



Indoor Air Monitoring for Pathogens at XYZ CHICAGO

December 2024/January 2025 Report

Cover photo courtesy of:
National Institute of Allergy and Infectious Diseases

Lab-Based Surveillance Program
Published February 20, 2025



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XVZ

- This report reflects data collected from **MMWR week 40 (ending Saturday, October 10, 2024)** through **MMWR week 5 (ending Saturday, February 1, 2025)**.
- Since air monitoring started on November 10, 2022, **a total of 1130 air samples** have been collected and analyzed from 17 partnering sites in Chicago.

Citywide Summary:

- Influenza A and COVID-19 continue to circulate widely in air samples throughout the city, though the past few weeks do show some decline Influenza A – consistent with clinical data.
- Proportion of air samplers with RSV detections have begun to decline relative to the peak of the season at the end of 2024, but percent positivity is still hovering around 50% of samplers.
- Ct values for Influenza A and RSV are following similar trends to citywide percent positivity.

ABOUT THE DATA

Positivity Charts (p.4 and individual pathogen pages): These charts represent overall positivity for each pathogen during a given MMWR Week. Positivity represents the total number of positive samples over the total number of samples collected for that week.

CT Value Trend Lines (p.5 and individual pathogen pages): These line graphs display the average CT values for each pathogen over the last 16 weeks. CT values indicate the number of cycles needed to replicate sufficient DNA to detect the pathogen being tested. As such, higher CT values represent more cycles, indicating that a smaller amount of genetic material for that pathogen was present in the sample. Inversely, lower CT values indicate that more genetic material for the pathogen was present. The y-axis for these charts are inverted, from high to low CT values – which actually represents lower to higher amounts of genetic material for each pathogen. The average each week is calculated by summing the CT values for all positive tests and the limit of detection value for negative tests (which is variable by pathogen) and then dividing by the total number of tests.

Sequencing Tables (p.7, COVID-19 only): These tables show the distribution of COVID-19 variants pooled across all air monitoring samples for each week (Merged Air Samples) and from all clinical samples for each week (Merged Clinical Samples). More information on COVID-19 sequencing can be found here: [CDC – Variants and Genomic Surveillance](#).

All data presented here should only be used together with other data sources for decision-making.

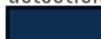
CDPH continues to refine and improve the laboratory methods and analytic workflow to provide more comprehensive results from air monitoring information to our partners.

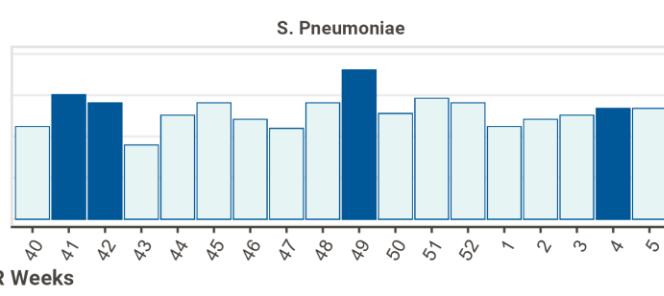
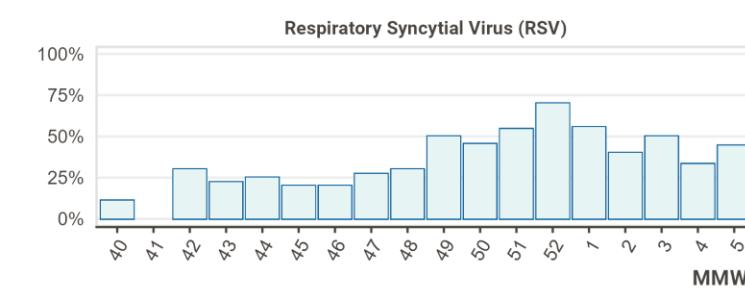
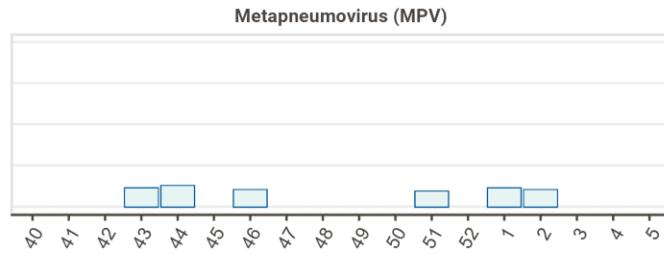
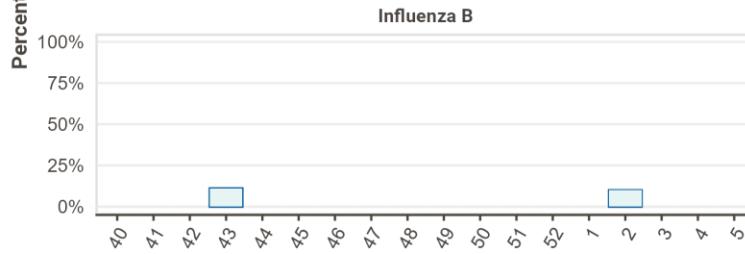
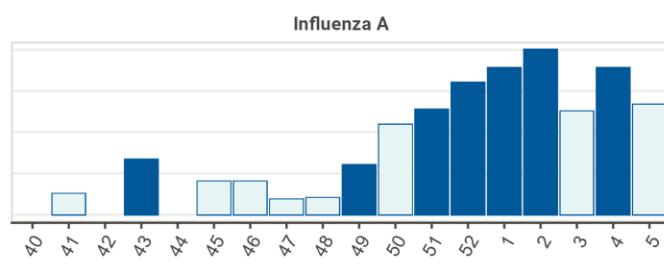
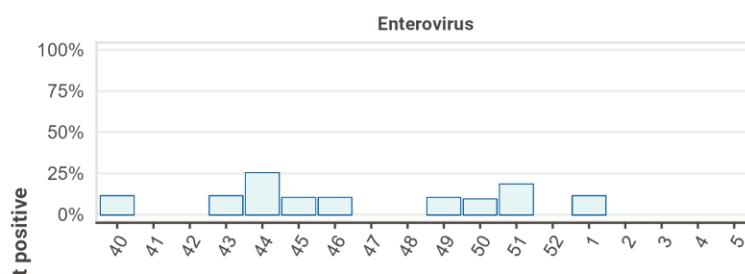
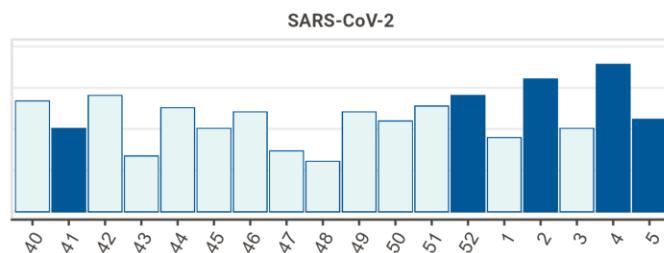
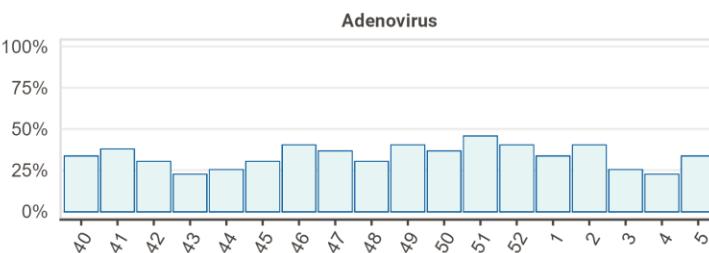
CITY-WIDE SUMMARY: POSITIVITY RATE

The charts below are a summary of city-wide positivity rate (detection/non-detection) for the last 16 weeks by pathogen tested. An absence of a bar within the last 16 weeks indicates no sites tested positive for that pathogen.

