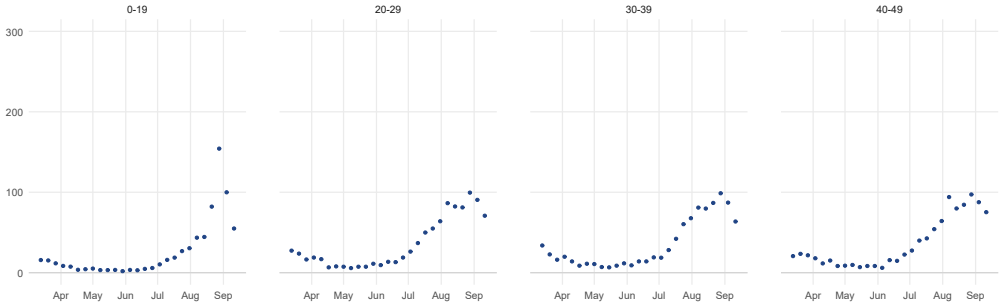
*This information is provided “as-is.” The Health Collaborative and its partners make no representation or warranty, express or implied, including without limitation any warranties of merchantability, fitness for a particular purposes, non-infringement, or warranties as to the quality, accuracy, or completeness of the information. Any use or reliance on this information is at the user’s sole risk.

New COVID-19 cases per 100k in Region 6 by county by week as of 2024-09-11



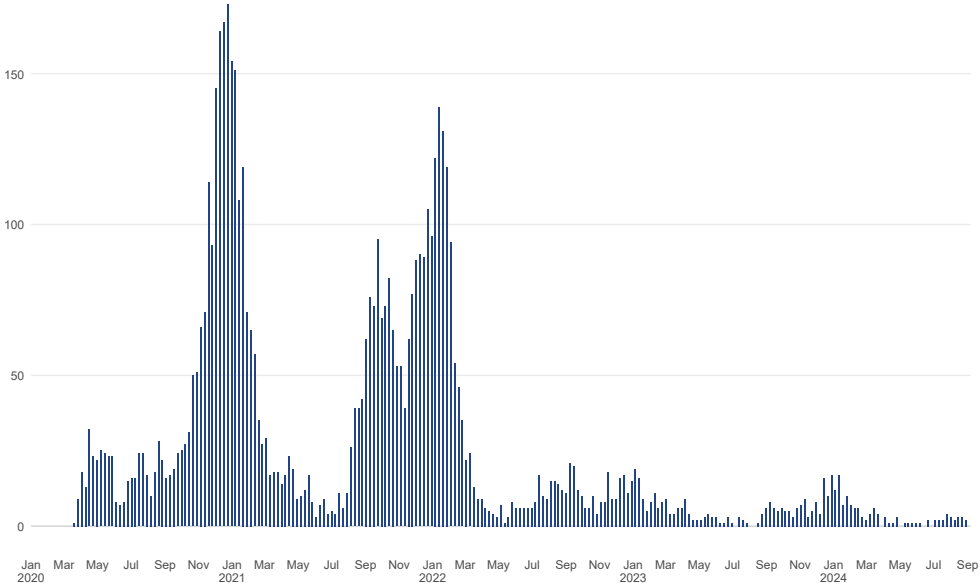
Source: ODH COVID-19 Dashboard updated on 09/11/2024. Population estimates from US Census Population Estimates Program, Vintage 2019

New COVID-19 cases per 100k in Region 6 by age group by week as of 2024-09-11



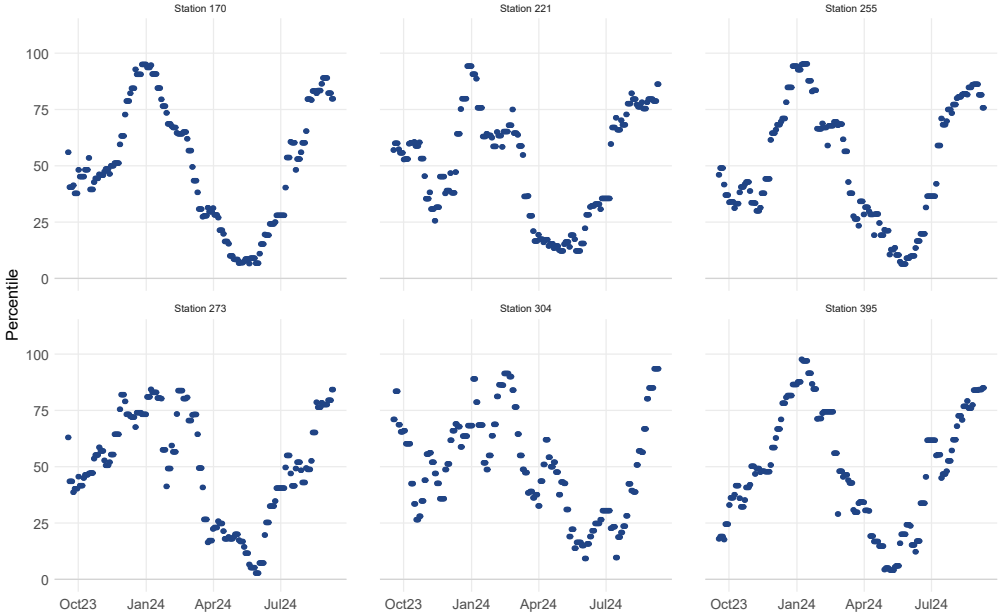
Source: ODH COVID-19 Dashboard updated on 09/11/2024. Population estimates from US Census Population Estimates Program, Vintage 2019

There have been 5836 deaths due to COVID-19 in Southwestern Ohio



Source: ODH COVID-19 Dashboard updated on 09/11/2024. Population estimates from US Census Population Estimates Program, Vintage 2019

Waste water COVID-19 virus detection level percentile by week in Region 6



Source: https://data.cdc.gov/Public-Health-Surveillance/NWSS-Public-SARS-CoV-2-Wastewater-Metric-Data/2ew6-ywp6

Cincy Air Watch- Project Overview

Community Air Quality Monitoring with PurpleAir Sensors

The Green Cincinnati Plan

The city of Cincinnati's mission is to create the highest quality of life for its 309,317 residents.[1] The city's primary focus is to address community concerns using data and feedback from community members, with a strong emphasis on equity, inclusion, and people-centered planning.[2]

The Green Cincinnati Plan (GCP) has been the city's sustainability plan since 2008. Updated every five years (2013, 2018, and now 2023), the GCP has helped Cincinnati earn a reputation as an international leader in climate action. Since 2008, the actions outlined in the GCP have helped deliver a 36.6% reduction in the city's carbon emissions. The 2023 GCP is organized into eight focus areas that articulate the city's visions, goals, strategies, and actions in response to the climate crisis: Buildings and Energy, City Operations, Community Activation, Food, Mobility, Natural Environment, Resilience and Climate Adaptation, Zero Waste.[3]

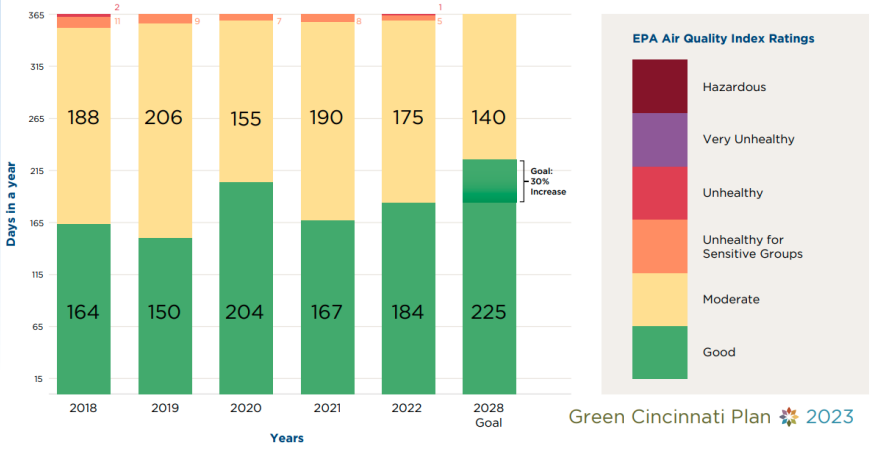
Cincinnati City Council adopted the 2023 GCP by unanimous vote on Wednesday, April 19, 2023, committing to taking action to address climate change in Cincinnati.[2]

Rationale

In support of the 2023 Green Cincinnati Plan strategy to *"Increase air quality studies, education, and reduce pollution from air emissions,"* the City of Cincinnati Office of Environment and Sustainability (OES) in partnership with the Cincinnati Health Department (CHD) launched the Cincy Air Watch Project.[3]

Many Cincinnati residents experience poor outdoor air quality which contributes to adverse health conditions, including asthma and lung disease. In 2022, the U.S. Environmental Protection Agency (EPA) registered 181 days with "moderate," "unhealthy for sensitive groups," or "unhealthy," air quality index ratings in Cincinnati.[4] Ozone and Particulate Matter (PM) 2.5 contribute significantly to these low ratings. Other factors include vehicle emissions and industrial emissions. High air temperatures and ultraviolet radiation further exacerbate poor air quality. The 2023 GCP identified a goal of *improving air quality so that Air Quality Index healthy days are increased by 30% by 2028*.[4]

Air Quality Index Days Per Year in Cincinnati



The GCP outlines four priority actions in regard to air quality:[3]

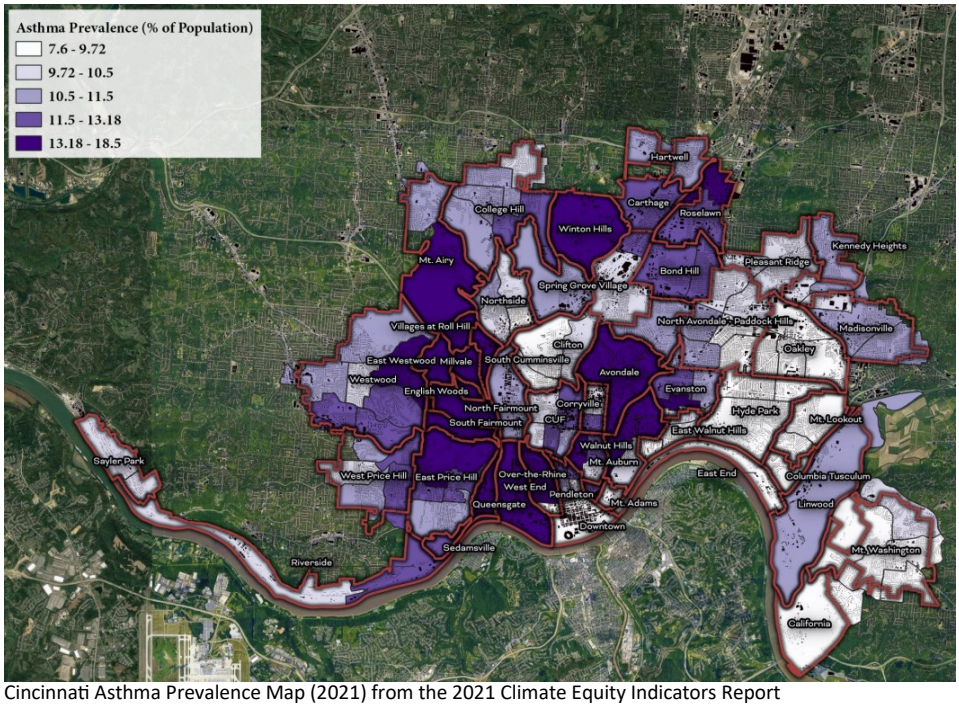
(1) Expand monitoring of air quality and nuisance odors incorporating citizen science in priority neighborhoods.
(2) Provide services, resources, and education for residents in priority neighborhoods on air quality alert system, sources of poor air quality, and air quality regulations.
(3) Support and fund the development of natural corridors and tree barriers along streams and rivers, interstates and highways.
(4) Strengthen emissions regulations.

Cincy Air Watch plans to focus initially on the first two actions in hopes of better informing the second two actions in later phases.

Background

Priority Neighborhoods

The 2021 Climate Equity Indicators Report, a study by the City of Cincinnati, UC, and Green Umbrella identified the top neighborhoods with relatively higher asthma rates than other neighborhoods as priority neighborhoods.



Cincinnati Asthma Prevalence Map (2021) from the 2021 Climate Equity Indicators Report

These neighborhoods are:

- ◊ Millvale
- ◊ South Cumminsville
- ◊ Lower Price Hill
- ◊ Queensgate
- ◊ Riverside East
- ◊ Sedamsville
- ◊ Villages at Roll Hill
- ◊ South Fairmont
- ◊ North Fairmont
- ◊ English Woods
- ◊ West End
- ◊ Winton Hills
- ◊ Avondale

Many of these communities are in proximity to highways and industrial development, which are expected to be primary sources of health concern. [5]

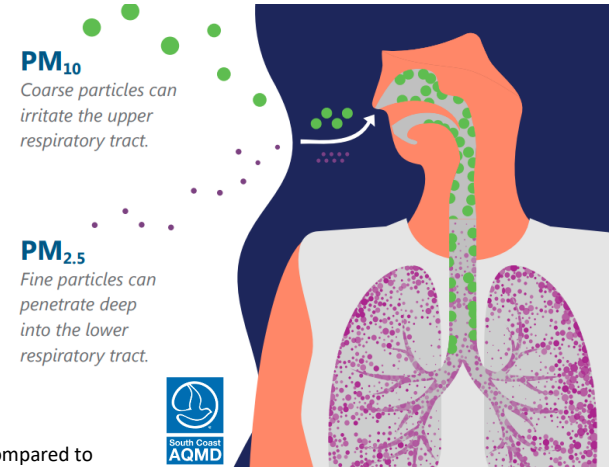
Cincinnati neighborhoods with high rates of asthma often overlap with areas of low tree canopy cover and urban heat islands* according to the 2021 Climate Equity Indicators Report. Data from this project will help inform the relationship between local air quality and Cincinnati health outcomes such as asthma, as well as the relationship between local air quality and our built environment**. [5]

Particulate Matter

Poor air quality is proven to negatively impact our health and environment. [3,4,5] The term air quality relates to the amount of pollution or tiny pieces suspended in the air. The five most commonly studied types of air pollution are carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and solid particle pollution called particulate matter (PM).[6]

- ◊ Particles less than 10 microns or micrometers (µm) in diameter, PM_{10} (coarse particles).
- ◊ Particles less than 2.5 microns or micrometers (µm) in diameter, $PM_{2.5}$ (fine particles).

Particle size is directly related to potential to cause adverse respiratory problems. Larger particles impact the upper respiratory tract and can sometimes be dislodged by coughing, yet smaller particles can enter lower into the lungs, respiratory tract, and bloodstream becoming more dangerous and harder to expel from the body. PM is known to cause aggravated asthma, decreased lung function, increase respiratory symptoms such as irritated airways, coughing, or difficulty breathing. It is also linked to nonfatal heart attacks, irregular heartbeat, and premature death in individuals with heart or lung disease.[6] The Cincy Air Watch Project has chosen to monitor $PM_{2.5}$ because of its known link to adverse health effects.



*Urban heat islands refer to urbanized areas that experience higher temperatures when compared to outlying areas due to the density of structures such as buildings, roads, and other infrastructure absorbing and re-emitting the sun's heat more than the natural landscape.

** The built environment refers to a person's physical surroundings in which people live, work, and play including elements such as buildings, roads and bridges, public spaces, landscapes, utilities and services, and urban planning.

city of CINCINNATI

Project Overview

Cincy Air Watch aims to utilize PurpleAir monitors to measure and communicate real-time outdoor air quality data for particulate matter ($PM_{2.5}$) in priority neighborhoods. These small air quality monitors can be easily installed and upload the air quality data in real-time to a publicly available map on the PurpleAir website.

In the first year of this project, OES and CHD will install 24 monitors in priority neighborhoods, with a focus on areas where there is expected to be high levels of pollution, such as in proximity to industrial sites and high traffic roadways. Populations living in these areas are often referred to as environmental justice (EJ) communities, as they experience disproportionately higher rates of health outcomes, often as a result of environmental stressors.[7]

This project will add to the current network of PurpleAir monitors in the city that have already been installed by community groups and individuals. This project meets the GCP priority recommendations to:

◊ Expand monitoring of air quality and nuisance odors, incorporating citizen science in priority neighborhoods.

◊ Provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor air quality, and air quality regulations.