YOUR FACILITY RESULTS

- Positive
- Negative
- No cartridge submitted

City-wide percent positive detection by pathogen,
plus detect/non-detect at 



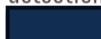
MMWR Weeks

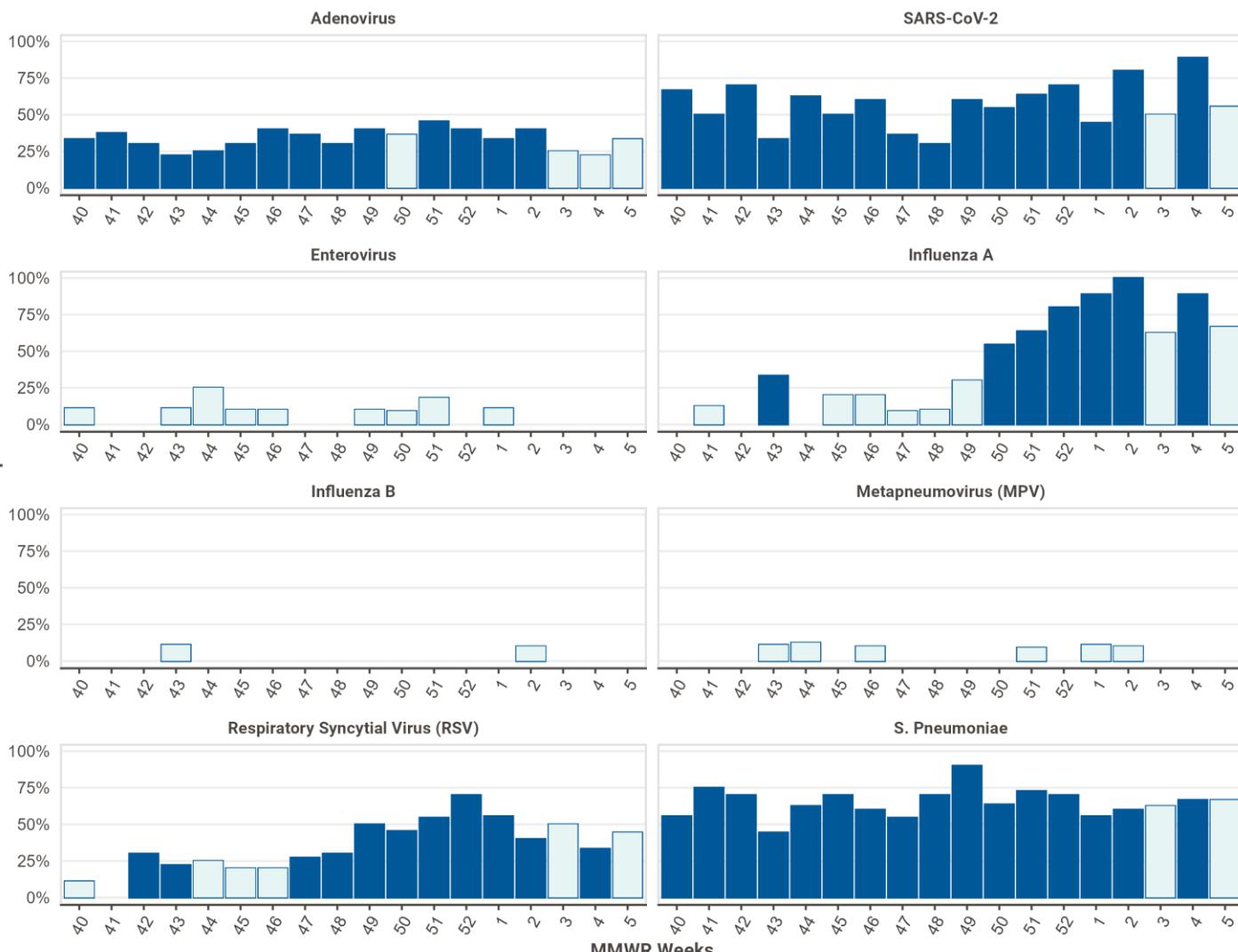
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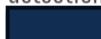
City-wide percent positive detection by pathogen,
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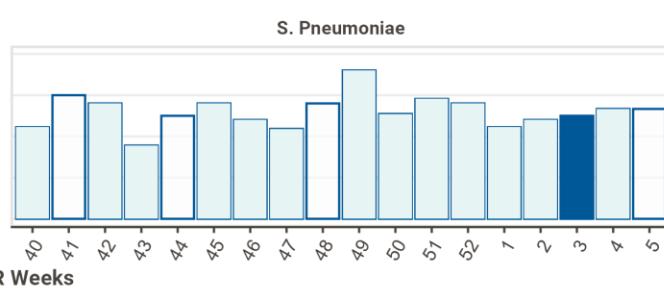
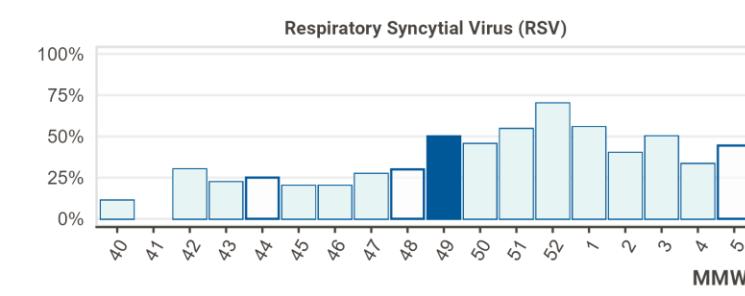
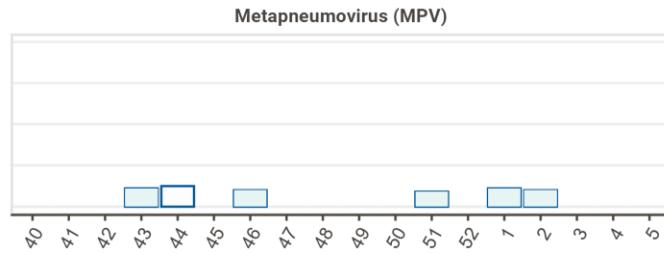
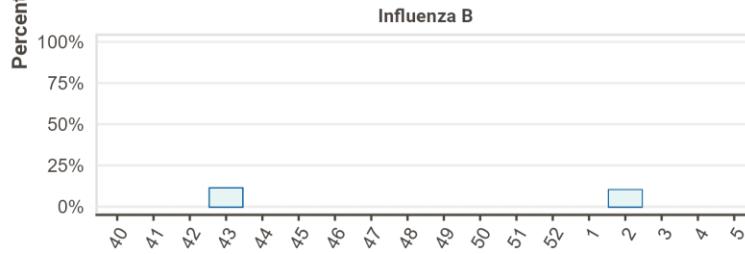
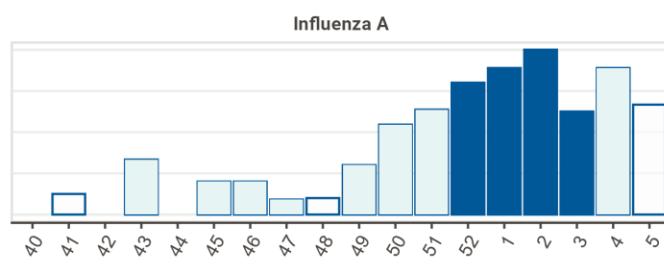
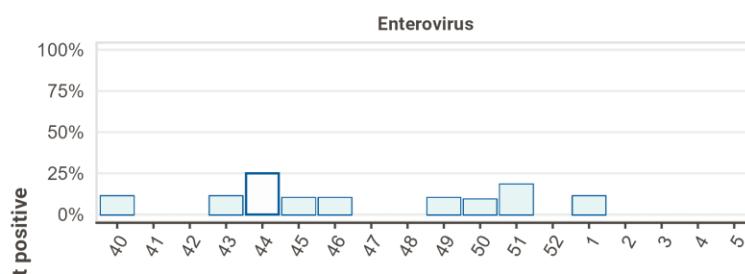
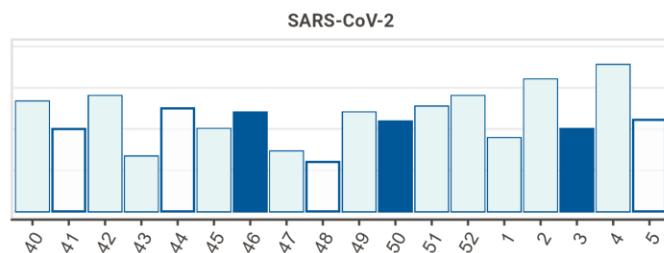
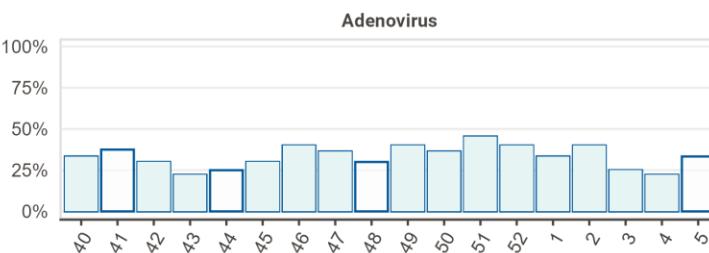