Cincy Air watch plans to provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor air quality, and air quality regulations though a mix of educational materials and resources. These services and resources include:

Phase 1	Phase 2	Phase 3	Future - Phase 4
Deploy 	**Educate** 	**Analyze** 	**Action** 
Install monitors: • Deploy 24 monitors ▪ Where: in high priority neighborhoods ▪ Why: those neighborhoods are expected high to have levels of pollution that can affect health. • Adds to current network of PurpleAir monitors. ◦ Community groups ◦ Non-profits ◦ Citizen scientists (individuals)	Educate and provide resources: • Live and interactive dashboard using PowerBI. ◦ What does air quality in Cincinnati look like right now. • Educational Air Quality Brief covering: ◦ Air quality alert systems ◦ Sources that contribute to poor air quality ◦ How poor air quality effects your health and how to take action to protect yourself. • Add signage to key monitor locations to help inform community members of the project.	Utilize air quality data to: • Evaluate and compare differences in air quality around Cincinnati. ◦ Hypothesis: ▪ Is poor air quality correlated with known heat islands? ▪ Is poor air quality correlated with neighborhoods with low tree canopy? • Work with Cincinnati Childrens Hospital Medical Center (CCHMC) to develop modeling on issues such as asthma hospitalizations. • Evaluate neighborhood asthma and cardiovasular rates for trends.	This is a future step not yet outlined since it will be informed by data analyzed in the previous step. The data will hopefully help inform further projects outlined in the GCP such as supporting the devlopment of natural corridors and tree barriers along streams and rivers, interstates and highways and ultimately help stregthen local emmissions regulations.

1.) At strategic monitoring sites, we plan to display signs with QR codes that navigate to the Cincy Air Watch dashboard to engage the community with the data at monitoring sites and bring awareness to the project.

2.) Build an Air Quality Dashboard that integrates data from all publicly available PurpleAir monitors in Cincinnati through the use of an API data call for visualization and analysis.

3.) Educational materials such as an Educational Brief about air quality to describe what the data means, background on air quality, local history, how it affects your health, how to take steps to improve air quality, and how to get involved.

Monitor Selection

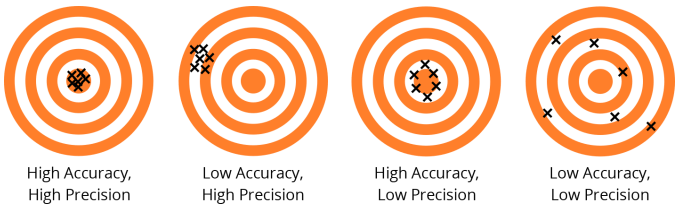
PurpleAir Flex

This project is utilizing the PurpleAir Flex Air Quality Monitor selected based on its cost-effective price point, accuracy and precision, ease of install, existing network use by citizen scientists, connectivity to Wi-Fi, transparency of data, lifespan, and ability to measure $PM_{2.5}$ concentrations.

The Purple Air Flex costs $289.00 and is 3.5 x 3.5 x 5 inches (85 x 85 x125 mm), weighing approximately 12.6 ounces. The monitor has an expected life span of 3 years. The monitors will be installed outdoors and are rated for temperatures and weather from -40°F to 185°F. It can receive power from an outdoor rated (IP68) outlet through a 5V USB-3A (15W) to Type A (USA) plug running at 50/60Hz of input and costs $40.00 if purchased through the PurpleAir. The monitors can be easily installed using zip ties from the monitor's bracket or screwed into a stationary surface.[8]

Accuracy and Precision

A sensor needs to provide reliable data that is both accurate and precise. Accuracy is the overall agreement that the measurements of the sensors are true to the concentration of pollution in the air and precision is how well a sensor reproduces a measurement under identical circumstances.[6]



Accuracy of a sensor is assessed by linear regression. This is done by plotting the readings of the senser against reference data, such as an EPA standardized monitor experiencing the same weather, atmospheric, and air pollution conditions; this is called collocation. Using the equation y = mx + b, and a coefficient of determination, R^2 we can test to see if data follows a trend of accurate readings against a known accurate set of data. R^2 is a statistical measure of how close the data is to the slope-intercept line or how much scatter is in the data. The closer R^2 is to 1 the better the agreement between the sensor and the reference data. In a intercomparison of PurpleAir Sensor Performance, PurpleAir monitors were tested with an average R^2 of 0.977. Precision is quantified by standard deviation. Standard deviation describes how much the data is spread out. A low standard deviation indicates that values are close to the average of a set of data.[6, 9]

How the Sensors Work

PurpleAir Flex sensor periodically measures the amount of $PM_{2.5}$ in the air by drawing in a fresh sample of air using a small fan past a laser beam that reflects light from the particulate matter onto a detection plate to determine the size and amount of particles. The sensor cannot determine the composition of the particles (mold, dust, chemical compound etc.). It then reports the data to the PurpleAir map over Wi-Fi or is stored on an internal secure digital (SD) chip.[8]

Data

PurpleAir Monitors report data directly to the PurpleAir map over Wi-Fi or store data on an internal secure digital (SD) chip. Monitors on Wi-Fi can be publicly or privately connected. Publicly connected monitors such as those used in this project send data directly to the PurpleAir map, which acts as a data repository and server. Data can be called through the use of an application programming interface (API), which is a programming connection that allows two pieces of software to communicate with one another. In this case, the PurpleAir map and excel. This allows our team to pull only the data from all publicly available monitors in our jurisdiction and pull data from new monitors that appear as citizen scientists install them. We can then connect this data to data visualization software, like PowerBi, to make the data easily analyzed and more digestible and interactive on the city website.

Collaboration

The city of Cincinnati participated in the RISE Communities program. The program is funded by a NIEHS grant and is a partnership between the Cincinnati Children's Hospital Medical Center Division of Biostatistics and Epidemiology and the University of Cincinnati Department of Family and Community Medicine.[7]

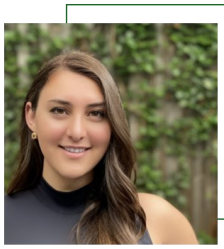
The goal of the RISE Communities program is to empower communities to pursue change through fostering community-academic partnerships through research education, training, and team development.

This program provides training for participants with technical training in the application of low-cost PurpleAir sensors for indoor and outdoor, and personal air monitoring in environmental justice communities. Helping establish a community of practice to build air quality monitoring networks in communities nationwide.[7]

Green Cincinnati Plan 2023

Green Cincinnati
BUILDING A SUSTAINABLE AND EQUITABLE CITY

Project Managers



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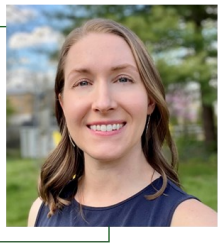

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References:

1.) City of Cincinnati (2020). Citywide Census. cincinnati-oh.gov/sites/planning/assets/2020%20CENSUS/Citywide_2020.pdf

2.) City of Cincinnati (2023). How the Green Cincinnati Plan was Created. cincinnati-oh.gov/oes/green-cincinnati-plan/individual-gcp-chapters-printable-versions/how-was-the-greencincinnatiplanco-created/

3.) City of Cincinnati (2023). Green Cincinnati Plan. cincinnati-oh.gov/oes/climate/climate-protection-green-cincinnati-plan/green-cincinnati-plan-2023-spreads/

4.) Air Quality Report (2022). In EPA.gov. Retrieved March 2024. from epa.gov/outdoor-air-quality-data

5.) Even, T.L., Trott C.D., Gray, E.S., Roncker, J., Basaraba, A., Harrison, T., Petersen, S. Sullivan, S., & Revis, S. (2021). *Climate Equity Indictors Report– 2021, City of Cincinnati.* The American Cities Climate Challenge Equity Capacity Building Fund, Bloomberg Foundation.

6.) Polidori A., Papapstolou V., Collier-Oxandale A. Hafner H., and Blakey T. (2021) Community in Action: A Comprehensive Guidebook on Air Quality Sensors. April Available on the South Coast AQMD'S AQ-SPEC website: aqmd.gov/aq-spec/special-projects/star-grant

7.) RISE communities (2023). In ejsensors.com Retrieved April 2024. from ejsensors.com

8.) PurpleAir Flex Air Quality Monitor (2024). Retrieved March 2024. from www2.purpleair.com/products

9.) Wallace L. Intercomparison of PurpleAir Sensor Performance over Three Years Indoors and Outdoors at a Home: Bias, Precision, and Limit of Detection Using an Improved Algorithm for Calculating $PM_{2.5}$. Sensors (Basel). 2022 Apr 2;22(7):2755. doi: 10.3390/s22072755. PMID: 35408369; PMCID: PMC9002513.

Cincy Air Watch Project Packet

A Joint Effort with Cincinnati Health Department and Office of Environment & Sustainability

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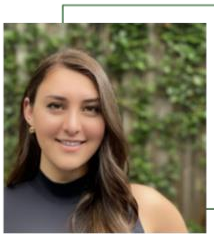
Management & Stakeholders

Program Managers



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Program Partners & Stakeholders

Green Cincinnati
BUILDING A SUSTAINABLE AND EQUITABLE CITY

Green Cincinnati Plan 2023

RISE COMMUNITIES

Cincinnati Children's
changing the outcome together

University of CINCINNATI

Cincinnati Zoo & Botanical Garden

cincinnati public library
Hamilton County

GROUNDWORK
CHANGING PLACES CHANGING LIVES
GROUNDWORK Ohio River Valley

data bloom

Funding

The Cincy Air Watch project is funded by the Office of Environment and Sustainability (OES), which provides resources for monitors and supplies. The city currently owns 24 air monitors (valued at $289.00 each), 20 air monitors with power cords (valued at $40.00 each) procured through OES, and four air monitors donated by the RISE Communities Program.[1]

External Collaboration

1. The RISE Communities Program

The City of Cincinnati participated in the RISE Communities Program, a partnership between the Cincinnati Children's Hospital Medical Center Division of Biostatistics and Epidemiology and the University of Cincinnati Department of Family and Community Medicine. Funded by a National Institute of Environmental Health Sciences (NIEHS) grant, the program aims to empower communities through fostering community-academic partnerships through research, education, training, and team development.[1]

The program provides participants with technical training in the application of low-cost PurpleAir sensors for indoor, outdoor, and personal air monitoring in environmental justice communities. This helps establish a community of practice to build air quality monitoring networks nationwide.

2. Cincinnati Children's Hospital Medical Center (CCHMC)

CCHMC shares our mission to help all children reach their full potential. Through their Health Equity Network (HEN), they bring together experts from various specialties to organize and share core services that clinical practices will need to accelerate equity. This work includes connecting clinical leaders, uncovering root causes of inequities, supporting increased response to social needs, and building a library of innovations for use across different care settings. Health Equity Network teams are supported by quality improvement, data, and community engagement specialists to catalyze learning and action.[2]

The top 15 conditions with excess admissions by primary diagnosis at CCHMC revealed asthma as the leading diagnosis, with 339 admissions. This is 4.4 times higher than the second most common diagnosis, impulse control and conduct disorders, which had 77 admissions. Providing air quality data and working to create predictive models will hopefully reduce asthma admission rates and improve community health.[2]

3. University of Cincinnati EPIC CoLab

In partnership with the Environmental Planning & Design Innovation Collaborative Lab (EPIC CoLab), the Cincy Air Watch Project works with the University of Cincinnati Office of Design Architecture Art and Planning (UC DAAP) to study air quality in select neighborhoods in the Cincinnati Air Quality Exploratory Study (CARES) led by Dr. Sangyong Cho. This project focuses on the Central Business District, West End, and Over-the-Rhine. Monitors are owned by UC DAAP, though city-owned facilities are being utilized for the study.[3]

4. Groundwork Ohio River Valley (Data Bloom)

While Cincy Air Watch operates within Cincinnati jurisdiction, air quality is a public health concern that affects more than just our residents. We are working with Data Bloom and Groundwork Ohio River Valley to make our data accessible to them as they focus on studying regional air quality patterns in the greater Cincinnati metro region including northern Kentucky and eastern Indiana.

Background

Green Cincinnati Plan

The city of Cincinnati's mission is to create the highest quality of life for its 309,317 residents.[4] The city's primary focus is to address community concerns using data and feedback from community members, with a strong emphasis on equity, inclusion, and people-centered planning.[5]

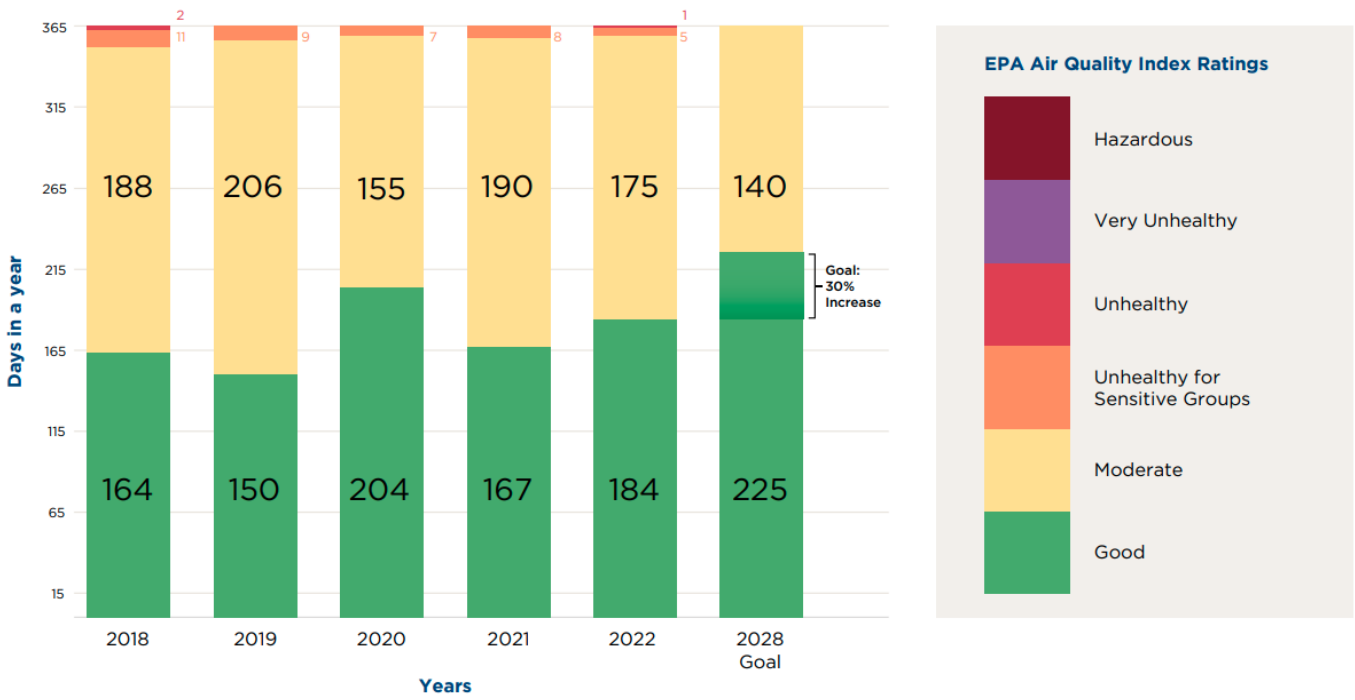
The Green Cincinnati Plan (GCP) has been the City's sustainability plan since 2008. Updated every five years (2013, 2018, and now 2023), the GCP has helped Cincinnati earn a reputation as an international leader in climate action. Since 2008, the actions outlined in the GCP have helped deliver a 36.6% reduction in the city's carbon emissions. The 2023 GCP is organized into eight focus areas that articulate the city's visions, goals, strategies, and actions in response to the climate crisis: Buildings and Energy, City Operations, Community Activation, Food, Mobility, Natural Environment, Resilience and Climate Adaptation, Zero Waste.[6]

Cincinnati City Council adopted the 2023 GCP by unanimous vote on Wednesday, April 19, 2023, committing to taking action to address climate change in Cincinnati.[5]

Project Rationale

In support of the 2023 Green Cincinnati Plan strategy to *"Increase air quality studies, education, and reduce pollution from air emissions,"* the City of Cincinnati Office of Environment and Sustainability (OES) in partnership with the Cincinnati Health Department (CHD) launched the Cincy Air Watch Project.[6]

Many Cincinnati residents experience poor outdoor air quality which contributes to adverse health conditions, including asthma and lung disease. In 2022, the U.S. Environmental Protection Agency (EPA) registered 181 days with "moderate," "unhealthy for sensitive groups," or "unhealthy," air quality index ratings in Cincinnati.[4] Ozone and Particulate Matter (PM) 2.5 contribute significantly to these low ratings. Other factors include vehicle emissions and industrial emissions. High air temperatures and ultraviolet radiation further exacerbate poor air quality. The 2023 GCP identified a goal of *improving air quality so that Air Quality Index (AQI) healthy days are increased by 30% by 2028*.[6, 7]



The GCP outlines four priority actions in regard to air quality: [6]

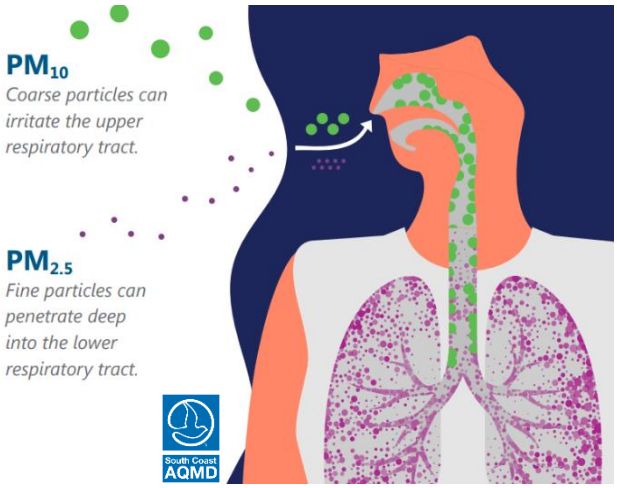
1. Expand monitoring of air quality and nuisance odors incorporating citizen science in priority neighborhoods.
2. Provide services, resources, and education for residents in priority neighborhoods on air quality alert system, sources of poor air quality, and air quality regulations.
3. Support and fund the development of natural corridors and tree barriers along streams and rivers, interstates and highways.
4. Strengthen emissions regulations.

Cincy Air Watch plans to focus initially on the first two priority actions in hopes of better informing the second two actions in later phases. Program approach will be outlined in more detail in Project Overview.

Particulate Matter

Poor air quality is proven to negatively impact our health and environment. The term air quality relates to the amount of pollution or tiny pieces suspended in the air. The five most commonly studied types of air pollution are carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and solid particle pollution called particulate matter (PM).[6, 7, 8]

- Particles less than 10 microns or micrometers (μm) in diameter, PM_{10} (coarse particles).
- Particles less than 2.5 microns or micrometers (μm) in diameter, $PM_{2.5}$ (fine particles).



Particle size is directly related to the potential to cause adverse respiratory problems. Larger particles impact the upper respiratory tract and can sometimes be dislodged by coughing, yet smaller particles can enter lower into the lungs, respiratory tract, and bloodstream becoming more dangerous and harder to expel from the body. PM is known to cause aggravated asthma, decreased lung function, increased respiratory symptoms such as irritated airways, coughing, or difficulty breathing. It is also linked to nonfatal heart attacks, irregular heartbeat, and premature death in individuals with heart or lung disease.[8] *The Cincy Air Watch Project has chosen to monitor $PM_{2.5}$ because of its known link to adverse health effects.*

Monitor Selection

PurpleAir Flex

This project is utilizing the PurpleAir Flex Air Quality Monitor selected based on its cost-effective price point, accuracy and precision, ease of install, existing network use by citizen scientists, connectivity to Wi-Fi, transparency of data, lifespan, and ability to measure $PM_{2.5}$ concentrations.

The Purple Air Flex costs $289.00 and is 3.5 x 3.5 x 5 inches, weighing approximately 12.6 ounces. The monitor has an expected life span of 3 years. The monitors will be installed outdoors and are rated for temperatures and weather from -40°F to 185°F. It can receive power from an outdoor rated (IP68) outlet through a 5V USB-3A (15W) to Type A (USA) plug running at 50/60Hz of input and costs an additional $40.00. The monitors can be easily installed using zip ties from the monitor's bracket or screwed into a stationary surface.[11]

How the Sensors Work

PurpleAir Flex sensor periodically measures the amount of $PM_{2.5}$ in the air by drawing in a fresh sample of air using a small fan past a laser beam that reflects light from the particulate matter onto a detection plate to determine the size and number of particles. The sensor cannot determine the composition of the particles (mold, dust, chemical compound etc.). It then reports the data to the PurpleAir map over Wi-Fi or is stored on an internal secure digital (SD) chip.[11]

Project Overview*

Cincy Air Watch aims to utilize PurpleAir monitors to measure and communicate real-time outdoor air quality data for $PM_{2.5}$ in priority neighborhoods. These small air quality monitors can be easily installed and upload the air quality data in real-time to a publicly available map on the PurpleAir website.[10]

In the first year of this project, OES and CHD will install 24 monitors in priority neighborhoods, with a focus on areas where there is expected to be high levels of pollution, such as in proximity to industrial sites and high traffic roadways. Populations living in these areas are often referred to as environmental justice (EJ) communities, as they experience disproportionately higher rates of health outcomes, including asthma, often as a result of environmental stressors.[1]

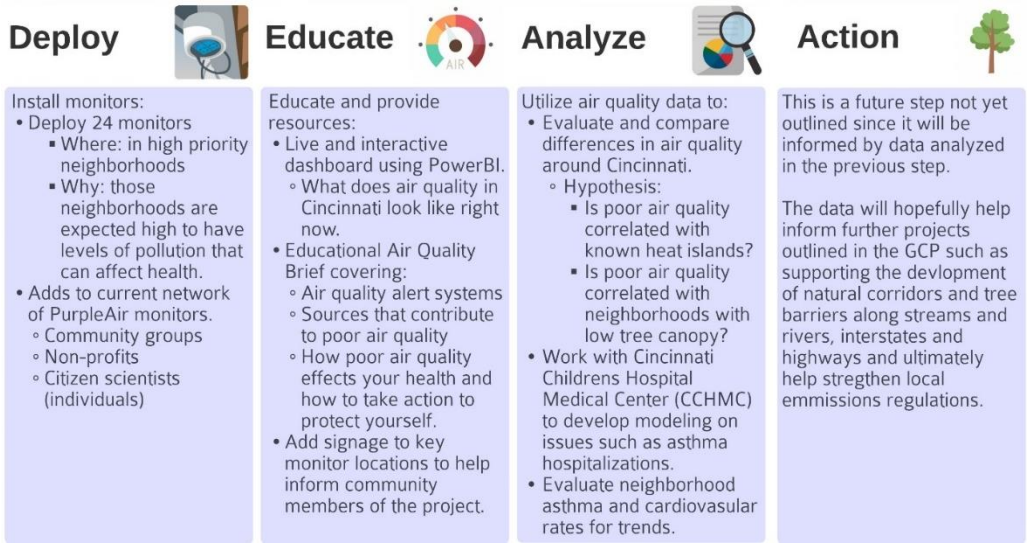
This project will add to the existing network of PurpleAir monitors in the city that have already been installed by studies such as Groundwork Ohio River Valley and University of Cincinnati CARES project.

Additionally, Cincy Air Watch plans to provide services, resources, and education for residents on air quality alert systems, sources of poor air quality, and air quality regulations though a mix of educational materials and resources. These services and resources include:

- An Air Quality Epidemiology Educational Brief about air quality to educate the public on leading types of air pollution, how it can affect health, what causes air pollution, how to improve air quality, how to read the air quality index, local history of air quality, how to get involved, and further resources.
- A publicly available Cincy Air Watch Dashboard available on the Cincy Insights website that integrates data from all publicly available PurpleAir monitors in Cincinnati through the use of an API data call for visualization and analysis to have data transparency with local residents.
- Signs available at strategic monitoring sites to display QR codes that navigate to the Cincy Air Watch dashboard to engage the community with the data at monitoring sites and bring awareness to the project.

The first year of the Cincy Air Watch project meets the GCP priority recommendations to:

1. Expand monitoring of air quality and nuisance odors, incorporating citizen science in priority neighborhoods.
2. Provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor air quality, and air quality regulations.

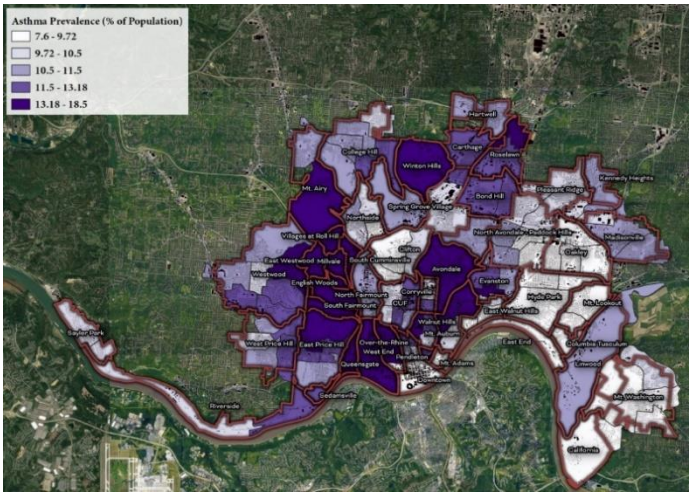


* A summary handout of the Project Overview and Background intended for stakeholder engagement is attached in Appendix A.

Priority Neighborhoods†

Round 1 of the Cincy Air Watch Project focuses on deploying 24 air quality monitors in priority neighborhoods* identified through a rigorous analysis of asthma rates, as outlined in the 2021 Climate Equity Indicators Report. The rationale for using asthma rates as our initial variable predictor is outlined in our Cincy Air Watch - Project Overview. The top neighborhoods experiencing disproportionately higher asthma rates are:[2]

- Millvale
- South Cumminsville
- Lower Price Hill
- Queensgate
- Riverside East
- Sedamsville
- Villages at Roll Hill
- South Fairmont
- North Fairmont
- English Woods
- West End
- Winton Hills
- Avondale



Once monitor placement in these priority neighborhoods is complete, remaining devices will be strategically located across Cincinnati based on geographic distribution, site suitability, and community partnerships. A detailed list of all Round 1 locations is available on the Planned Citywide Monitoring Location List and the Planned Citywide Monitoring Location Map.

Round 2 aims to expand monitoring to every Cincinnati neighborhood contingent on funding availability. A multivariable regression model, considering factors of existing monitoring efforts (β_0), asthma rates (β_1), $PM_{2.5}$ factor (β_2), tree canopy cover (β_3), and heat island exposure (β_4) was developed to prioritize neighborhoods for monitor placement. A comprehensive list of Neighborhood Needs Ranking can be found in Appendix B.

$$\hat{y}=-7.396-0.317x_1+0.806x_2+0.507x_3-0.038x_4$$

Round 3 will further expand data collection by adding additional monitors to neighborhoods based on geographic gaps by incorporating size and shape of neighborhoods to ensure equitable distribution of monitors. This will enhance study accuracy and reliability.

† For this research project, priority neighborhoods are defined as areas with heighted air quality concern due to their correlation with asthma prevalence.

Planned Citywide Monitoring Location List

The planned citywide monitoring location list is a comprehensive list of all known PurpleAir monitors within city of Cincinnati jurisdiction and the project the monitor is associated with as of 9/11/2024.

Count	Monitor Status	Address	Neighborhood	Location Name	City Dept	Team‡
1	IN PLACE		Avondale	Cincinnati Zoo		CITY
2	APPROVED		California	GCWW Richard Miller	GCWW	CITY
3	IN PLACE		College Hill	College Hill Library		CITY
4	IN PLACE		Avondale	Hirsh Rec Center	REC	CITY
5	IN PLACE		Evanston	Evanston Rec Center	REC	CITY
6	IN PLACE		Corryville	Cincinnati Health Department	Health	CITY
7	APPROVED		Hartwell	Hartwell Rec Center	REC	CITY
8	PLANNED		Kennedy Heights	Community Partner		CITY
9	PLANNED		Linwood	Reeves Golf Course	REC	CITY
10	IN PLACE		Madisonville	CPS John P. Parker	CPS	CITY
11	PLANNED		Walnut Hills	Krohn Conservatory	Parks	CITY
12	PLANNED		West Price Hill	Fire Station 24	Fire	CITY
13	PLANNED		Oakley	Community Partner		CITY
14	PLANNED		Queensgate	Community Partner		CITY
15	IN PLACE		Camp Washington	Fire Station 12	Fire	CITY
16	APPROVED		East Price Hill	Price Hill Rec Center	REC	CITY
17	IN PLACE		Millvale	Millvale Rec Center	REC	CITY
18	IN PLACE		Westwood	Westwood Library		CITY
19	PLANNED		Mt. Lookout	Community Partner		CITY
20	IN PLACE		Spring Grove	GCWW Spring Grove Offices	GCWW	CITY
21	IN PLACE		Westwood	Dunham Rec Center	REC	CITY
22	APPROVED		Saylor Park	Sayler Park Rec Center	REC	CITY
23	PLANNED		Sedamsville	Community Partner		CITY
24	PLANNED		CUF	Community Partner		CITY
25	IN PLACE		Downtown	Broadway Garage	Parking	UC
26	IN PLACE		West End	Centennial II	Facilities	UC
27	APPROVED		Downtown	Lytle Park	Parks	UC
28	IN PLACE		Downtown	Garfield Garage	Parking	UC
29	PLANNED		CUF	University of Cincinnati		UC
30	IN PLACE		OTR	Washington Park	Parks	UC
31	IN PLACE		OTR	Ziegler Playground	Parks	UC
32	PLANNED		OTR	Streetcar Building	DOTE	UC
33	IN PLACE		West End	Firehouse 29	Facilities	UC
34	PLANNED		Downtown	Fountain Square	DCED	UC
35	APPROVED		West End	Lincoln Rec Center	REC	UC
36	PLANNED		OTR	Findlay Market	DCED	UC

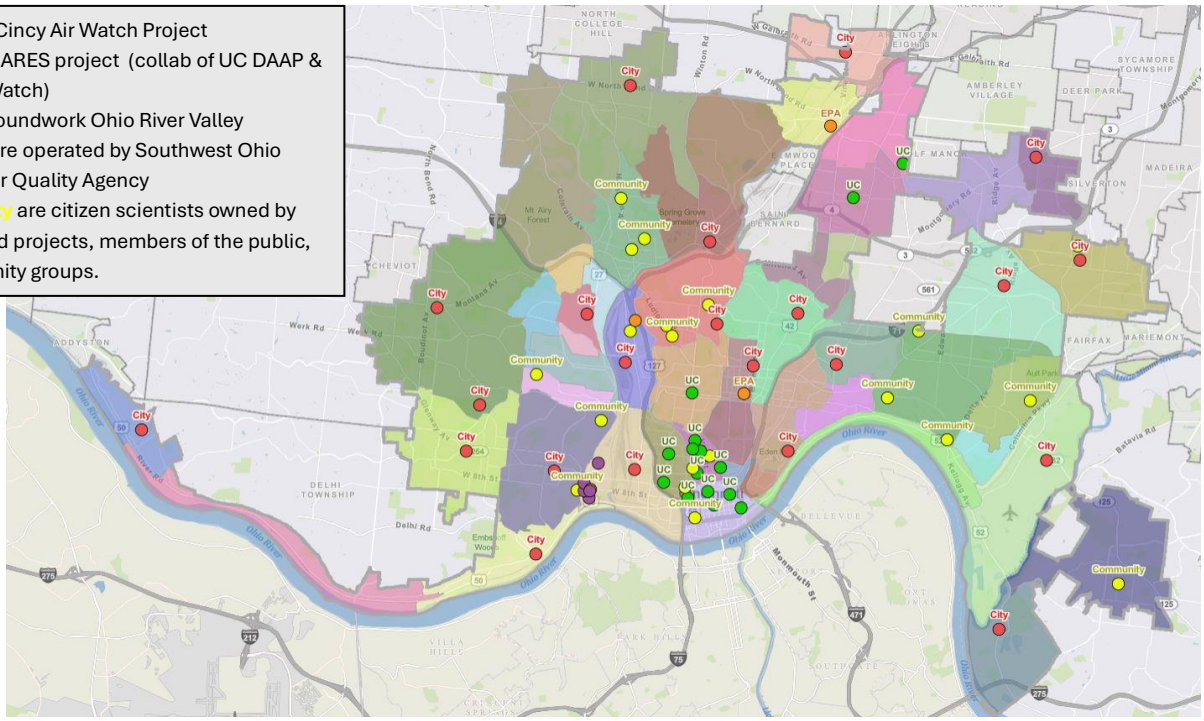
‡ Teams: CITY is the Cincy Air Watch Project, UC is the CARES project collaboration between UC DAAP and Cincy Air Watch, GWO are Groundwork Ohio River Valley monitors, EPA/GOV are Southwest Ohio Regional Air Quality Agency, & Community are citizen scientists owned by unidentified projects,members of the public, or community groups. This list has redacted community partners whose contracts with the city have not yet been finalized; for a complete list of sites and addresses please reach out to a project manager.