CITY-WIDE SUMMARY: POSITIVITY RATE

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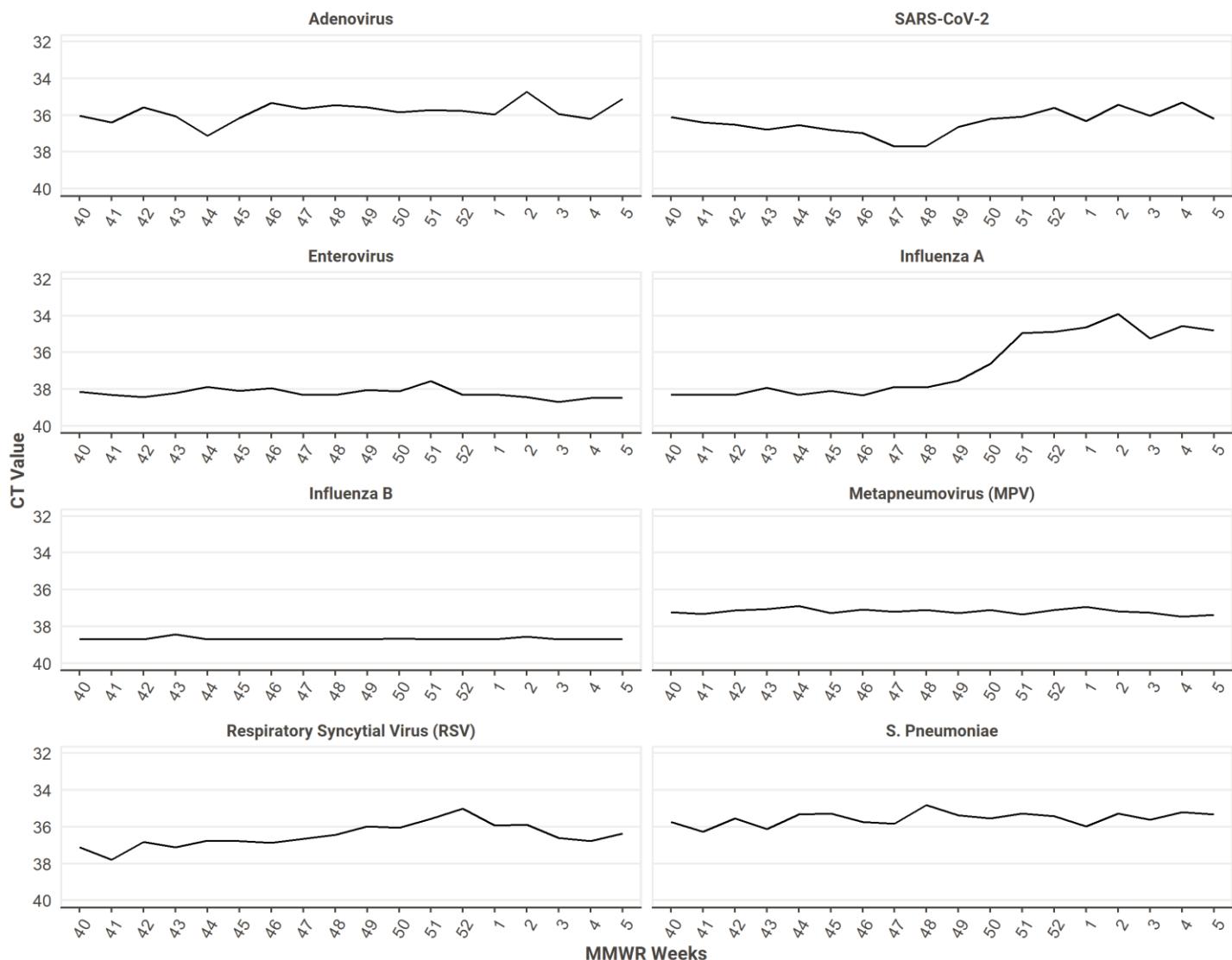
City-wide percent positive detection by pathogen,
plus detect/non-detect at 



MMWR Weeks

CITY-WIDE SUMMARY: CT TREND

City-wide CT average trendline by pathogen



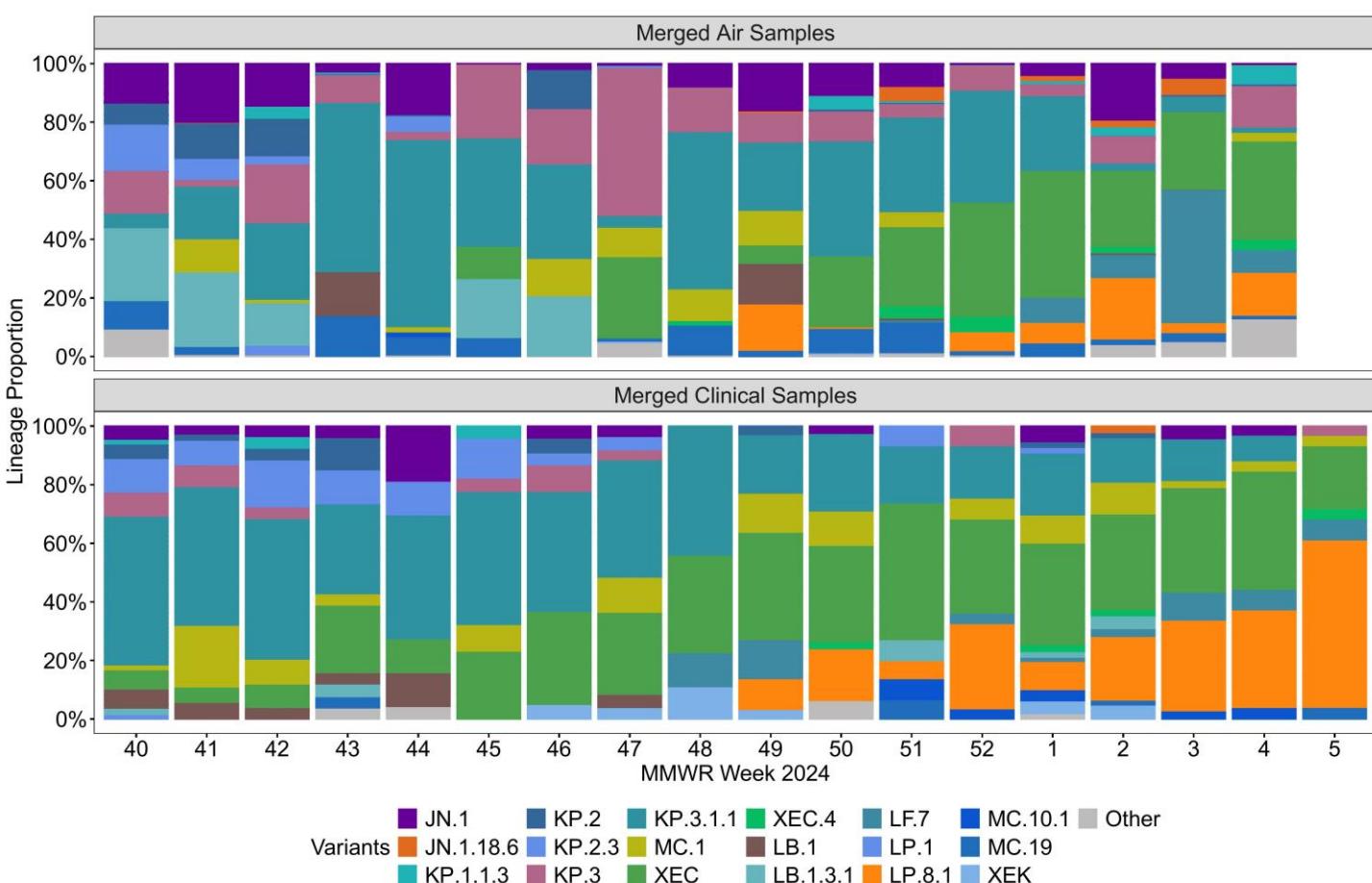
SARS-CoV-2

These tables show the distribution of COVID-19 variants pooled across all air monitoring samples for each week and from all clinical samples for each week.

More information on COVID-19 sequencing can be found here: [CDC – Variants and Genomic Surveillance](#).