Count	Monitor Status	Neighborhood	Location Name	City Dept	Team‡
37	PLANNED	Roselawn	Roselawn Park & Ball Fields	REC	UC
38	PLANNED	Bond Hill	Bond Hill Rec Center	REC	UC
39	PLANNED	OTR	OTR Rec Center	REC	UC
40	IN PLACE	West End			COMMUNITY
41	*OFFLINE*	OTR			COMMUNITY
42	IN PLACE	OTR			COMMUNITY
43	IN PLACE	Clifton			COMMUNITY
44	IN PLACE	Clifton			COMMUNITY
45	IN PLACE	Northside			COMMUNITY
46	*OFFLINE*	Northside			COMMUNITY
47	IN PLACE	Camp Washington			COMMUNITY
48	*OFFLINE*	East Price Hill			COMMUNITY
49	IN PLACE	Hyde Park			COMMUNITY
50	IN PLACE	Hyde Park			COMMUNITY
51	IN PLACE	Mt. Washington			COMMUNITY
52	IN PLACE	Downtown			COMMUNITY
53	IN PLACE	East Price Hill	Meals on Wheels		COMMUNITY
54	IN PLACE	Lower Price Hill	MSD 6	MSD	GWO
55	*OFFLINE*	Lower Price Hill	Meiser's Market		GWO
56	IN PLACE	Lower Price Hill	Groundwork Sanctuary		GWO
57	*OFFLINE*	Lower Price Hill	McAndrew's Glass Co.		GWO
58	*OFFLINE*	Corryville	Hamilton County Public Health		EPA/GOV
59	IN PLACE	Camp Washington	Hamilton County Land		EPA/GOV
60	IN PLACE	Lower Price Hill	Station 17	Fire	EPA/GOV
61	IN PLACE	Carthage	Station 2	Fire	EPA/GOV
62	IN_PLACE/ ERRORS	Pleasant Ridge	NIOSH-EHS Building		EPA/GOV
63	IN PLACE	Madisonville	Seven Hills Schools		COMMUNITY
64	*OFFLINE*	Northside	Happen Inc.		COMMUNITY
65	*OFFLINE*	Lower Price Hill	Oyler House		GWO
66	*OFFLINE*	South Fairmount			COMMUNITY
67	IN PLACE	Hyde Park	The Summit Country Day School		COMMUNITY
68	*OFFLINE*	Mount Lookout			COMMUNITY
69	IN PLACE	Clifton			COMMUNITY

Planned Citywide Monitoring Location Map

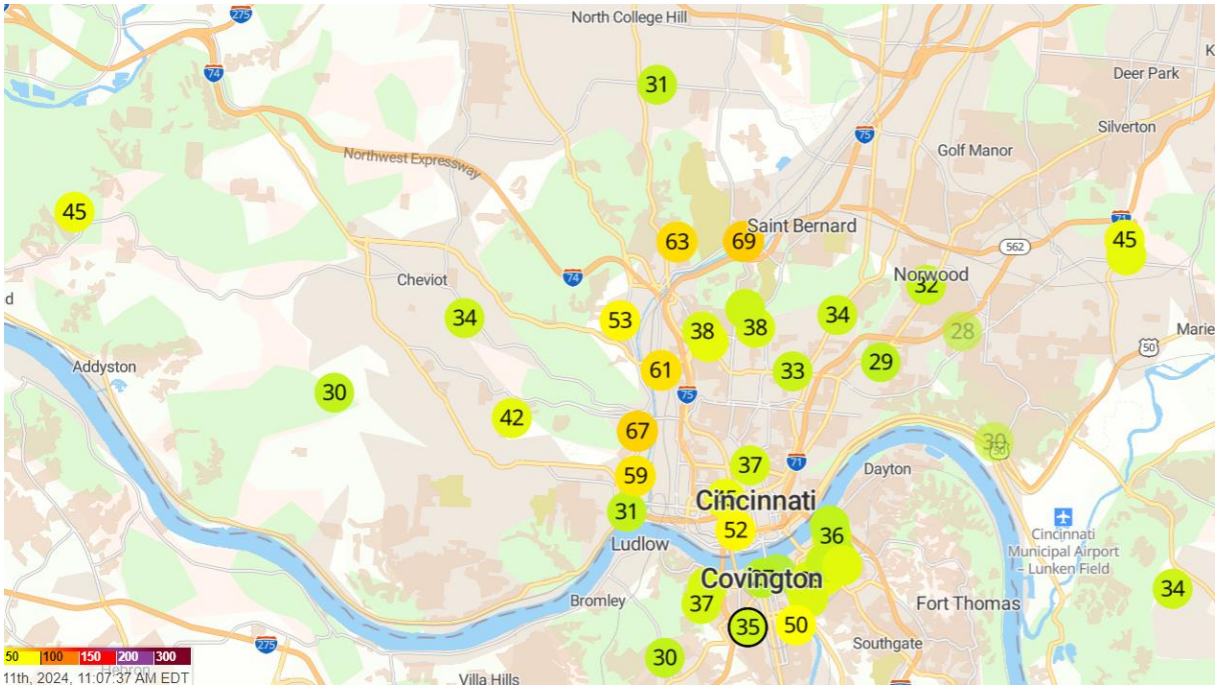
Geographic locations of **all planned monitors** locations as of 9/11/24 by project team and neighborhood. This is an internal planning tool used to visualize all known monitor locations and planned future locations.

City is the Cincy Air Watch Project
UC is the CARES project (collab of UC DAAP & Cincy Air Watch)
GWO is Groundwork Ohio River Valley
EPA/GOV are operated by Southwest Ohio Regional Air Quality Agency
Community are citizen scientists owned by unidentified projects, members of the public, or community groups.



PurpleAir Active Monitoring Map

A screenshot of **all currently installed** publicly available, Wi-Fi enabled PurpleAir Monitors, in Cincinnati as of 9/11/24 **from the PurpleAir map**. The map displays the current AQI reading of each monitor and the corresponding AQI color category.



Abstract: Air Quality Epidemiology Educational Brief

The Epidemiology Educational Brief document is intended for public education and to be published on our website as well as being shared with external stakeholders. It is intended to be a clear and informative document that empowers residents to take action to improve air quality and protect their health.

The Epidemiology Educational Brief is a document designed to inform and educate the public about air quality and its impact on health while connecting residents with resources and information. It aims to:

- **Increase public awareness:** Provide easy-to-understand information about air quality, its effects, and personal actions to address it.
- **Empower residents:** Offer practical steps for individuals to protect themselves and contribute to better air quality.
- **Align with city goals:** Support the Green Cincinnati Plan's objective "to provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor quality, and air quality regulations".[3]

Please note: While the brief will provide information about air quality and its impacts, it will *not* include specific research data from the Cincy Air Watch Dashboard. That data will be analyzed separately.

This document will also be linked to from the Cincy Air Watch Dashboard page and the Cincy Air Watch Program page on the OES website.

Air Quality

Epidemiology Educational Guide
September 2024

city of CINCINNATI HEALTH DEPARTMENT

Issue 4

What We Know

Air pollution is a mixture of hazardous substances from human-made and natural sources. Air pollution can be split into two classifications: indoor air pollution and outdoor air pollution, also called ambient air pollution.[1]

Air pollution affects both air quality and human health. **The World Health Organization (WHO)** identifies air pollution as one of the greatest environmental risks to human health. Current research indicates that poor air quality can result in adverse health effects, particularly cardiovascular and respiratory diseases including asthma. WHO calculates that the effects of air pollutions are associated with an average of 6.7 million premature deaths annually.[1, 2]

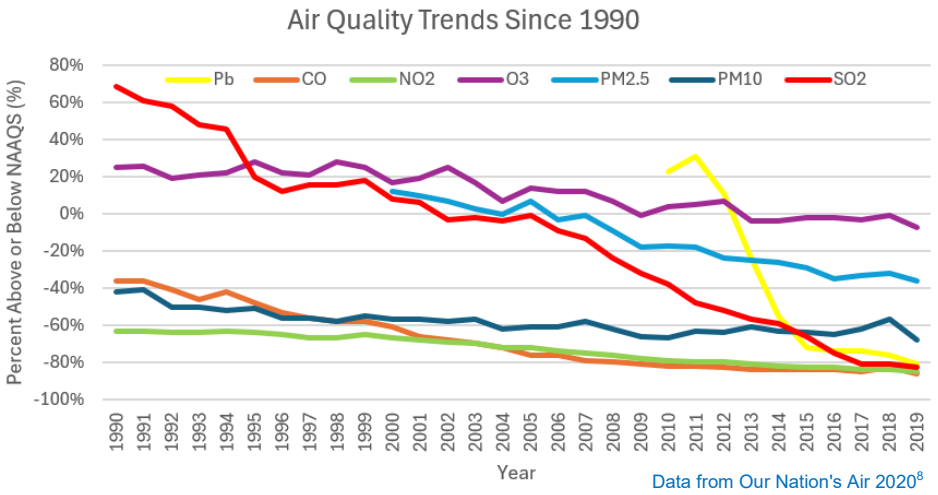
Air quality is monitored by many agencies globally. In the United States (U.S.), air quality standards are set by the **U.S. Environmental Protection Agency (EPA)**. Official readings use a combination of tools to determine accurate Air Quality Index (AQI) by looking at the amount of pollution or tiny particles suspended in the air. The most commonly studied and regulated types of air pollution are ozone (O_3), particulate matter ($PM_{2.5}$ & PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), and lead (Pb).[3, 4, 5]

The AQI is the scale on which air quality is reported. There are six levels:[6]

- 0-50: Good
- 51-100: Moderate
- 101-150: Unhealthy for Sensitive Groups
- 151-200: Unhealthy
- 201-300: Very Unhealthy
- 301 and Above: Hazardous

Leading Types of Air Pollution

Air quality refers to the amount of pollution or tiny particles suspended in the air. **Air pollution** refers to the contaminants present. These contaminants can be gas and solid particles. There are six commonly studied types of air pollution, referred to as **criteria pollutants**. The EPA established criteria pollutants through the **Clean Air Act (CAA)**. The CAA requires EPA to set **National Ambient Air Quality Standards (NAAQS)** for specific pollutants based on scientific evidence to protect against the adverse impacts of air pollution. These pollutants are:[7, 8]



Data from Our Nation's Air 2020[8]

Ozone (O_3): Tropospheric ozone, more commonly called ground-level ozone, is one of the major contributors of smog. It is formed when sunlight triggers a reaction between **nitrogen oxides (NO_x)** and **volatile organic compounds (VOCs)** released from vehicle exhaust, gasoline vapors, or solvents.[2, 8, 9]

Particulate Matter ($PM_{2.5}$ & PM_{10}): There are two main categories of PM: PM_{10} and $PM_{2.5}$. PM_{10} are particles with a diameter of less than 10 µm but greater than 2.5 µm; smaller then a grain of sand. $PM_{2.5}$ are particles with a diameter of less than 2.5 µm, a fraction of the width of a human hair. These particles can be generated by dust storms, smoke, fossil fuel combustion, fertilizer use, and gas to particle conversion.[2, 8, 9]

Nitrogen Dioxide (NO_2): This reactive gas comes from various sources, including vehicle exhaust (cars, buses, planes, and boats), and the burning of fuels like coal and charcoal. It can sometimes give cities a hazy brown cast.[2, 8, 9]

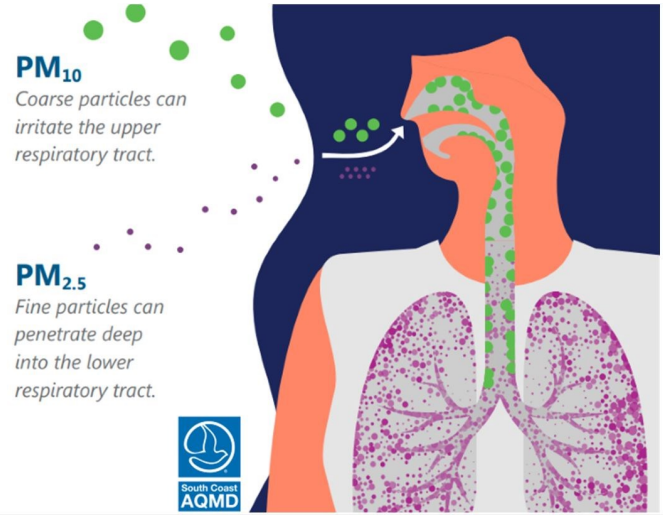
Sulfur Dioxide (SO_2): This gas forms during the burning of fossil fuels like coal and oil, or during industrial processes.[2, 8, 9]

Carbon Monoxide (CO): This is a toxic gas that has no color and smell. It is produced when carbon in fuels are not burned completely, called incomplete combustion, such as in vehicle exhaust, gas appliances in the home, or woodburning.[2, 8, 9, 10]

Lead (Pb): Tiny lead particles can become suspended in the air from various industrial activities, including ore processing, lead smelters, and even some aircrafts using leaded aviation fuel.[2, 8, 11]

How Air Pollutants Can Affect Your Health

Ozone (O_3): Ground-level ozone harms your lungs, making it harder to breathe and can cause coughing or shortness of breath. It is especially harmful for people with asthma or lung diseases, leading to increased medication use, hospital visits, and emergency room trips. Long-term exposure may increase the risk of death from respiratory problems.[2, 9]



Particulate Matter ($PM_{2.5}$ & PM_{10}): Particle size is directly related to the potential to cause adverse respiratory problems. Larger PM_{10} particles impact the upper respiratory tract. PM_{10} can sometimes be dislodged by coughing, yet due to its tiny size, $PM_{2.5}$ can bypass the bodies natural defenses, travel deep into the lungs, and enter the bloodstream. This poses a significant health risk as exposure to $PM_{2.5}$ has been linked to a variety of health problems, including heart attacks, strokes, and respiratory issues like asthma attacks. It can also worsen existing lung conditions and contribute to premature death.[2, 8, 9]

Nitrogen Dioxide (NO_2): NO_2 exposure can irritate the lungs, making it harder to breathe. This is especially true for people with asthma, who may experience more frequent symptoms, hospital visits, and emergency room trips due to NO_2 exposure. Long-term exposure to NO_2 might even contribute to developing asthma and make you more susceptible to respiratory infections.[2, 8]

Sulfur Dioxide (SO_2): SO_2 irritates the lungs, making breathing difficult, especially for people with asthma. Children, older adults, and asthmatics are more susceptible to these effects, which can lead to more frequent hospital visits.[2, 8, 9]

Carbon Monoxide (CO): Breathing elevated levels of CO disrupts the body's ability to take oxygen to the organs through the bloods since CO binds to hemoglobin at a higher rate than oxygen. This can cause flu-like symptoms, confusion, seizures, and even death. High exposure can lead to long lasting brain and heart damage.[2, 8, 9]

Lead (Pb): Lead exposure, even in small amounts can be harmful, affecting brain and nervous system development in children resulting in lower IQs, learning deficits and behavioral problems. Lead can cause various health problems in adults, including heart disease, high blood pressure, and kidney damage.[2, 8, 11]

Overall, air quality affects everyone's health. Long-term exposure to poor air quality may not have an immediate effect, but it can impact a person's quality of life overtime. The primary health concerns of poor air quality are cardiovascular and respiratory complications, though many systems are affected.[1, 9]

Primary Health Concerns

Cardiovascular
Increased risk of overall heart disease, increased blood pressure, and increased risk of coronary artery diseases.[12, 13]

Heart Disease
Increased risk of heart attack, stroke, and heart failure events, leading to the increase of death caused by cardiovascular diseases.[12, 13]

Respiratory
Increased risk of asthma, chronic bronchitis, chronic obstructive pulmonary disease (COPD), and Emphysema.[12, 14, 15]

Asthma
Indoor and outdoor air pollution are major public health threats that can cause and worsen existing asthma.[12, 14, 15]

Other Health Concerns

Cancer
Leading risk of lung cancer, increased risk of breast cancer in women, exposures to hazardous chemicals like benzene found in gasoline can cause leukemia and is associated with non-Hodgkin Lymphoma.[12]

Neurological
Lead exposure, even in small amounts can be harmful, affecting brain and nervous system development in children resulting in lower IQs, learning deficits and behavioral problems.[11, 12]

Reproductive
Traffic related air pollution exposure can cause hypertensive disorder among pregnant woman; Hypertensive disorder increases a pregnant woman's risk for dangerous changes in blood pressure.[1, 12]

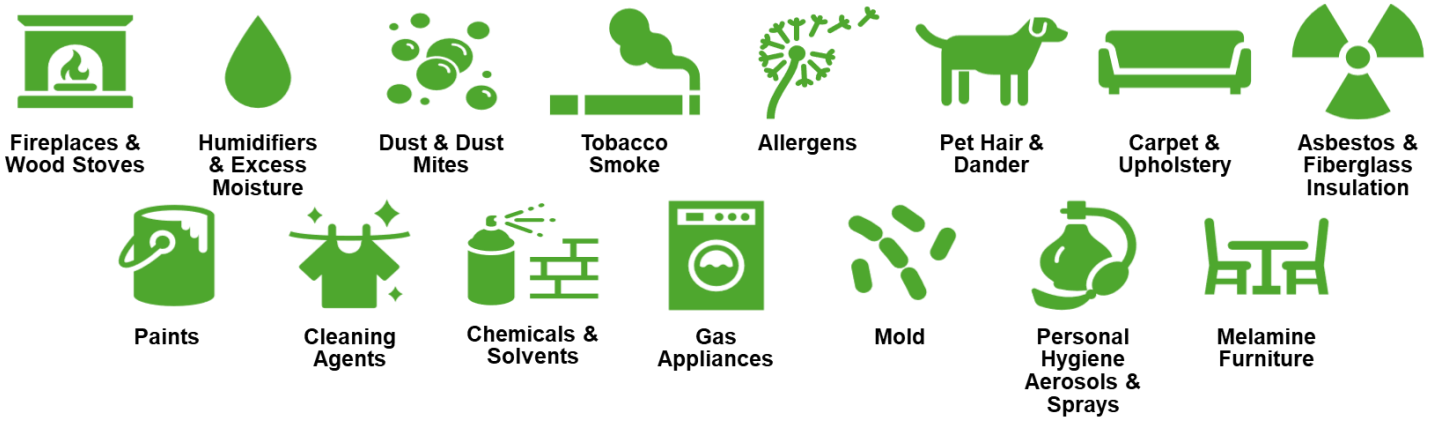
Diabetes
Air pollution can increase the risk of developing type II diabetes, especially in individuals already at risk due to factors like obesity or family history.[1, 13]