In the past weeks, XEC and KP sublineages are still the most prevalent in air samples, while LP.8.1 is lagging behind prevalence compared to clinical samples. Of note, fewer air samples have reached sufficient coverage, compared to peak season for SARS-CoV-2, which increases variability across merged samples

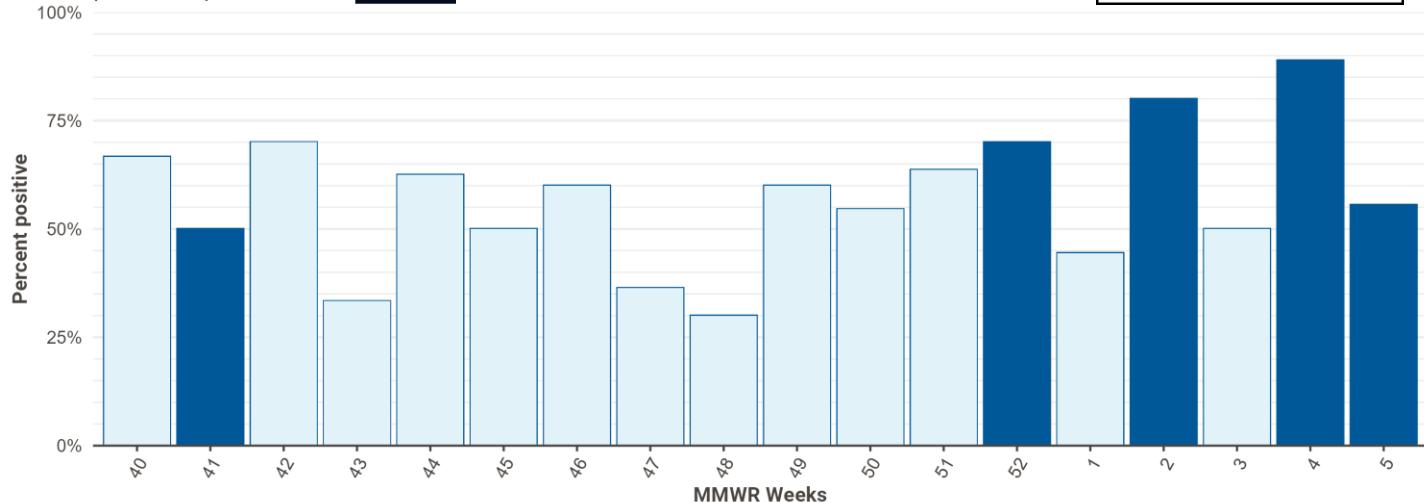
Distribution of specimen lineage



SARS-CoV-2

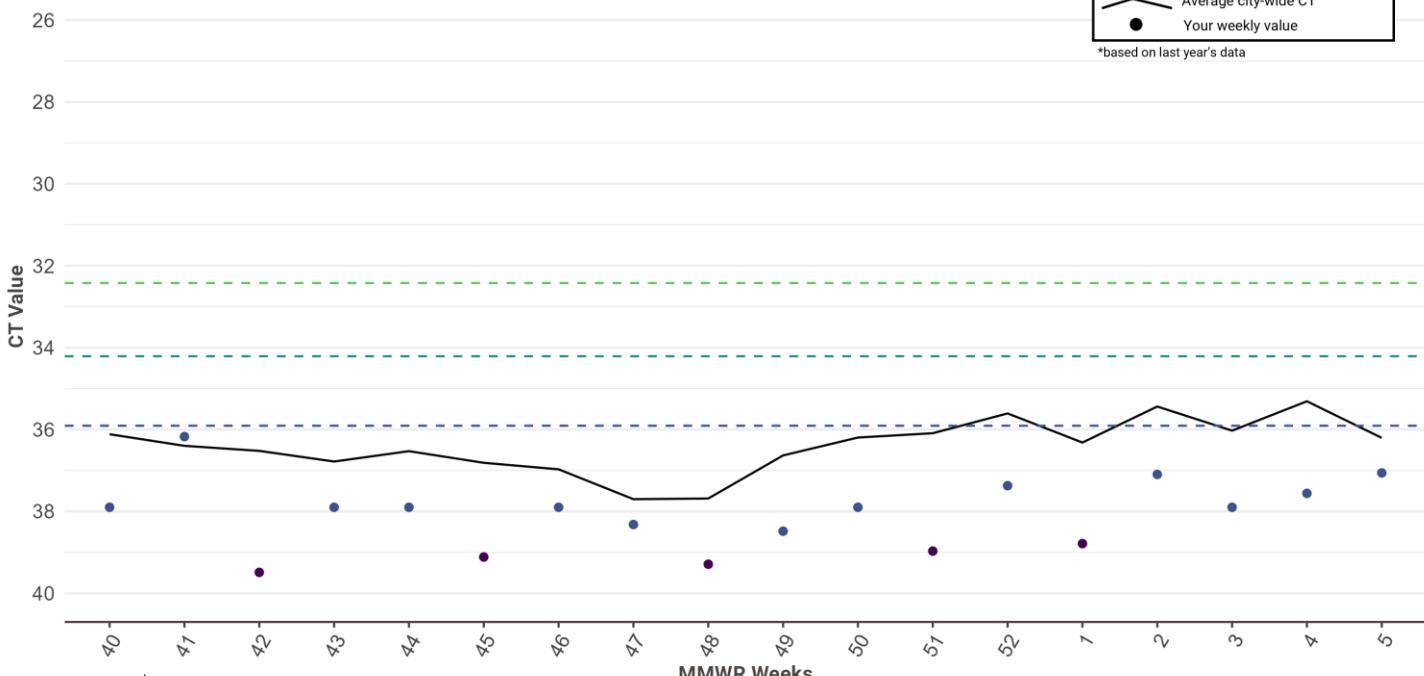
City-wide percent positive detection of SARS-CoV-2 , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for SARS-CoV-2 at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
—	Average city-wide CT
●	Your weekly value

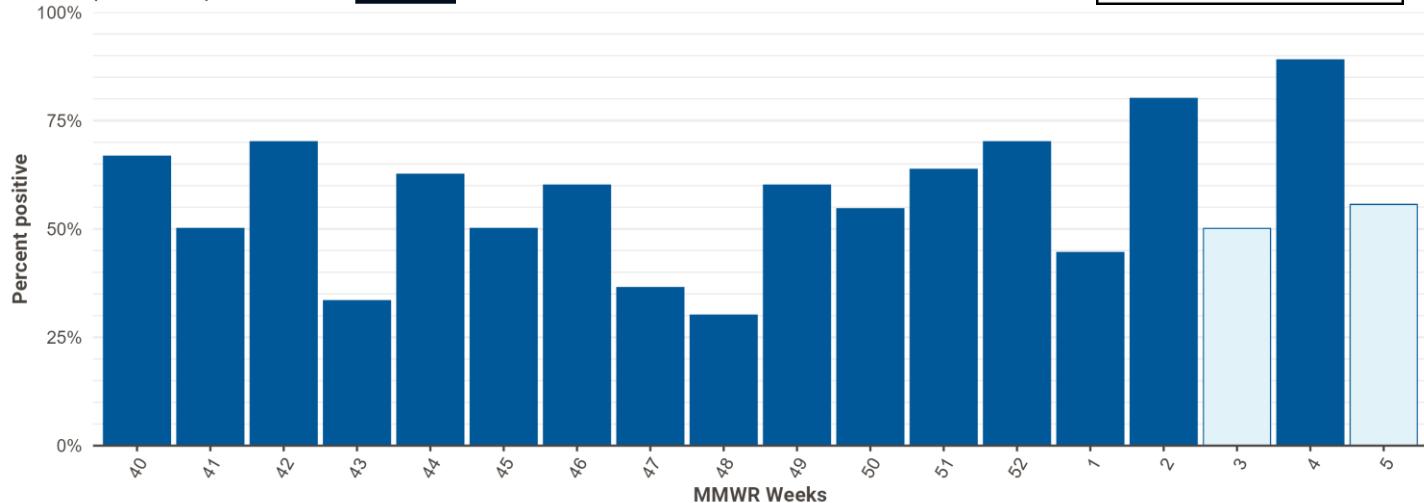
*based on last year's data


SARS-CoV-2

City-wide percent positive detection of SARS-CoV-2 , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS

- Positive
- Negative
- No cartridge submitted



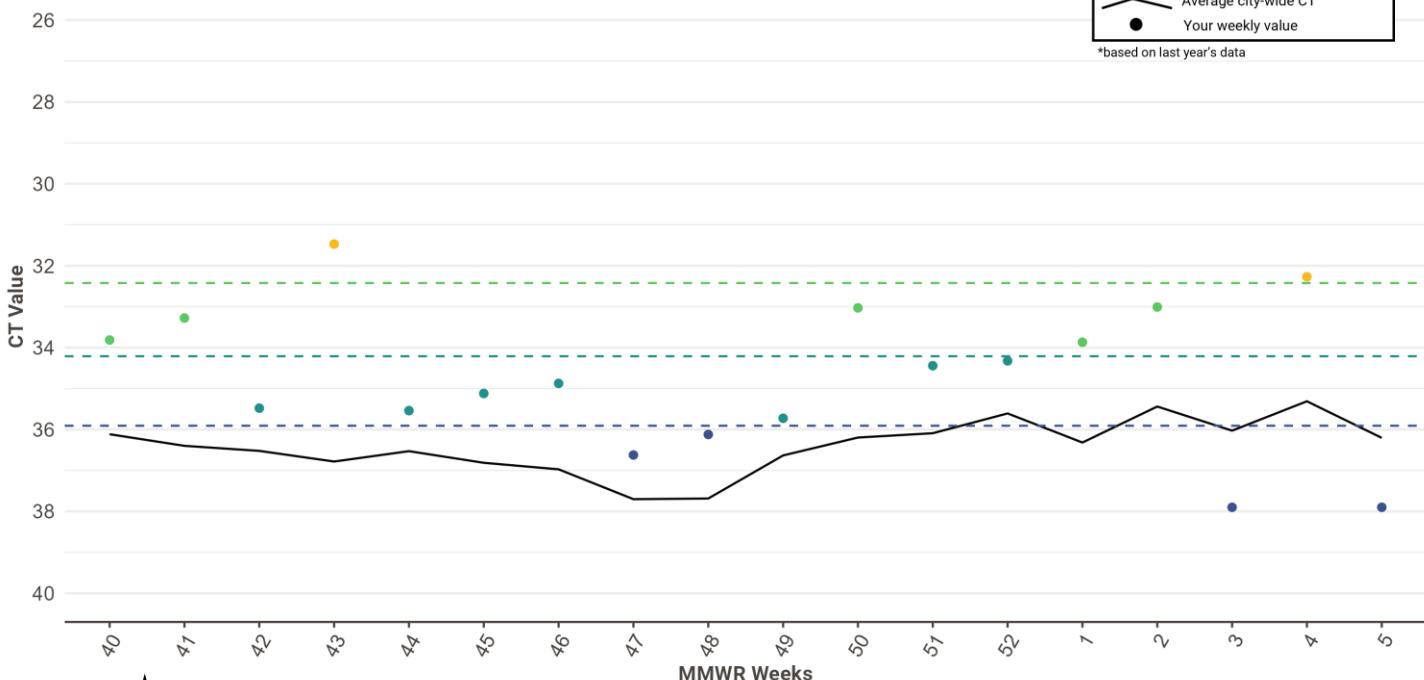
CT values for SARS-CoV-2 at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*

- Very high (>75th percentile)
- High (75th percentile)
- Moderate (50th percentile)
- Low (25th percentile)
- Minimal (<25th percentile)

Average city-wide CT
Your weekly value

*based on last year's data

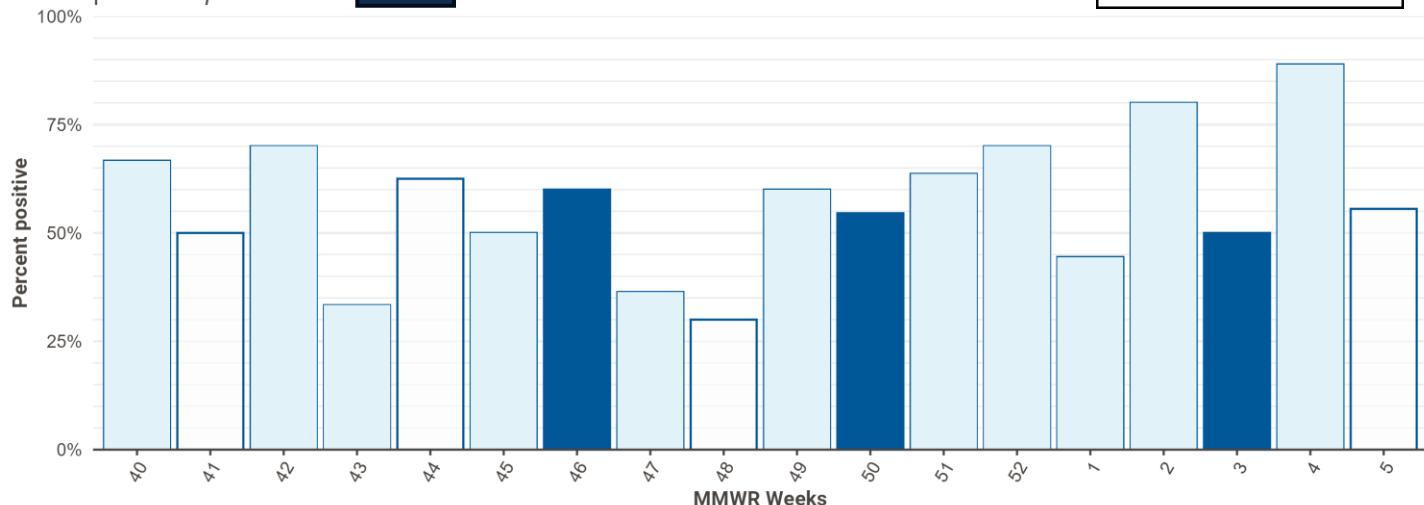


SARS-CoV-2

City-wide percent positive detection of SARS-CoV-2 , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS

Positive	[REDACTED]
Negative	[REDACTED]
No cartridge submitted	[REDACTED]



CT values for SARS-CoV-2 at [REDACTED] plus city average trendline

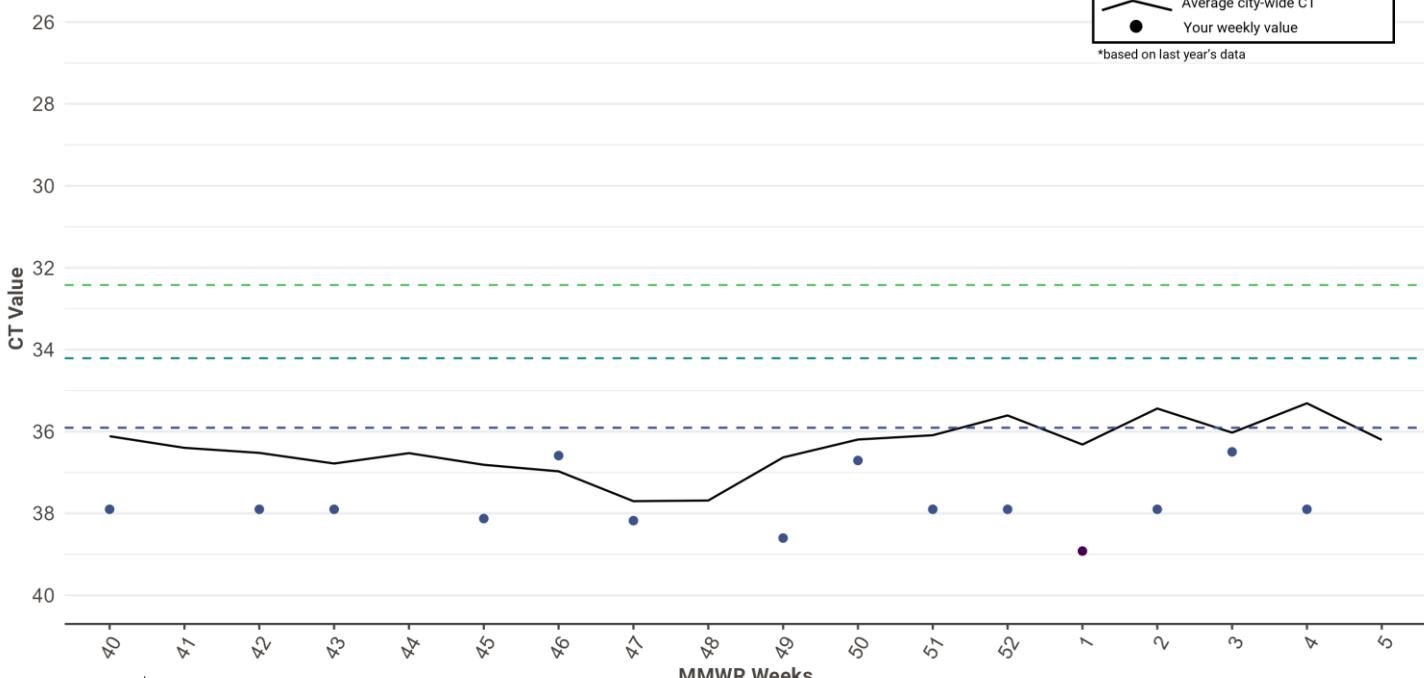
MAXIMUM CUTOFFS*

Very high (>75 th percentile)	[REDACTED]
High (75 th percentile)	[REDACTED]
Moderate (50 th percentile)	[REDACTED]
Low (25 th percentile)	[REDACTED]
Minimal (<25 th percentile)	[REDACTED]