What Causes Air Pollution

Indoor Air Pollution

Indoor air pollution is defined as the existence of pollutants at high concentrations inside of buildings. It is caused by sources that release gases or particles into air, and is affected by poor ventilation and filtration and can lead to an increase in the build up of pollutant levels.[9,16, 17]

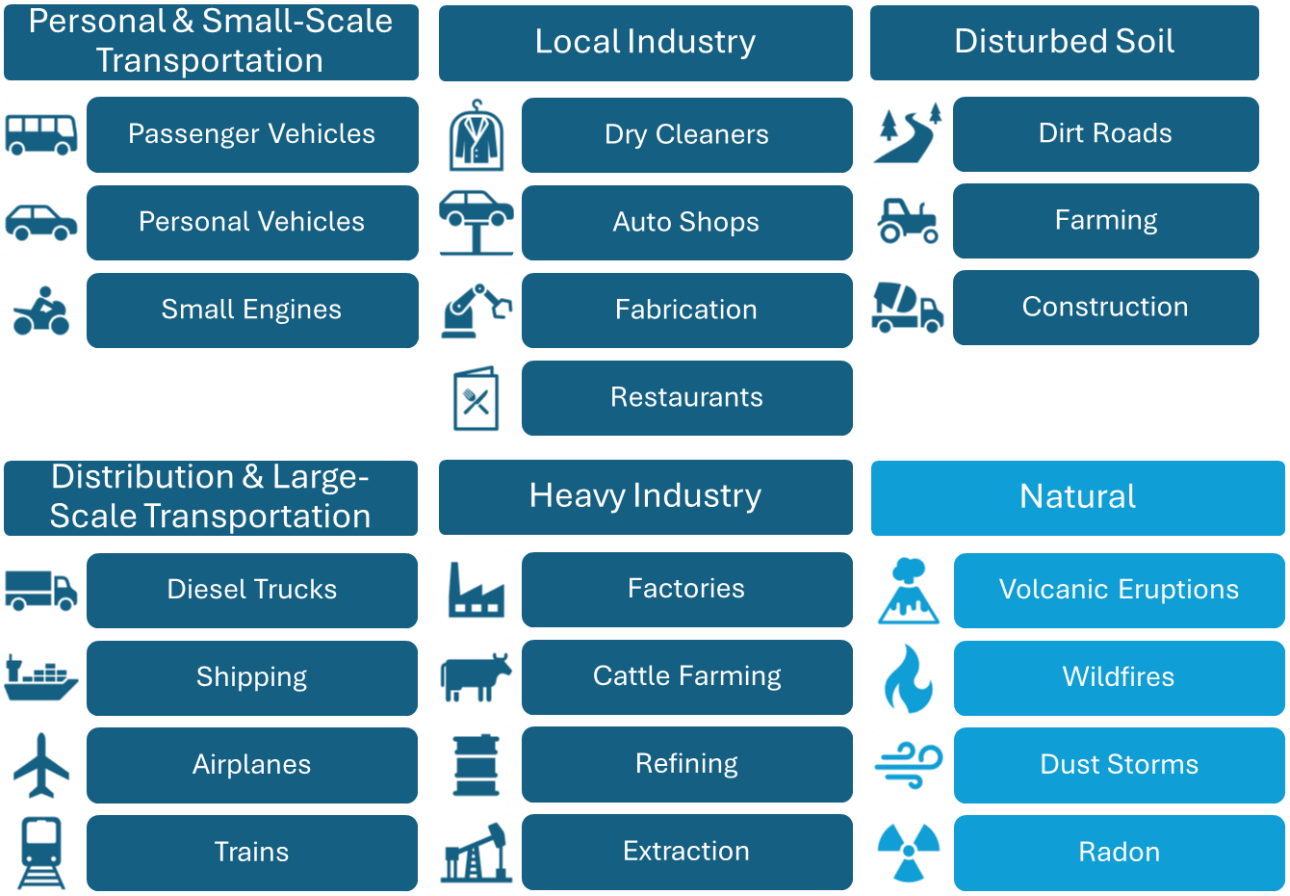
Sources of indoor air pollution include:[16, 17]



Outdoor Air Pollution

Outdoor air pollution is the presence of pollutants in the air outside buildings from ground level to several miles above the earth's surface. It is also called ambient air pollution, and both human-made and naturally occurring sources cause it. Outdoor air pollution is affected by human activities such as industrial emissions, vehicle emissions, agricultural practices, and deforestation; natural factors like wildfires, dust storms, and volcanic eruptions; and meteorological events such as atmospheric conditions, wind patterns, and sunlight.[1, 9, 18, 19]

Sources of outdoor air pollution include:[1, 9, 18, 19]



How to Improve Your Air Quality

You can take steps to improve your air quality both indoors and outdoors using these basic strategies:

Reduce

Source Control

The most effective way to improve air quality is to eliminate pollution sources or to reduce their emissions. There are many ways to reduce sources of both indoor and outdoor air pollution. These can include:

- ◊ Avoid burning from combustion appliances, tobacco products, candles, fireplaces, and grills.
- ◊ Remove or seal dangerous pollutants from building materials such as deteriorated asbestos-containing insulation, lead paint, or off-gassing from new products, such as newly installed flooring, upholstery or carpet, cabinetry, or furniture made of certain pressed wood products.
- ◊ Switch from gas to electric appliances and tools whenever possible.
- ◊ Use environmentally safe products when possible. Products for household cleaning and maintenance, personal care, or hobbies could contain harmful chemicals such as VOCs that can become suspended in the air when used.

Some sources, such as building materials, furnishings, and products like air fresheners, can release pollutants continuously. Other sources related to smoking, cleaning, redecorating, or using gas powered appliances and tools release pollutants intermittently. Pollutant concentrations can remain in the air for long periods after some activities.[17]

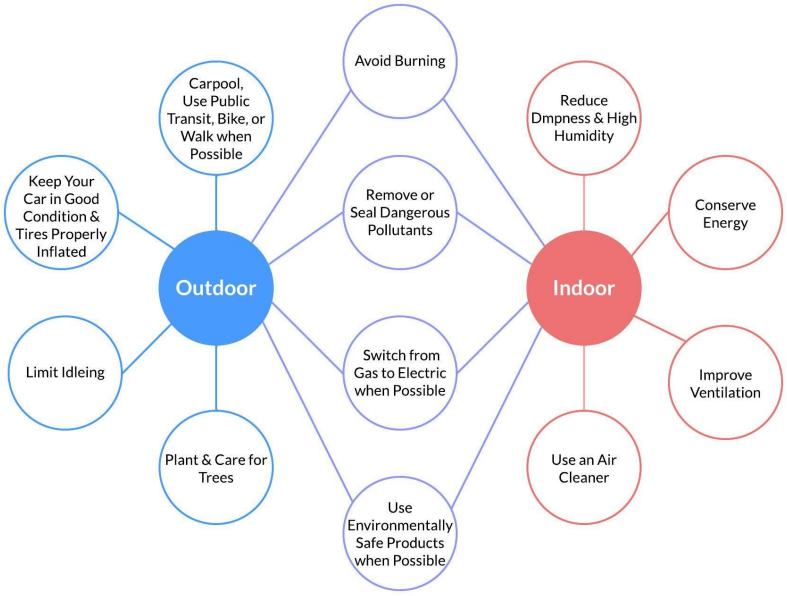
Excess Moisture

Dampness and moisture indoors can lead to mold and poorer respiratory symptoms. Central heating and cooling systems and dehumidification devices can help remove water from the air reducing humidity levels indoors. Using a dehumidifier, turning on a fan or opening a window when showering or cooking can also help eliminate airborne water. Try to eliminate areas of pooling water or moisture in your home.[17, 20]

Remove

Ventilation Improvements

Since many activities can create air pollution, areas with a buildup of pollutants require proper ventilation. Pollutants can accumulate to levels that can cause health problems when there is little to no ventilation, mostly occurring indoors due to a lack of airflow. However, it is important that buildings have a way to release air pollution so it is not built up. Outdoor air enters and leaves a house through natural ventilation and mechanical ventilation. **Natural ventilation** is when air also flows into the house through openings, joints, cracks in walls, floors, ceilings, and around windows and doors. Several **mechanical ventilation** devices are available to help circulate air within the house and exchange air between outside and inside and are often included in newer homes. These include outdoor-vented fans that remove air from a single room and air handling systems that use fans and ducts to distribute filtered and conditioned air throughout the house. Some of these designs include energy-efficient heat recovery ventilators.[17, 20]



Air Cleaners

Air filtration can be an excellent way to remove harmful pollutants from the air and improve air quality. Indoor portable air cleaners, also known as air purifiers or air sanitizers, are designed to filter the air in a single room or area. In contrast, central furnaces or HVAC filters are designed to filter air throughout a home. Portable air cleaners and HVAC filters can reduce indoor air pollution; however, they cannot remove all pollutants from the air. Generally, air cleaners are not designed to remove gaseous pollutants but can effectively eliminate PM; that is why filters can remove dust but not smells. The effectiveness of an air cleaner depends on how well it collects pollutants from indoor air and how much air it draws through the air filter. Outdoors, planting trees can help improve air quality as trees help store and break down pollutants and reduce energy costs for cooling from shade. Tiny openings on leaves called stomata take in air, which can include pollutants like ozone, sulfur dioxide, and nitrogen dioxide. These pollutants are absorbed by the tree and broken down.[17, 20, 21]

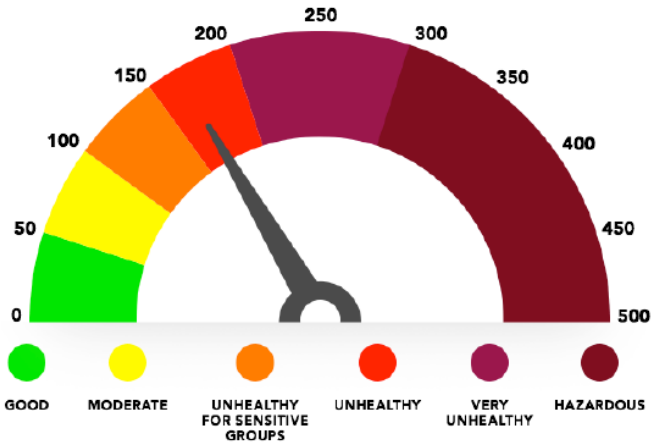
Air Quality Measurement

Air Quality Index (AQI)
AQI is an EPA tool that is used to communicate daily air quality. The index is a scale from 0-500 divided into six categories with a higher number meaning of greater concern. Each category has a standardized color and index range to reflect the air quality. Guidance about the level of concern can vary, so it is important to seek out trusted sources.[5, 6, 7, 22]

Category	AQI Color	Index	Level of Concern
Good	Green	0-50	Air quality level indicates clean air with little to no health risks. A great day to be outside.
Moderate	Yellow	51-100	Air quality is acceptable for most people, but there may be a slight risk for sensitive individuals. Sensitive individuals may consider limiting prolonged outdoor activites.
Unhealthy for Sensitive Groups	Orange	101-150	Members of sensitive groups, such as people with pre-existing pulmonary or cardiovascular conditions, may experience negative health effects. Sensitive groups should limit prolonged outdoor activites or consider wearing a mask such as an N-95.
Unhealthy	Red	151-200	Everyone may begin to experience negative health effects. Sensitive groups can expect to experience more serious outcomes. Everyone should limit prolonged outdoor activites or consider wearing a mask such as an N-95.
Very Unhealthy	Purple	201-300	The air quality is a significant health risk for everyone. All individuals should take precautions such as masking outdoors. Sensitive groups should avoid outdoor activity, everyone should limit outdoor activites.
Hazardous	Maroon	301-500	This is the most severe air quality level. It poses a serious health threat to everyone. All individuals should take precautions such as masking and avoid all physical activites outdoors.

How AQI is Determined

The AQI is determined using the NAAQS based on the criteria pollutants ozone, PM, carbon monoxide, sulfur dioxide, and nitrogen dioxide. The official AQI is measured at specific EPA sites called **continuous air monitoring stations (CAMS)** around the country, with three sites in the Cincinnati area. Individual monitoring sites may monitor only a single pollutant for research rather then regulation. Each pollutant is measured by concentration, than converted to AQI using a pollutant specific formula. Once converted to AQI, the highest value among the pollutants becomes the overall AQI for that time period and the pollutant of highest value becomes the **primary pollutant.** If only one pollutant is tested then that is labelled as the **pollutant of investigation**.[5, 7, 23]



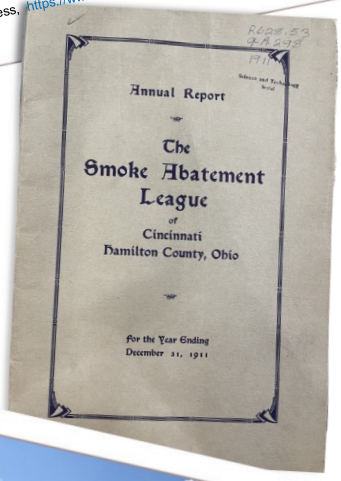
AQI scale image from Cowaymega air quality index blog [25]

Pollutant	Measurement by Concentration
Ozone	parts per billion (ppb)
PM	micrograms per cubic meter (μg/m³)
SO2	parts per billion (ppb)
NO2	parts per billion (ppb)
CO	parts per million (ppm)

For more information on N95 Respirators, Surgical Masks, Face Masks, and Barrier Face Coverings guidelines please see the FDA guidance here.[24]

A Brief History of Local Air Quality Monitoring[3, 4]

Detroit Publishing Co, P. View from Mount Adams, Cincinnati, Ohio. United States Ohio Cincinnati, None. [Between 1900 and 1910] [Photograph] Retrieved from the Library of Congress, https://www.loc.gov/item/2016810630/ [26]



Indiana Department of Environmental Management, A typical CAMS US Indiana, None. [2016] [[Photograph] Retrieved from Indiana Department of Environmental Management [27]

Image from South Coast air Quality Management District Community in Action Guide[9]

1880s The City of Cincinnati struggled with air pollution from coal smoke powering the city.

1903 A smoke ordinance passed in Cincinnati *"...to regulate the emission of smoke and prevent injury and annoyance"* from the burning of coal.

1906 Cincinnati Women's Club established the Smoke Abatement League.

1907 The Smoke Abatement League successfully pressured the Cincinnati City Council to create the Office of Chief Smoke Inspector to take ambient smoke measurements using an umbrascope and establish penalties for excessive smoke violations.

1942 The Office of Chief Smoke Inspector became the Bureau of Smoke Inspection, which conducted the City's first atmospheric pollution survey in 1943 looking at Cincinnati's air quality.

1951 Hilton Davis Chemical Company installed four catalytic fume burners to control the smoke at their production plant. This was reported to be the first application of this type of pollution control in the entire country.

1955 The Bureau of Smoke Inspection changed to Bureau of Air Pollution Contol and Heating Inpection as it became clear that air quality was affected by more than just smoke.

1959 The Bureau of Air Pollution Control and Heating Inspection had reduced air pollution 25% from 1954.

1963 The US Clean Air Act of 1963 passed and provides funding to state and local agencies for air pollution control and monitoring efforts.

1969 Cincinnati established its own ambient air quality standards.

1970 The City of Cincinnati restructured and the Bureau of Air Pollution Control and Heating became the Division of Air Pollution Control.

1972 Ohio EPA was formed to enforce codes and regulations for local air pollution control agencies that were concerned about air quality issues in large regions. The City of Cincinnati recieved state funding to set up CAMS that measured air pollution, pressure, wind, and weather. This was the first station of its kind ever set up in the US.

1973 The Ohio EPA established a statewide Air Quality Index (AQI).

1979 The U.S. EPA established a national Air Quality Index (AQI) to standardized air quality federally.

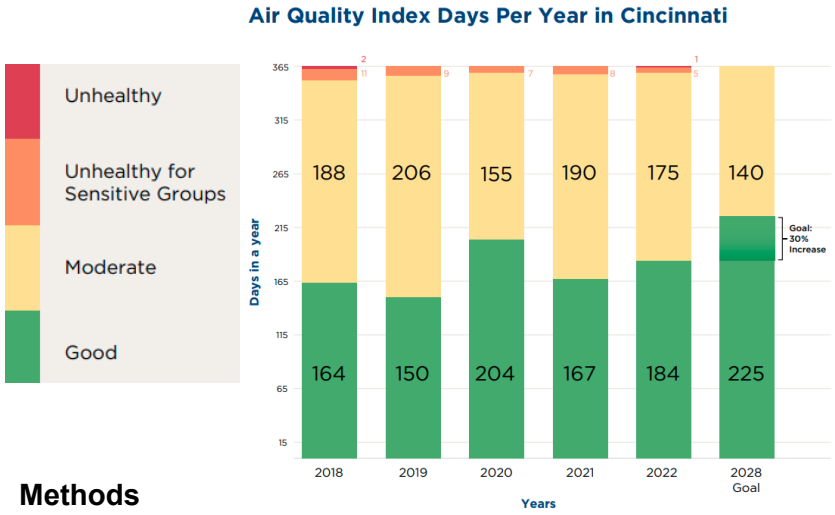
1980 The City of Cincinnati voted to turn the division of Air Pollution Contol over to Hamilton County and became the Southwestern Ohio Air Pollution Control Agency (SWOAPCA).