Average city-wide CT

Your weekly value

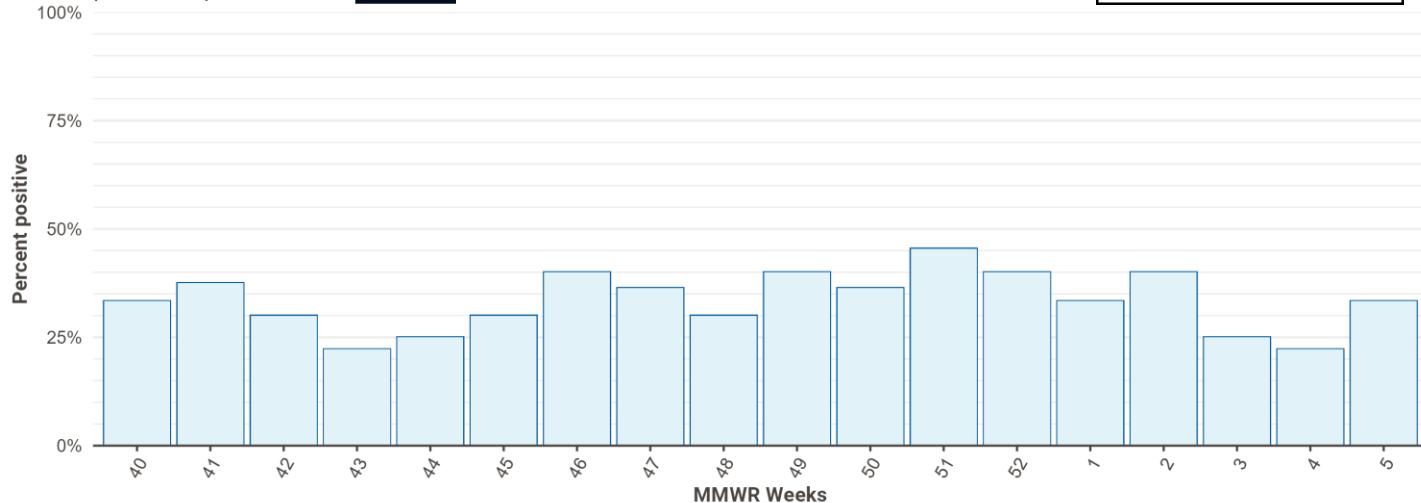
*based on last year's data



ADENOVIRUS

City-wide percent positive detection of ADENOVIRUS , plus detect/non-detect at [REDACTED]

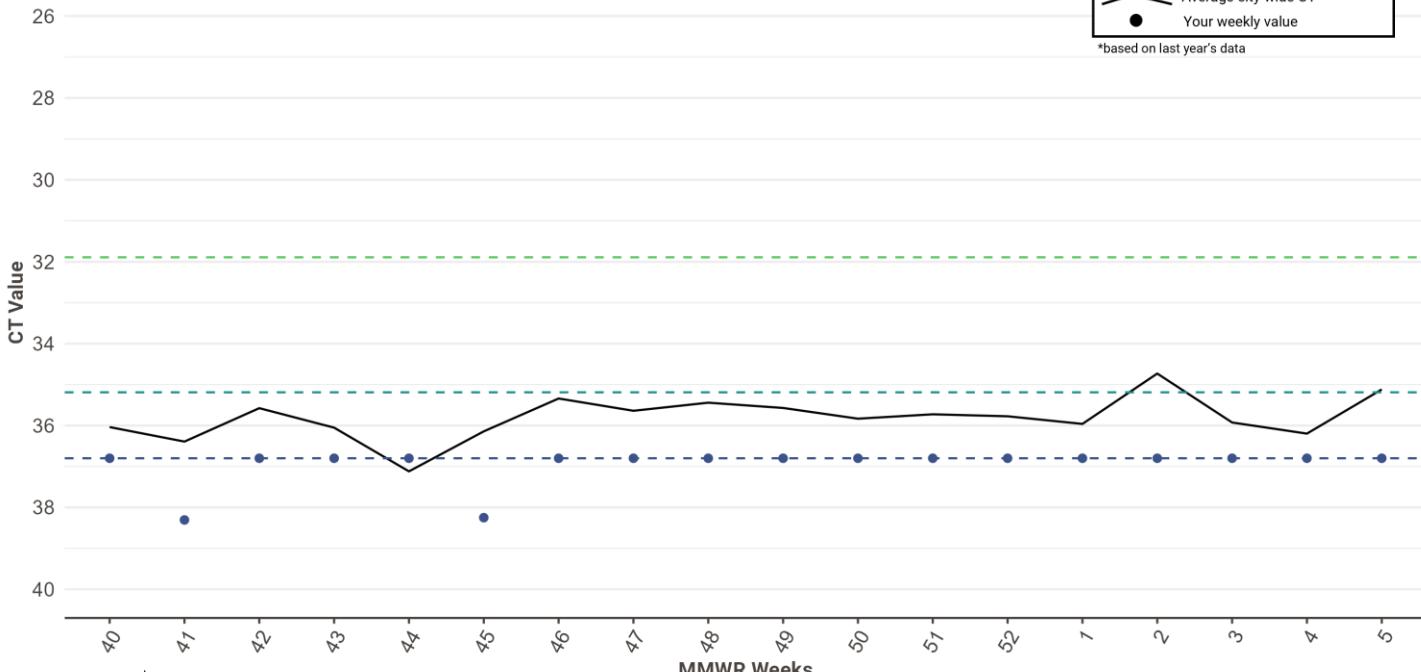
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for ADENOVIRUS at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
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●	Your weekly value