Today Air quality monitoring, permiting, and enforcement in southwestern Ohio is still performed by Hamilton County's Department of Environmental Services through Ohio EPA programing as **Southwest Ohio Air Quality Agency (SWOAQA).**

Local Air Monitoring: The Cincy Air Watch Project

Background

In support of the **2023 Green Cincinnati Plan (GCP)** strategy to *"Increase air quality studies, education, and reduce pollution from air emissions,"* the City of Cincinnati **Office of Environment and Sustainability (OES)** in partnership with the **Cincinnati Health Department (CHD)** launched the **Cincy Air Watch Project**.[29]



Many Cincinnati residents experience poor outdoor air quality which contributes to adverse health conditions, including asthma and lung disease. In 2022, the EPA registered 181 days with "moderate," "unhealthy for sensitive groups," or "unhealthy," AQI ratings in Cincinnati. Ozone and $PM_{2.5}$ were the highest contributors to these low ratings. The 2023 GCP identified a goal of *improving air quality so that AQI healthy days are increased by 30% by 2028*.[30]

Methods

The GCP outlines four priority actions in regard to air quality: [29]

(1) Expand monitoring of air quality and nuisance odors incorporating citizen science in **priority neighborhoods**.
(2) Provide services, resources, and education for residents in priority neighborhoods on air quality alert system, sources of poor air quality, and air quality regulations.
(3) Support and fund the development of natural corridors and tree barriers along streams and rivers, interstates and highways.
(4) Strengthen emissions regulations.

Cincy Air Watch plans to focus initially on the first two actions in hopes of better informing the second two actions in later phases.

In the process of expanding air quality monitoring, the Cincy Air Watch Project has chosen to monitor $PM_{2.5}$ because of its contribution to high AQI days locally and its known link to adverse health effects. This project focuses on priority neighborhoods in Cincinnati with relatively higher rates of asthma as identified in the 2021 Climate Equity Indicators Report, a study by the City of Cincinnati, University of Cincinnati, and Green Umbrella. These neighborhoods are: Millvale, South Cumminsville, Lower Price Hill, Queensgate, Riverside East, Sedamsville, Villages at Roll Hill, South Fairmont, North Fairmont, English Woods, West End, Winton Hills, and Avondale. These communities are in proximity to highways and industrial development, which are expected to be primary sources of health concern.[31]

These monitors will continuously measure $PM_{2.5}$ levels and share this data publicly on our dashboard at CincyInsights.com. This will help researchers understand the link between air quality and health problems like asthma in these neighborhoods. This project will also help inform the relationship between local air quality and our **built environment.** *If your are interested in contributing to this study you can purchase your own PurpleAir monitor and add it to the map.*[29, 32]

The Cincy Air Watch Project aims to utilize PurpleAir Flex monitors to measure and communicate real-time outdoor $PM_{2.5}$ data in priority neighborhoods. These small stationary air quality monitors can be easily installed in order to upload data in real-time to a publicly available map on the PurpleAir website. PurpleAir Flex sensors periodically measure the amount of $PM_{2.5}$ in the air by drawing in a fresh sample of air using a small fan. The sample moves past a laser beam that reflects light from the particulate matter onto a detection plate to determine the size and amount of particles. One limitation is that the sensor cannot determine the composition of the particles (mold, dust, chemical compound, etc.).[9, 33, 34, 35]

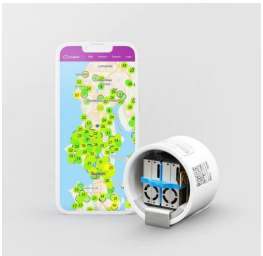


Image from PurpleAir Flex Air Quality Monitor [32]

How to Get Involved

Take Action

Use an Air Quality Monitor at Home

If you want more detailed information about the air quality at your home, you can purchase an air quality monitor. There are low-cost air monitor options are available which can help assess air quality in or outside your home. These monitors can measure a number of different factors including $PM_{2.5}$ or PM_{10}, ozone, nitrogen dioxide, and carbon monoxide and come in models for outdoor or indoor use. Potential benefits of using a low-cost air monitor include:

◊ Affordable and Easy to Use: Low-cost air pollution monitors are much cheaper than CAMS and don't require any special skills to set up.

◊ See What's in Your Air: They can track the amount of dust or smoke particles that can affect your health.

◊ Early Warning System: You can detect changes in air quality and can take action to clean indoor air or take precautions to protect against poor outdoor air.

◊ Learn and Improve: Having a monitor at home can raise awareness about how daily activities can impact air quality and encourage healthier habits.[9, 33, 34, 35]

Start Your Own Project

If you are interested in starting your own air monitoring study in your neighborhood, the RISE Communities program aims to empower communities to pursue change through fostering community-academic partnerships through research education, training, and team development. The program is funded by a NIEHS grant and is a partnership between the Cincinnati Children's Hospital Medical Center Division of Biostatistics and Epidemiology and the University of Cincinnati Department of Family and Community Medicine and is open to any team nationwide. This program provides technical training for participants with the application of low-cost PurpleAir sensors for indoor, outdoor, and personal air monitoring in **environmental justice communities**, helping establish a community of practice to build air quality monitoring networks in communities nationwide. Learn more at ejsensors.com.[36]

Get Involved in Local Projects

If you are interested in getting involved in local air quality studies, the Office of Environment and Sustainability regularly updates a list of Cincinnati area projects on the Office of Environment and Sustainability Website.[37]

Sign-Up for Air Quality Alerts

AirNow's EnviroFlash sends air quality information for your city to your email or mobile phone. Air quality forecasts and alerts allow you to adjust your plans when necessary on unhealthy air quality days. This can be especially helpful for people who are sensitive to air pollution, such as children, people with asthma, and the elderly. Sign up at enviroflash.info.[38]

Radon

Radon is a naturally occurring, radioactive gas that can seep through the foundation of your home and accumulate to dangerous levels. It is an indoor air pollutant that is not currently regulated. Nonetheless, it is the leading cause of lung cancer in the U.S. among non-smokers and the EPA recommends testing your home. See the US EPA's Citizen's Guide to Radon if you are concerned about this particular airborne pollutant.[9, 39]

Get a Healthy Homes Inspection

Have a Healthy Homes assessment done by a Cincinnati Health Department professional inspector at no cost to you. The assessment may identify potential health risk issues in your home by looking at what may contribute to poor health, may present safety hazards or may cause accidents. Visit the Cincinnati Health Department website for more information about the Health Homes Program.[40]

Air Quality Complaints

Are you concerned about air emissions? To report an odor, smoke, dust, or other air quality concerns: Call the Air Quality Hotline Line: 513-946-7777 or 1-800-889-0474 or southwestohioair.org/260/Complaints.

Where to Check AQI

Resources

Southwest Ohio Air Quality Agency

The local air quality outpost that monitors and regulates air emissions for Butler, Clermont, Clinton, Hamilton, and Warren counties.

The National Weather Service

Focuses on predicting air quality using atmospheric models to create air quality forecasts twice a day for pollutants like ozone and smoke and issue air quality alerts.

AirNow

The U.S. EPA current air quality information in a user-friendly format, including the AQI, a daily forecast air quality, and an interactive map.

The Weather Channel

Offers current weather forecasts alongside AQI for your location.

Air Data

The U.S. EPA access to raw and historical air quality data. A good resource for detailed air quality research or in-depth analysis. Subscribe to local alerts called EnviroFlash.

Weather Underground

Provides air quality data, weather forecasts for your area, along with details on specific pollutants, pollen counts, and air quality forecasts.

Cincy Air Watch

The City of Cincinnati's current air quality dashboard, including AQI, an interactive map, educational guide, and local climate equity projects.

PurpleAir

A community-based sensor network with a real time PM AQI map, downloadable data, and sensor sales for people who want to contribute to the monitoring network or track their own local air quality.

city of CINCINNATI HEALTH DEPARTMENT

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Grant Mussman, MD, MHSA
Health Commissioner

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www.cincinnati-oh.gov/health

Definitions:

A
Air Pollution: The presence of substances in the air that interfere with human health, or the environment.
Air Quality: The condition of the air in relation to human health and welfare.
Air Quality Index (AQI): A numerical scale used to communicate the level of air pollution to the public. It ranges from 0 to 500, with higher numbers indicating worse air quality.

B
Built Environment: The physical structures and spaces that make up a community.

C
Carbon Monoxide (CO): A colorless, odorless, and poisonous gas produced by burning fossil fuels.
Cincinnati Health Department (CHD): A city department responsible for public health.
Cincy Air Watch Project: A project to monitor air quality on a neighborhood level in Cincinnati.
Clean Air Act (CAA): A U.S. federal law that regulates air emissions from stationary and mobile sources.
Continuous Air Monitoring Stations (CAMS): Stations that continuously measure air quality.
Criteria Pollutants: Six common air pollutants regulated by the EPA: ozone, particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead. As outlined in the EPA's NAAQS through the CAA.

E
Environmental Justice Communities: Communities that are disproportionately affected by pollution and other environmental hazards.

G
Green Cincinnati Plan (GCP): Cincinnati's Plan to improve the city's sustainability.

I
Indoor Air Pollution: Air pollution within enclosed spaces.

L
Lead (Pb): A heavy metal that can be harmful to human health and the environment.

M
Mechanical Ventilation: The process of replacing indoor air with outdoor air using mechanical equipment.

N
National Ambient Air Quality Standards (NAAQS): The maximum allowable levels for the six criteria pollutants set by the EPA; ozone, particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead.
Natural Ventilation: The process of replacing indoor air with outdoor air through natural openings.
Nitrogen Dioxide (NO_2): A reddish-brown gas formed from burning fossil fuels.
Nitrogen Oxides (NO_x): A group of gases that includes nitric oxide (NO) and nitrogen dioxide (NO_2).

O
Office of Environment and Sustainability (OES): A city department responsible for environmental protection and sustainability.
Outdoor Air Pollution (ambient): Air pollution outside of buildings.
Ozone (O_3): A colorless gas formed by chemical reactions between pollutants in the presence of sunlight.

P
Particulate Matter 10 (PM_{10}): Inhalable particles, with diameters that are generally 10 micrometers and smaller.
Particulate Matter 2.5 ($PM_{2.5}$): Fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.
Primary Pollutant: The pollutant of highest AQI over a set timeframe.
Pollutant of Investigation: A pollutant that is being studied for its potential impact on human health or the environment.
Priority Neighborhoods: Neighborhoods of concern based on the research problem, in this case asthma and air quality.

S
Solid Particle Pollution: A mixture of solid particles and liquid droplets suspended in the air.
Source Control: Reducing pollution at the point of emission.
Southwest Ohio Air Quality Agency (SWOAQA): A division of Hamilton County Environmental Services, is the local regulatory body for air pollution and monitoring.
Sulfur Dioxide (SO_2): A colorless gas with a strong, irritating odor produced by burning fossil fuels that contain sulfur.

U
U.S. Environmental Protection Agency (EPA): A U.S. government agency responsible for protecting human health and the environment that set federal standards for air quality.

V
Volatile Organic Compounds (VOCs): Organic compounds that easily evaporate into the air and contribute to ozone.

W
World Health Organization (WHO): A United Nations agency responsible for international public health.

This report is intended to provide more information about Air Quality and is not intended to be individual medical advice. If you have questions specific to your situation, contact your healthcare provider.

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References:

1) U.S. Department of Health and Human Services. (2023, December 13). Air Pollution and Your Health. National Institute of Environmental Health Sciences. niehs.nih.gov/health/topics/agents/air-pollution
2) World Health Organization. (2022, December 19). Ambient (outdoor) Air Pollution. World Health Organization. who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health
3) Southwest Ohio Air Quality Agency. (n.d.). History. History | Hamilton County Environmental Services, OH. southwestohioair.org/281/History#:~:text=The%20Ohio%20EPA%20established%20a,be%20used%20among%20the%20nation.
4) Southwest Ohio Air Quality Agency. (2006). The History of Air Pollution Control in Cincinnati, Ohio. southwestohioair.org/DocumentCenter/View/293/The-History-of-Air-Pollution-Control-in-Cincinnati-PDF?bidId= .
5) AirNow.gov, U.S. EPA. (n.d.). Using Air Quality index. Using Air Quality Index | AirNow.gov. airnow.gov/aqi/aqi-basics/using-air-quality-index/
6) AirNow.gov, U.S. EPA. (n.d.). AQI Basics. AQI Basics | AirNow.gov. airnow.gov/aqi/aqi-basics/
7) U.S. Environmental Protection Agency. (2023). Reviewing National Ambient Air Quality Standards (NAAQS): Scientific and Technical Information. epa.gov/naaqs
8) US Environmental Protection Agency (2023). Our Nation's Air 2023. Retrieved from epa.gov/reports-maps/our-nations-air
9) Polidori, A., Papapostolou, V., Collier-Oxandale, A., Hafner, H., & Blakey, T. (2021, April). Community in Action A Comprehensive Guidebook on Air Quality Sensors. STAR Grant. gov/docs/default-source/aq-spec/star-grant/community-in-action-a-comprehensive-guidebook-on-air-quality-sensors.pdf?sfvrsn=10
10) National Institute for Occupational Safety and Health [NIOSH] (n.d.). Carbon Monoxide [CO]. Centers for Disease Control and Prevention. Retrieved May 2024. from https://www.cdc.gov/niosh/topics/co-comp/default.html
11) California Air Resources Board. (n.d.). Lead Risk Management Guidelines. ww2.arb.ca.gov/resources/documents/lead-risk-management-guidelines
12) Hoek, G., Krishnan, R. M., Beelen, R., Peters, A., Ostro, B., Brunekreef, B., & Kaufman, J. D. (2013). Long-term air pollution exposure and cardio-respiratory mortality: a review. Environmental health : a global access science source, 12(1), 43. ncbi.nlm.nih.gov/pmc/articles/PMC3679821/
13) Bourdrel, T., Bind, M. A., Béjot, Y., Morel, O., & Argacha, J. F. (2017). Cardiovascular effects of air pollution. Archives of cardiovascular diseases, 110 (11), 634–642. ncbi.nlm.nih.gov/pmc/articles/PMC5963518/
14) Tiotiu, A. I., Novakova, P., Nedeva, D., Chong-Neto, H. J., Novakova, S., Steiropoulos, P., & Kowal, K. (2020). Impact of Air Pollution on Asthma Outcomes. International journal of environmental research and public health, 17(17), 6212. ncbi.nlm.nih.gov/pmc/articles/PMC7503605/
15) Breysse, P. N., Diette, G. B., Matsui, E. C., Butz, A. M., Hansel, N. N., & McCormack, M. C. (2010). Indoor air pollution and asthma in children. Proceedings of the American Thoracic Society, 7(2), 102–106. ncbi.nlm.nih.gov/pmc/articles/PMC3266016/
16) Tran, V. V., Park, D., & Lee, Y. C. (2020). Indoor Air Pollution, Related Human Diseases, and Recent Trends in the Control and Improvement of Indoor Air Quality. International journal of environmental research and public health, 17(8), 2927. ncbi.nlm.nih.gov/pmc/articles/PMC7215772/
17) United States Environmental Protection Agency. (2023, June 22). The Inside Story: A Guide to Indoor Air Quality. Indoor Air Quality (IAQ). epa.gov/indoor-air-quality-iaq/inside-story-guide-indoor-air-quality
18) IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Outdoor air pollution. Lyon (FR): International Agency for Research on Cancer; 2016. (IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 109.) 1.2, Sources of air pollutants. Available from: www.ncbi.nlm.nih.gov/books/NBK368029/
19) National Cancer Institute (NCI). (n.d.). Outdoor air pollution from traffic, industrial, and agricultural sources. [Website]. cancer.gov. [Accessed April 10, 2024].
20) Telloian, C. (2022, March 9). How to Improve Air Quality at Home: 8 Tips to Try. Healthline. healthline.com/health/how-to-improve-air-quality-at-home
21) National Park Service. (n.d.). Air Pollution Removal by Urban Forests. nps.gov/articles/000/uerla-trees-air-pollution.htm
22) U.S. Environmental Protection Agency (EPA). (n.d.). Air Quality Guide for Particle Pollution. Retrieved from AirNow - Air Quality Index (AQI) - US document.airnow.gov/air-quality-guide-for-particle-pollutioni.pdf
23) AirNow.gov, U.S. EPA. (2020). Technical Assistance Document for the Reporting of Daily Air Quality– the Air Quality Index (AQI) aqi-technical-assistance-document-sept2018.pdf (airnow.gov)
24) U.S. Food and Drug Administration (FDA). (n.d.). N95 Respirators, Surgical Masks, Face Masks, and Barrier Face Coverings. gov/medical-devices/personal-protective-equipment-infection-control/n95-respirators-surgical-masks-face-masks-and-barrier-face-coverings
25) Coway Mega. (n.d.). Air Quality Index. Retrieved April 2024. from cowaymega.com/blogs/blog/air-quality-index
26) Detroit Publishing Co, P. View from Mount Adams, Cincinnati, Ohio. United States Ohio Cincinnati, None. [Between 1900 and 1910] [Photograph] Retrieved from the Library of Congress, loc.gov/item/2016810630/
27) Indiana Department of Environmental Management, A typical continuous air monitoring station (CAMs) United States Indiana, None. [2016] [[Photograph] Retrieved from Indiana Department of Environmental Management
28) Edward F. Jerome, Smoke Abatement League, Proceedings, Annual Report, Smoke Abatement League of Cincinnati and Hamilton County, Ohio, December 1911.
29) City of Cincinnati (2023). Green Cincinnati Plan. cincinnati-oh.gov/oes/climate/green-cincinnati-plan-2023-spreads/
30) Air Quality Report (2022). In EPA.gov. Retrieved March 2024. from epa.gov/outdoor-air-quality-data
31) Even, T.L., Trott C.D., Gray, E.S., Roncker, J., Basaraba, A., Harrison, T., Petersen, S. Sullivan, S., & Revis, S. (2021). *Climate Equity Indictors Report– 2021, City of Cincinnati.* The American Cities Climate Challenge Equity Capacity Building Fund, Bloomberg Foundation.
32) CincyInsights. (2024). *The City of Cincinnati's official visual open data portal*. Cincy Air Watch. from CincyInsights
33) PurpleAir Flex Air Quality Monitor. PurpleAir, Inc. (2024). Retrieved April 2024 from purpleair.com/products/purpleair-flex
34) PurpleAir Monitoring Map. PurpleAir, Inc. (2024). Retrieved March 2024 from map.purpleair.com/
35) Wallace L. Intercomparison of PurpleAir Sensor Performance over Three Years Indoors and Outdoors at a Home: Bias, Precision, and Limit of Detection Using an Improved Algorithm for Calculating $PM_{2.5}$. Sensors (Basel). 2022 Apr 2;22(7):2755. doi: 10.3390/s22072755. PMID: 35408369; PMCID: PMC9002513.
36) RISE communities (2023). In ejsensors.com Retrieved April 2024. from ejsensors.com
37.) City of Cincinnati (2024). Office of Environment and Sustainability cincinnati-oh.gov/oes/natural-environment/air-quality
38.) Environmental Protection Agency (EPA). (2024). *EnviroFlash mobile app*. EnviroFlash.info
39.) Environmental Protection Agency (EPA). (May 2012). A Citizen's Guide to Radon epa.gov/sites/default/files/2016-02/documents/2012_a_citizens_guide_to_radon.pdf
40.) City of Cincinnati (2024). Cincinnati Health Department cincinnati-oh.gov/health/chd-programs/environmental-health/healthy-homes