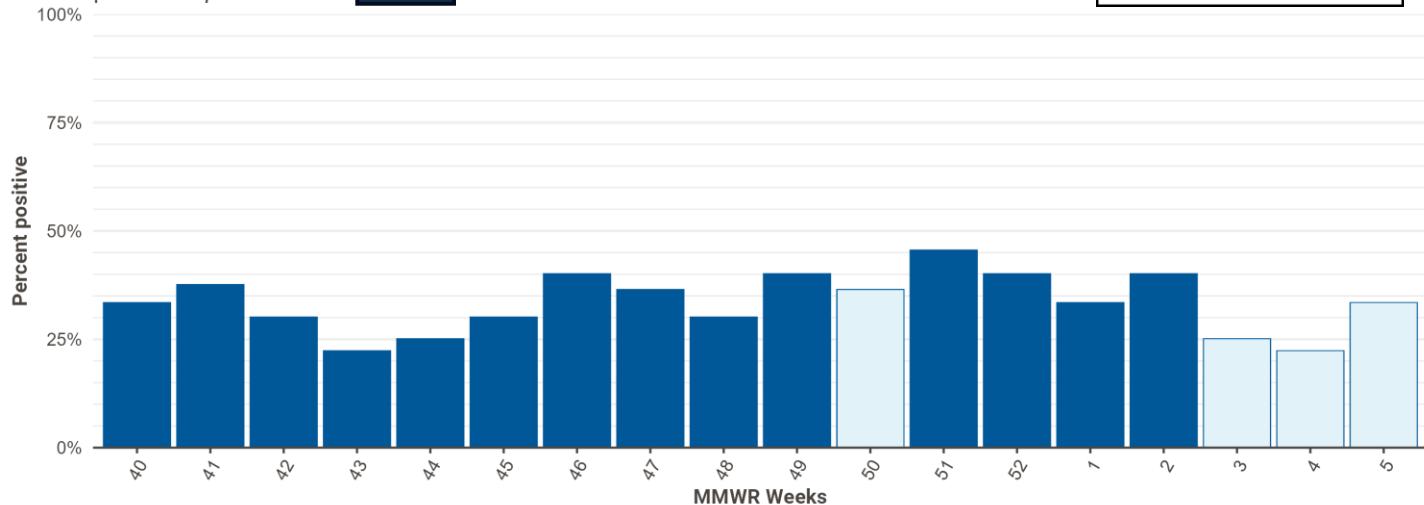
*based on last year's data



ADENOVIRUS

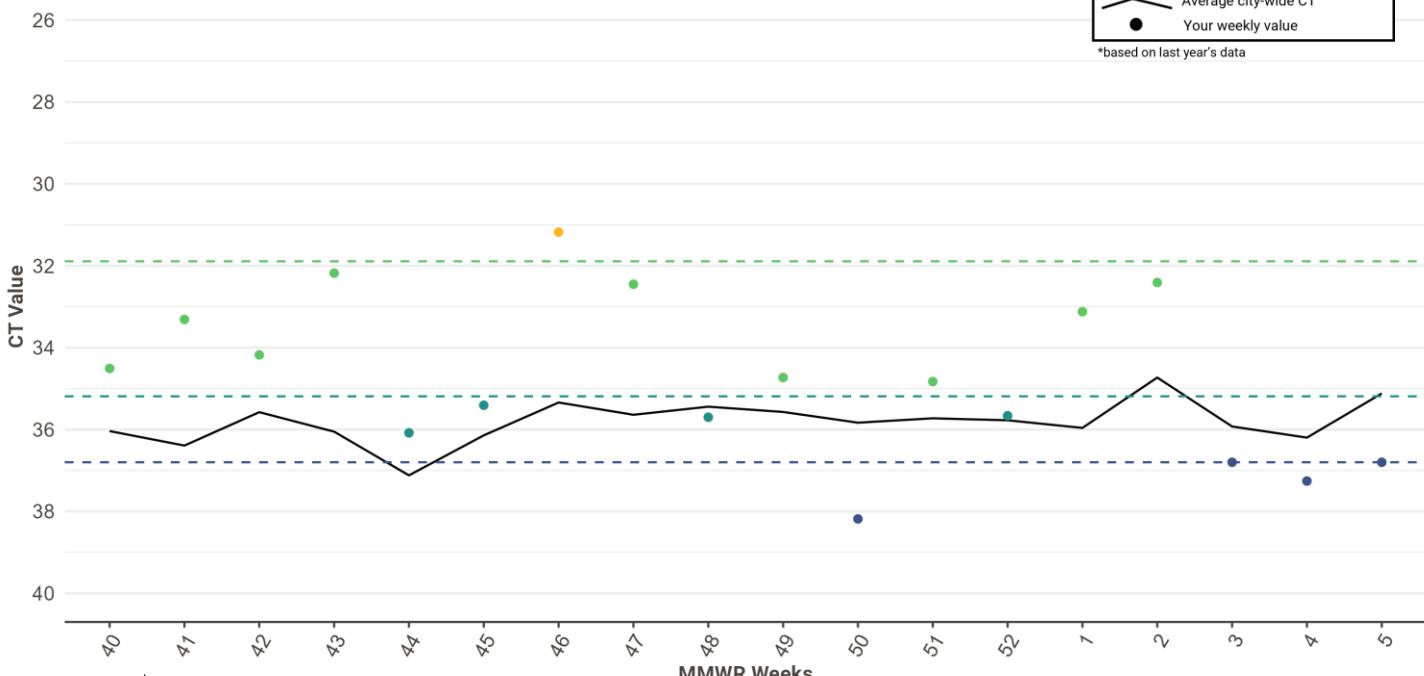
City-wide percent positive detection of ADENOVIRUS , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for ADENOVIRUS at [REDACTED] plus city average trendline

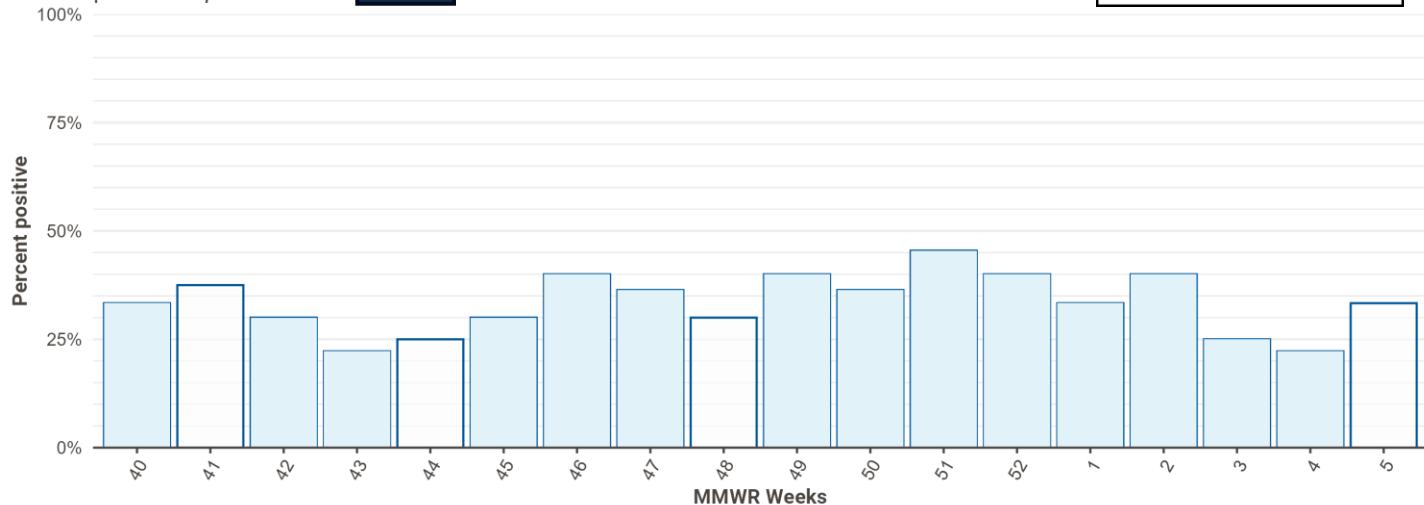
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—	Average city-wide CT
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*based on last year's data


ADENOVIRUS

City-wide percent positive detection of ADENOVIRUS , plus detect/non-detect at [REDACTED]

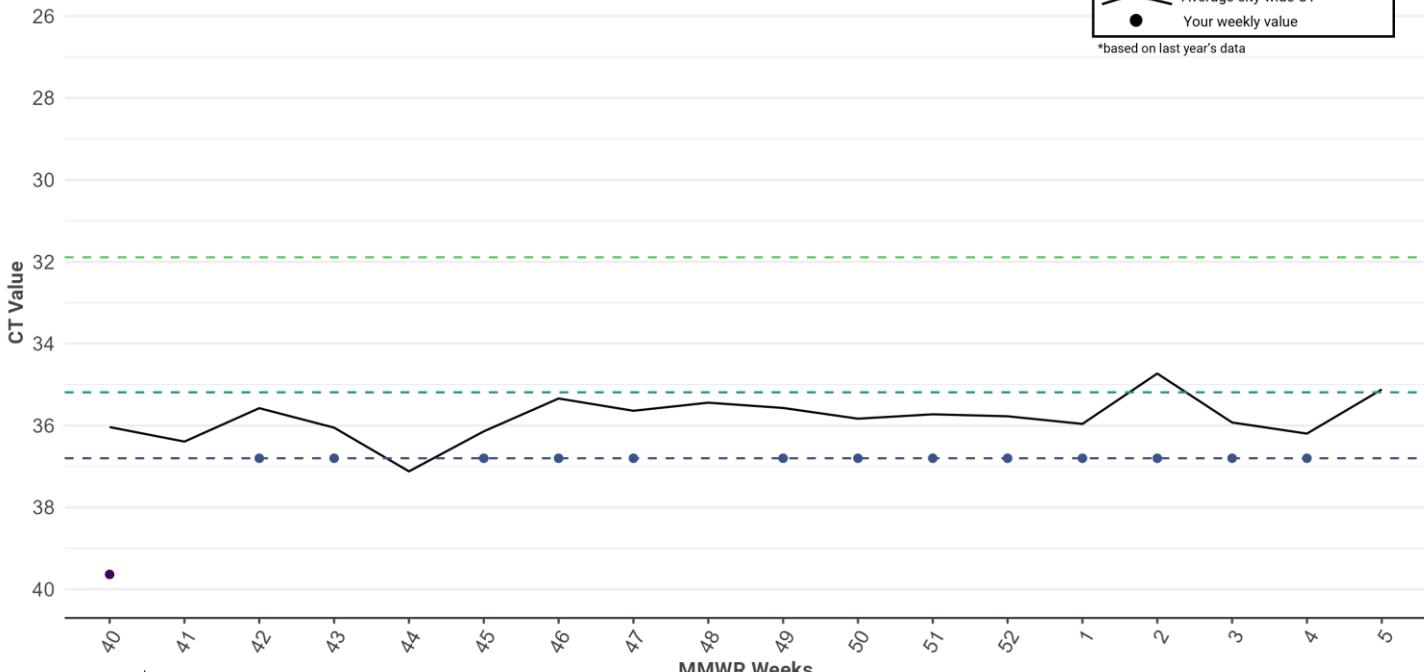
YOUR FACILITY RESULTS	
Positive	No cartridge submitted



CT values for ADENOVIRUS at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
	Average city-wide CT
	Your weekly value