This report is intended to provide more information about Air Quality and is not intended to be individual medical advice. If you have questions specific to your situation, contact your healthcare provider.

Cincy Air Watch Dashboard

The Cincy Air Watch Dashboard is designed to inform and educate the public about air quality. It will be accessible on the OES website and linked to CincyInsights. This interactive tool will provide real-time $PM_{2.5}$ air quality data at a neighborhood level, empowering residents to check conditions in their area.

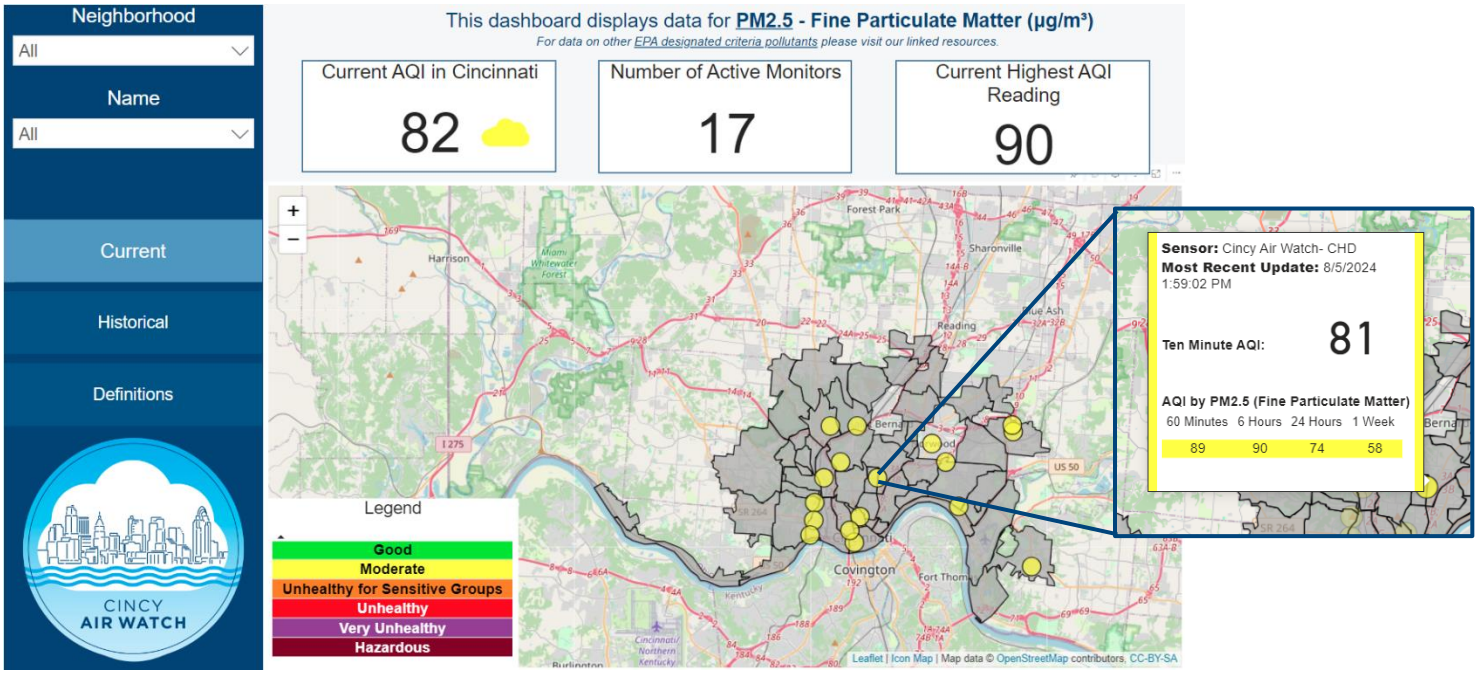
All data from publicly available Purple Air monitors is pulled through to the Cincy Air Watch Dashboard. Residents can contribute to the dashboard by hosting their own air quality sensors. This information will create a more comprehensive understanding of local air quality in Cincinnati.

Please note: Only data from verified projects will be used in research studies. These studies will help us better understand the impact of air quality on our community.

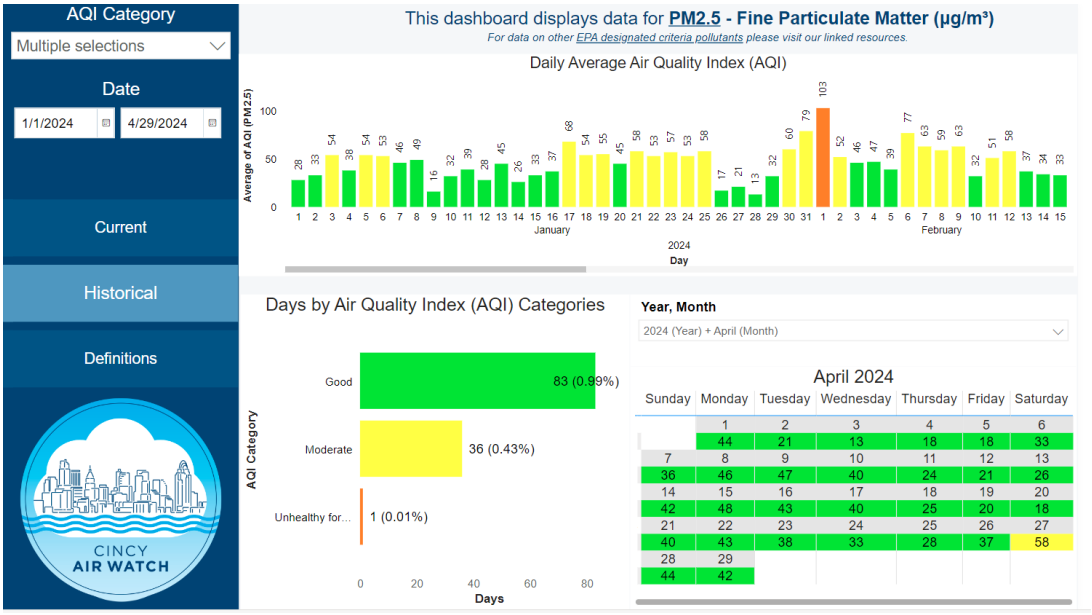
This dashboard will also be linked to the Air Quality Epidemiological Educational Brief on the Health Department webpage and the Cincy Air Watch Program page on the OES website.

Cincy Air Watch Dashboard - Current

The Cincy Air Watch dashboard's "Current" page consists of real-time $PM_{2.5}$ data in Cincinnati. This data is shown by each monitor's location. When you scroll over a specific monitor a tool tip appears giving more information.



Cincy Air Watch Dashboard - Historical



The Cincy Air Watch dashboard's second page consists of historical $PM_{2.5}$ data in Cincinnati going back to January 1st, 2000. This data is aggregated daily as a city average and are filtered by AQI category and date ranges in the lefthand corner.

Example Signs

These signs have been shared with air monitoring site partners to help spread awareness about the Cincy Air Watch project and guide members of the public and community partners to resources and education links.

Appendix A: Cincy Air Watch - Project Overview

The Project Overview document is intended for internal city staff and external stakeholders. It provides a concise, high-level summary of the project to equip city representatives with essential information for effective communication with media and community partners.

For stakeholders, this document offers a foundational understanding of the project's goals, rationale, and potential impacts. It also includes technical details relevant to project logistics and planning.

Most information presented in this document can be found throughout this project packet but has been summarized here to be shared efficiently or kept on hand.

Please note: This document is a starting point for discussion and exploration. It does not constitute a comprehensive project management plan and should not be considered a substitute for more detailed project information.

Cincy Air Watch- Project Overview

Community Air Quality Monitoring with PurpleAir Sensors

The Green Cincinnati Plan

The city of Cincinnati's mission is to create the highest quality of life for its 309,317 residents.[1] The city's primary focus is to address community concerns using data and feedback from community members, with a strong emphasis on equity, inclusion, and people-centered planning.[2]

The Green Cincinnati Plan (GCP) has been the city's sustainability plan since 2008. Updated every five years (2013, 2018, and now 2023), the GCP has helped Cincinnati earn a reputation as an international leader in climate action. Since 2008, the actions outlined in the GCP have helped deliver a 36.6% reduction in the city's carbon emissions. The 2023 GCP is organized into eight focus areas that articulate the city's visions, goals, strategies, and actions in response to the climate crisis: Buildings and Energy, City Operations, Community Activation, Food, Mobility, Natural Environment, Resilience and Climate Adaptation, Zero Waste.[3]

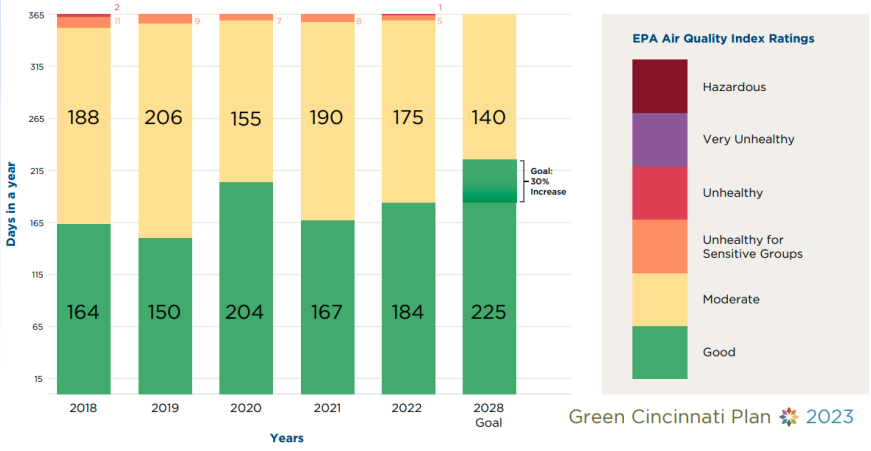
Cincinnati City Council adopted the 2023 GCP by unanimous vote on Wednesday, April 19, 2023, committing to taking action to address climate change in Cincinnati.[2]

Rationale

In support of the 2023 Green Cincinnati Plan strategy to *"Increase air quality studies, education, and reduce pollution from air emissions,"* the City of Cincinnati Office of Environment and Sustainability (OES) in partnership with the Cincinnati Health Department (CHD) launched the Cincy Air Watch Project.[3]

Many Cincinnati residents experience poor outdoor air quality which contributes to adverse health conditions, including asthma and lung disease. In 2022, the U.S. Environmental Protection Agency (EPA) registered 181 days with "moderate," "unhealthy for sensitive groups," or "unhealthy," air quality index ratings in Cincinnati.[4] Ozone and Particulate Matter (PM) 2.5 contribute significantly to these low ratings. Other factors include vehicle emissions and industrial emissions. High air temperatures and ultraviolet radiation further exacerbate poor air quality. The 2023 GCP identified a goal of *improving air quality so that Air Quality Index healthy days are increased by 30% by 2028*.[4]

Air Quality Index Days Per Year in Cincinnati



The GCP outlines four priority actions in regard to air quality:[3]

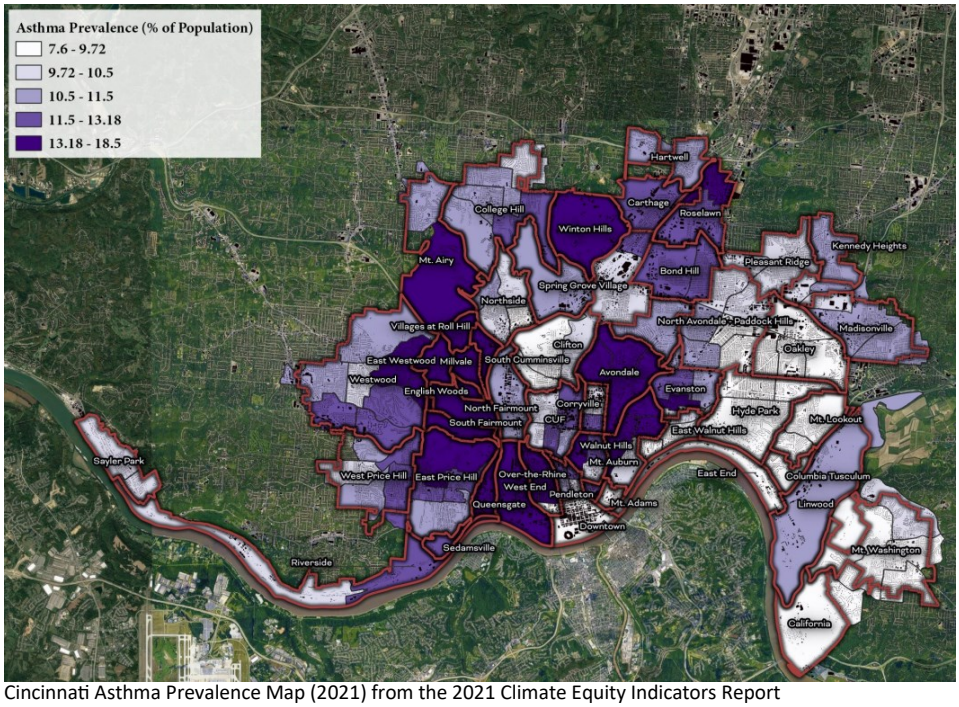
(1) Expand monitoring of air quality and nuisance odors incorporating citizen science in priority neighborhoods.
(2) Provide services, resources, and education for residents in priority neighborhoods on air quality alert system, sources of poor air quality, and air quality regulations.
(3) Support and fund the development of natural corridors and tree barriers along streams and rivers, interstates and highways.
(4) Strengthen emissions regulations.

Cincy Air Watch plans to focus initially on the first two actions in hopes of better informing the second two actions in later phases.

Background

Priority Neighborhoods

The 2021 Climate Equity Indicators Report, a study by the City of Cincinnati, UC, and Green Umbrella identified the top neighborhoods with relatively higher asthma rates than other neighborhoods as priority neighborhoods.



These neighborhoods are:

- ◊ Millvale
- ◊ South Cumminsville
- ◊ Lower Price Hill
- ◊ Queensgate
- ◊ Riverside East
- ◊ Sedamsville
- ◊ Villages at Roll Hill
- ◊ South Fairmont
- ◊ North Fairmont
- ◊ English Woods
- ◊ West End
- ◊ Winton Hills
- ◊ Avondale

Many of these communities are in proximity to highways and industrial development, which are expected to be primary sources of health concern. [5]

Cincinnati Asthma Prevalence Map (2021) from the 2021 Climate Equity Indicators Report

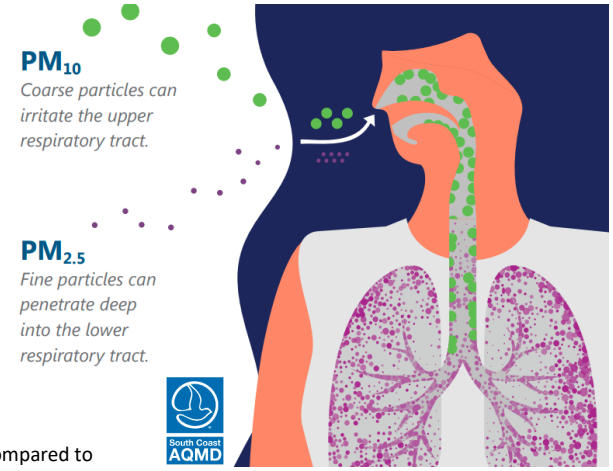
Cincinnati neighborhoods with high rates of asthma often overlap with areas of low tree canopy cover and urban heat islands* according to the 2021 Climate Equity Indicators Report. Data from this project will help inform the relationship between local air quality and Cincinnati health outcomes such as asthma, as well as the relationship between local air quality and our built environment**. [5]

Particulate Matter

Poor air quality is proven to negatively impact our health and environment. [3,4,5] The term air quality relates to the amount of pollution or tiny pieces suspended in the air. The five most commonly studied types of air pollution are carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and solid particle pollution called particulate matter (PM).[6]

- ◊ Particles less than 10 microns or micrometers (µm) in diameter, PM_{10} (coarse particles).
- ◊ Particles less than 2.5 microns or micrometers (µm) in diameter, $PM_{2.5}$ (fine particles).

Particle size is directly related to potential to cause adverse respiratory problems. Larger particles impact the upper respiratory tract and can sometimes be dislodged by coughing, yet smaller particles can enter lower into the lungs, respiratory tract, and bloodstream becoming more dangerous and harder to expel from the body. PM is known to cause aggravated asthma, decreased lung function, increase respiratory symptoms such as irritated airways, coughing, or difficulty breathing. It is also linked to nonfatal heart attacks, irregular heartbeat, and premature death in individuals with heart or lung disease.[6] The Cincy Air Watch Project has chosen to monitor $PM_{2.5}$ because of its known link to adverse health effects.



*Urban heat islands refer to urbanized areas that experience higher temperatures when compared to outlying areas due to the density of structures such as buildings, roads, and other infrastructure absorbing and re-emitting the sun's heat more than the natural landscape.

** The built environment refers to a person's physical surroundings in which people live, work, and play including elements such as buildings, roads and bridges, public spaces, landscapes, utilities and services, and urban planning.

city of CINCINNATI

Project Overview

Cincy Air Watch aims to utilize PurpleAir monitors to measure and communicate real-time outdoor air quality data for particulate matter ($PM_{2.5}$) in priority neighborhoods. These small air quality monitors can be easily installed and upload the air quality data in real-time to a publicly available map on the PurpleAir website.

In the first year of this project, OES and CHD will install 24 monitors in priority neighborhoods, with a focus on areas where there is expected to be high levels of pollution, such as in proximity to industrial sites and high traffic roadways. Populations living in these areas are often referred to as environmental justice (EJ) communities, as they experience disproportionately higher rates of health outcomes, often as a result of environmental stressors.[7]

This project will add to the current network of PurpleAir monitors in the city that have already been installed by community groups and individuals. This project meets the GCP priority recommendations to:

◊ Expand monitoring of air quality and nuisance odors, incorporating citizen science in priority neighborhoods.

◊ Provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor air quality, and air quality regulations.

Cincy Air watch plans to provide services, resources, and education for residents in priority neighborhoods on air quality alert systems, sources of poor air quality, and air quality regulations though a mix of educational materials and resources. These services and resources include:

Phase 1	Phase 2	Phase 3	Future - Phase 4
Deploy 	**Educate** 	**Analyze** 	**Action** 
Install monitors: • Deploy 24 monitors ▪ Where: in high priority neighborhoods ▪ Why: those neighborhoods are expected high to have levels of pollution that can affect health. • Adds to current network of PurpleAir monitors. ◦ Community groups ◦ Non-profits ◦ Citizen scientists (individuals)	Educate and provide resources: • Live and interactive dashboard using PowerBI. ◦ What does air quality in Cincinnati look like right now. • Educational Air Quality Brief covering: ◦ Air quality alert systems ◦ Sources that contribute to poor air quality ◦ How poor air quality effects your health and how to take action to protect yourself. • Add signage to key monitor locations to help inform community members of the project.	Utilize air quality data to: • Evaluate and compare differences in air quality around Cincinnati. ◦ Hypothesis: ▪ Is poor air quality correlated with known heat islands? ▪ Is poor air quality correlated with neighborhoods with low tree canopy? • Work with Cincinnati Childrens Hospital Medical Center (CCHMC) to develop modeling on issues such as asthma hospitalizations. • Evaluate neighborhood asthma and cardiovasular rates for trends.	This is a future step not yet outlined since it will be informed by data analyzed in the previous step. The data will hopefully help inform further projects outlined in the GCP such as supporting the devlopment of natural corridors and tree barriers along streams and rivers, interstates and highways and ultimately help stregthen local emmissions regulations.

1.) At strategic monitoring sites, we plan to display signs with QR codes that navigate to the Cincy Air Watch dashboard to engage the community with the data at monitoring sites and bring awareness to the project.

2.) Build an Air Quality Dashboard that integrates data from all publicly available PurpleAir monitors in Cincinnati through the use of an API data call for visualization and analysis.

3.) Educational materials such as an Educational Brief about air quality to describe what the data means, background on air quality, local history, how it affects your health, how to take steps to improve air quality, and how to get involved.

Monitor Selection

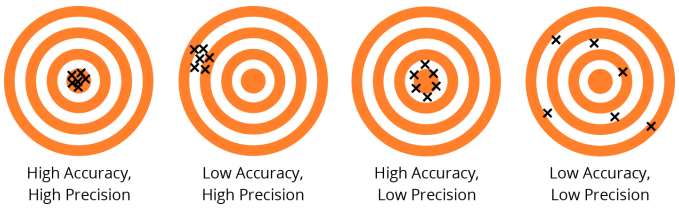
PurpleAir Flex

This project is utilizing the PurpleAir Flex Air Quality Monitor selected based on its cost-effective price point, accuracy and precision, ease of install, existing network use by citizen scientists, connectivity to Wi-Fi, transparency of data, lifespan, and ability to measure $PM_{2.5}$ concentrations.

The Purple Air Flex costs $289.00 and is 3.5 x 3.5 x 5 inches (85 x 85 x125 mm), weighing approximately 12.6 ounces. The monitor has an expected life span of 3 years. The monitors will be installed outdoors and are rated for temperatures and weather from -40°F to 185°F. It can receive power from an outdoor rated (IP68) outlet through a 5V USB-3A (15W) to Type A (USA) plug running at 50/60Hz of input and costs $40.00 if purchased through the PurpleAir. The monitors can be easily installed using zip ties from the monitor's bracket or screwed into a stationary surface.[8]

Accuracy and Precision

A sensor needs to provide reliable data that is both accurate and precise. Accuracy is the overall agreement that the measurements of the sensors are true to the concentration of pollution in the air and precision is how well a sensor reproduces a measurement under identical circumstances.[6]



Accuracy of a sensor is assessed by linear regression. This is done by plotting the readings of the senser against reference data, such as an EPA standardized monitor experiencing the same weather, atmospheric, and air pollution conditions; this is called collocation. Using the equation y = mx + b, and a coefficient of determination, R^2 we can test to see if data follows a trend of accurate readings against a known accurate set of data. R^2 is a statistical measure of how close the data is to the slope-intercept line or how much scatter is in the data. The closer R^2 is to 1 the better the agreement between the sensor and the reference data. In a intercomparison of PurpleAir Sensor Performance, PurpleAir monitors were tested with an average R^2 of 0.977. Precision is quantified by standard deviation. Standard deviation describes how much the data is spread out. A low standard deviation indicates that values are close to the average of a set of data.[6, 9]

How the Sensors Work

PurpleAir Flex sensor periodically measures the amount of $PM_{2.5}$ in the air by drawing in a fresh sample of air using a small fan past a laser beam that reflects light from the particulate matter onto a detection plate to determine the size and amount of particles. The sensor cannot determine the composition of the particles (mold, dust, chemical compound etc.). It then reports the data to the PurpleAir map over Wi-Fi or is stored on an internal secure digital (SD) chip.[8]

Data

PurpleAir Monitors report data directly to the PurpleAir map over Wi-Fi or store data on an internal secure digital (SD) chip. Monitors on Wi-Fi can be publicly or privately connected. Publicly connected monitors such as those used in this project send data directly to the PurpleAir map, which acts as a data repository and server. Data can be called through the use of an application programming interface (API), which is a programming connection that allows two pieces of software to communicate with one another. In this case, the PurpleAir map and excel. This allows our team to pull only the data from all publicly available monitors in our jurisdiction and pull data from new monitors that appear as citizen scientists install them. We can then connect this data to data visualization software, like PowerBi, to make the data easily analyzed and more digestible and interactive on the city website.

Collaboration

The city of Cincinnati participated in the RISE Communities program. The program is funded by a NIEHS grant and is a partnership between the Cincinnati Children's Hospital Medical Center Division of Biostatistics and Epidemiology and the University of Cincinnati Department of Family and Community Medicine.[7]

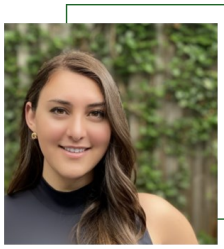
The goal of the RISE Communities program is to empower communities to pursue change through fostering community-academic partnerships through research education, training, and team development.

This program provides training for participants with technical training in the application of low-cost PurpleAir sensors for indoor and outdoor, and personal air monitoring in environmental justice communities. Helping establish a community of practice to build air quality monitoring networks in communities nationwide.[7]

Green Cincinnati Plan 2023

Green Cincinnati
BUILDING A SUSTAINABLE AND EQUITABLE CITY

Project Managers



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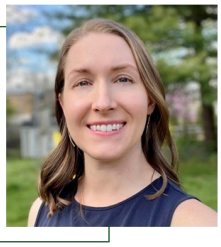

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References:

1.) City of Cincinnati (2020). Citywide Census. cincinnati-oh.gov/sites/planning/assets/2020%20CENSUS/Citywide_2020.pdf

2.) City of Cincinnati (2023). How the Green Cincinnati Plan was Created. cincinnati-oh.gov/oes/green-cincinnati-plan/individual-gcp-chapters-printable-versions/how-was-the-greencincinnatiplanco-created/

3.) City of Cincinnati (2023). Green Cincinnati Plan. cincinnati-oh.gov/oes/climate/climate-protection-green-cincinnati-plan/green-cincinnati-plan-2023-spreads/

4.) Air Quality Report (2022). In EPA.gov. Retrieved March 2024. from epa.gov/outdoor-air-quality-data

5.) Even, T.L., Trott C.D., Gray, E.S., Roncker, J., Basaraba, A., Harrison, T., Petersen, S. Sullivan, S., & Revis, S. (2021). *Climate Equity Indictors Report– 2021, City of Cincinnati.* The American Cities Climate Challenge Equity Capacity Building Fund, Bloomberg Foundation.

6.) Polidori A., Papapstolou V., Collier-Oxandale A. Hafner H., and Blakey T. (2021) Community in Action: A Comprehensive Guidebook on Air Quality Sensors. April Available on the South Coast AQMD'S AQ-SPEC website: aqmd.gov/aq-spec/special-projects/star-grant

7.) RISE communities (2023). In ejsensors.com Retrieved April 2024. from ejsensors.com

8.) PurpleAir Flex Air Quality Monitor (2024). Retrieved March 2024. from www2.purpleair.com/products

9.) Wallace L. Intercomparison of PurpleAir Sensor Performance over Three Years Indoors and Outdoors at a Home: Bias, Precision, and Limit of Detection Using an Improved Algorithm for Calculating $PM_{2.5}$. Sensors (Basel). 2022 Apr 2;22(7):2755. doi: 10.3390/s22072755. PMID: 35408369; PMCID: PMC9002513.

Appendix B: Round 2 Neighborhood Needs Rankings

Neighborhood (N=51)	Needs Ranking	ŷ	Round 1
Over-the -Rhine	1	0.28920	No
Pendleton	2	0.30534	No
West End	3	0.30909	No
Lower Price Hill	4	0.36039	No
Mount Adams	5	0.38279	No
Downtown	6	0.38770	No
East End	7	0.40096	No
Riverside	8	0.40643	No
Mount Washington	9	0.43202	No
Roselawn	10	0.44509	No
Mount Auburn	11	0.45002	No
Bond Hill	12	0.45233	No
South Cumminsville	13	0.46860	No
East Walnut Hills	14	0.50576	No
Carthage	15	0.52314	No
Pleasant Ridge	16	0.53137	No
Hyde Park	17	0.53819	No
South Fairmount	18	0.55616	No
Columbia Tusculum	19	0.57026	No
Northside	20	0.59649	No
Winton Hills	21	0.60115	No
English Woods	22	0.61596	No
Villages at Roll Hill	23	0.62731	No
Clifton	24	0.66393	No
North Avondale - Paddock Hills	25	0.66992	No
North Fairmount	26	0.67888	No
East Westwood	27	0.68377	No
Mount Airy	28	0.70268	No

Neighborhood (N=51)	Needs Ranking	ŷ	Round 1
Queensgate		0.30296	Yes
Sayler Park		0.33139	Yes
Linwood		0.35410	Yes
Corryville		0.35789	Yes
Camp Washington		0.40836	Yes
Oakley		0.42144	Yes
California		0.42286	Yes
Walnut Hills		0.42904	Yes
West Price Hill		0.43037	Yes
Evanston		0.44270	Yes
CUF		0.47982	Yes
Avondale		0.49677	Yes
Madisonville		0.51512	Yes
Westwood		0.52483	Yes
Hartwell		0.53670	Yes
East Price Hill		0.54286	Yes
Sedamsville		0.55450	Yes
Kennedy Heights		0.55479	Yes
Mount Lookout		0.58399	Yes
Millvale		0.63291	Yes
College Hill		0.63543	Yes
Spring Grove		0.63621	Yes

$$\hat{y}=-7.396-0.317x_1+0.806x_2+0.507x_3-0.038x_4$$

References

(1) RISE communities (2023). In ejsensors.com Retrieved April 2024. from ejsensors.com

(2) Research Horizons (2024, January 24). *A Deeper Commitment to Health Justice and Eliminating Health Inequities.* Cincinnati Children's Hospital Medical Center. Retrieved August 2024. From scienceblog.cincinnatichildrens.org/a-deeper-commitment-to-health-justice-and-eliminating-health-inequities/

(3) University of Cincinnati College of Design, Architecture, Art and Planning. (2024). In CARES Retrieved August 2024. From epiccolab.org/CARES.

(4) City of Cincinnati (2020). Citywide Census. From cincinnati-oh.gov/sites/planning/assets/2020%20CENSUS/Citywide_2020.pdf

(5) City of Cincinnati (2023). How the Green Cincinnati Plan was Created. From cincinnati-oh.gov/oes/green-cincinnati-plan/individual-gcp-chapters-printable-versions/how-was-the-greencincinnatiplanco-created/

(6) City of Cincinnati (2023). Green Cincinnati Plan. From cincinnati-oh.gov/oes/climate/climate-protection-green-cincinnati-plan/green-cincinnati-plan-2023-spreads/

(7) Air Quality Report (2022). In EPA.gov. Retrieved March 2024. From epa.gov/outdoor-air-quality-data

(8) Polidori A., Papapstolou V., Collier-Oxandale A. Hafner H., and Blakey T. (2021) Community in Action: A Comprehensive Guidebook on Air Quality Sensors. April Available on the South Coast AQMD'S AQ-SPEC website: aqmd.gov/aq-spec/special-projects/star-grant

(9) Even, T.L., Trott C.D., Gray, E.S., Roncker, J., Basaraba, A., Harrison, T., Petersen, S. Sullivan, S., & Revis, S. (2021). *Climate Equity Indictors Report– 2021, City of Cincinnati.* The American Cities Climate Challenge Equity Capacity Building Fund, Bloomberg Foundation.

(10) Purple Air Map (2024). Retrieved August 2024. From map.purpleair.com/1/i/ls/mAQI/a0/p0/cC0

(11) PurpleAir Flex Air Quality Monitor (2024). Retrieved March 2024. from www2.purpleair.com/products