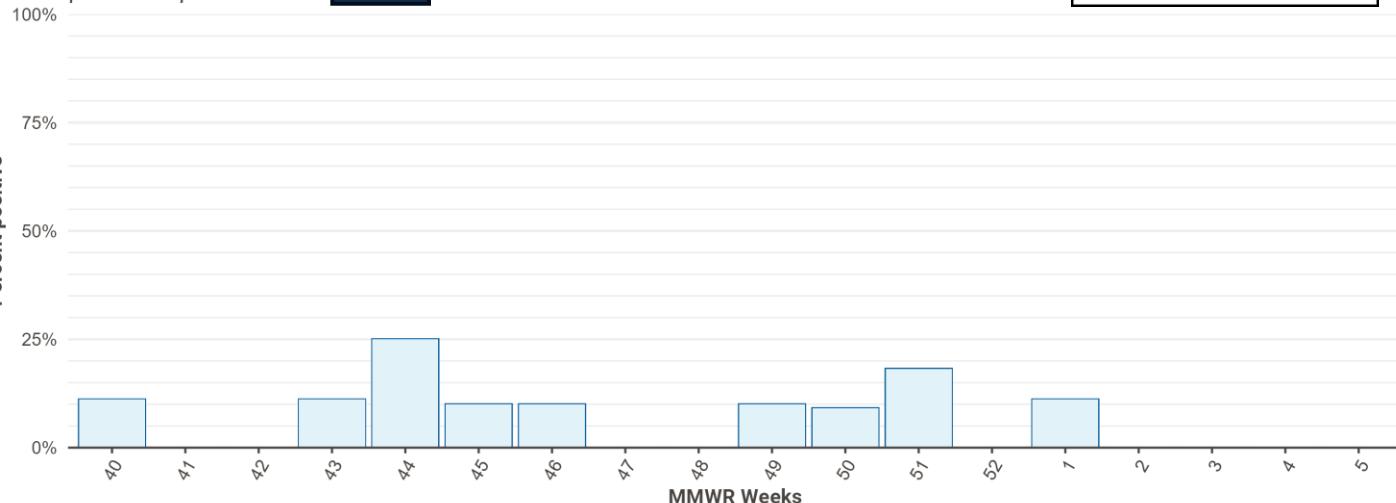
*based on last year's data



ENTEROVIRUS

City-wide percent positive detection of ENTEROVIRUS , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS	
Positive	No cartridge submitted
Negative	

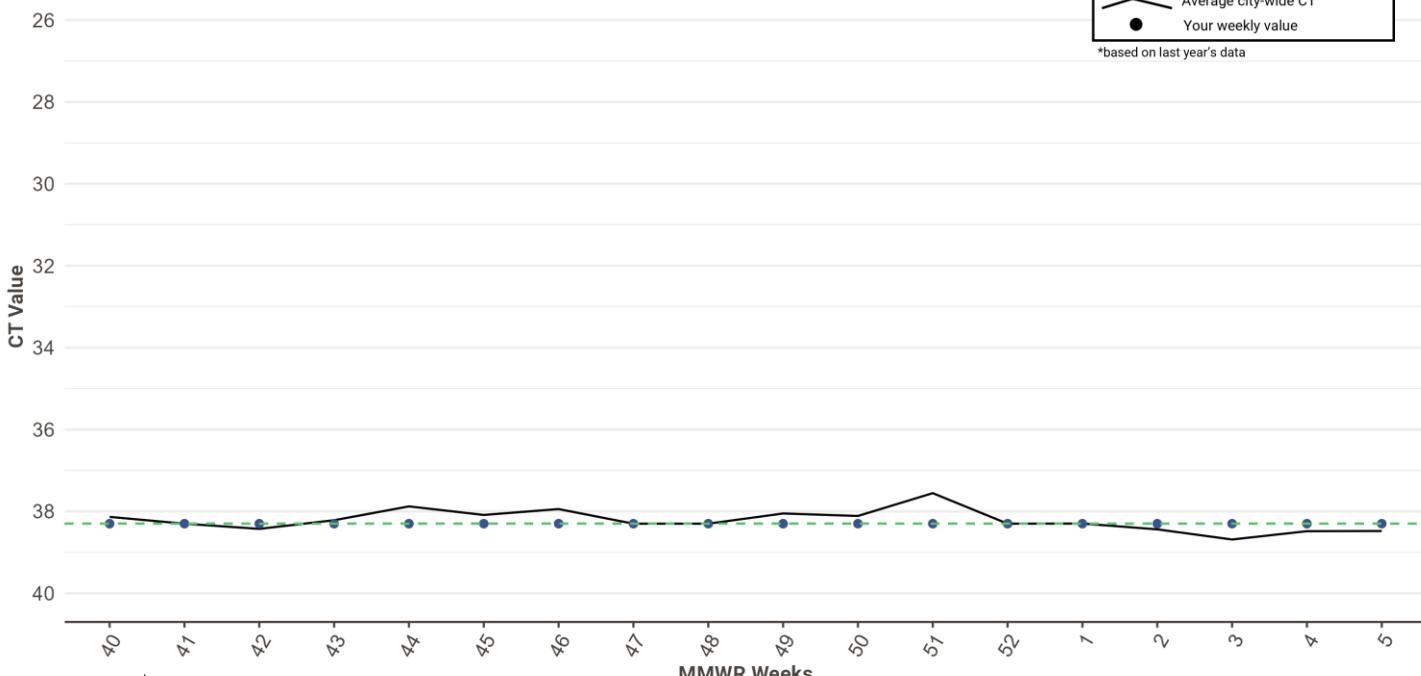


CT values for ENTEROVIRUS at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - ●	Low (25 th percentile)
●	Minimal (<25 th percentile)

Average city-wide CT
Your weekly value

*based on last year's data



A line graph showing CT values for Enterovirus across various MMWR weeks. The Y-axis represents the CT Value, ranging from 26 to 40. The X-axis represents the MMWR Weeks, from 40 to 52. The graph shows a general downward trend from week 40 (~38) to week 52 (~37), with a slight upward spike in week 51 (~39).

MMWR Week	Average City-wide CT	Your Weekly Value
40	~38	~38
41	~38	~38
42	~38	~38
43	~38	~38
44	~39	~38
45	~38	~38
46	~38	~38
47	~38	~38
48	~38	~38
49	~38	~38
50	~38	~38
51	~39	~38
52	~38	~38
53	~37	~38



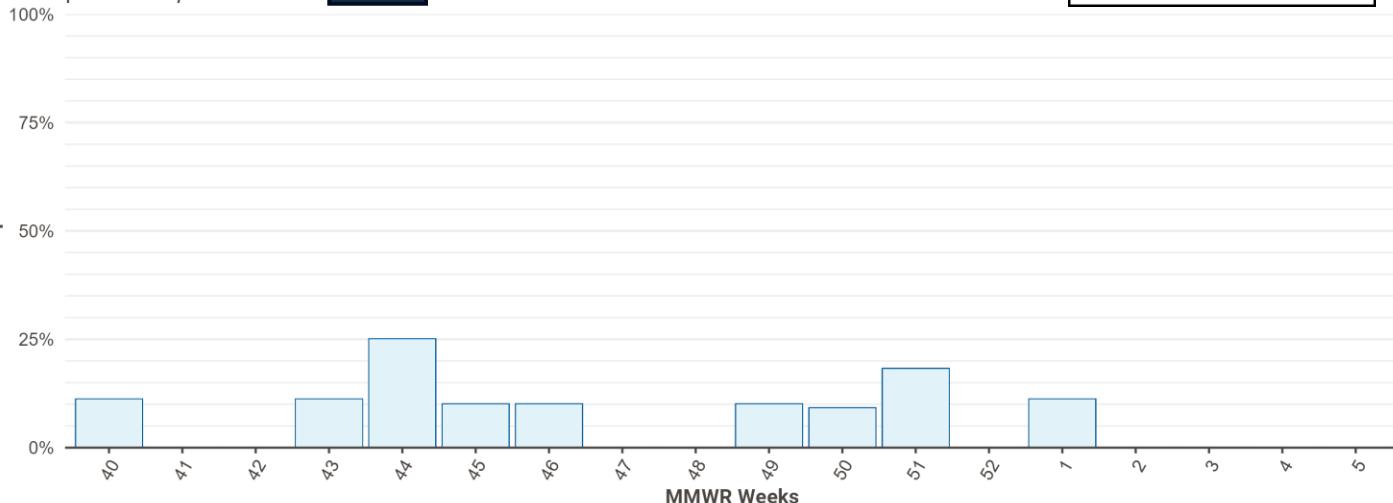
Chicago Department of Public Health

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ENTEROVIRUS

City-wide percent positive detection of ENTEROVIRUS , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS	
Positive	[REDACTED]
Negative	[REDACTED]

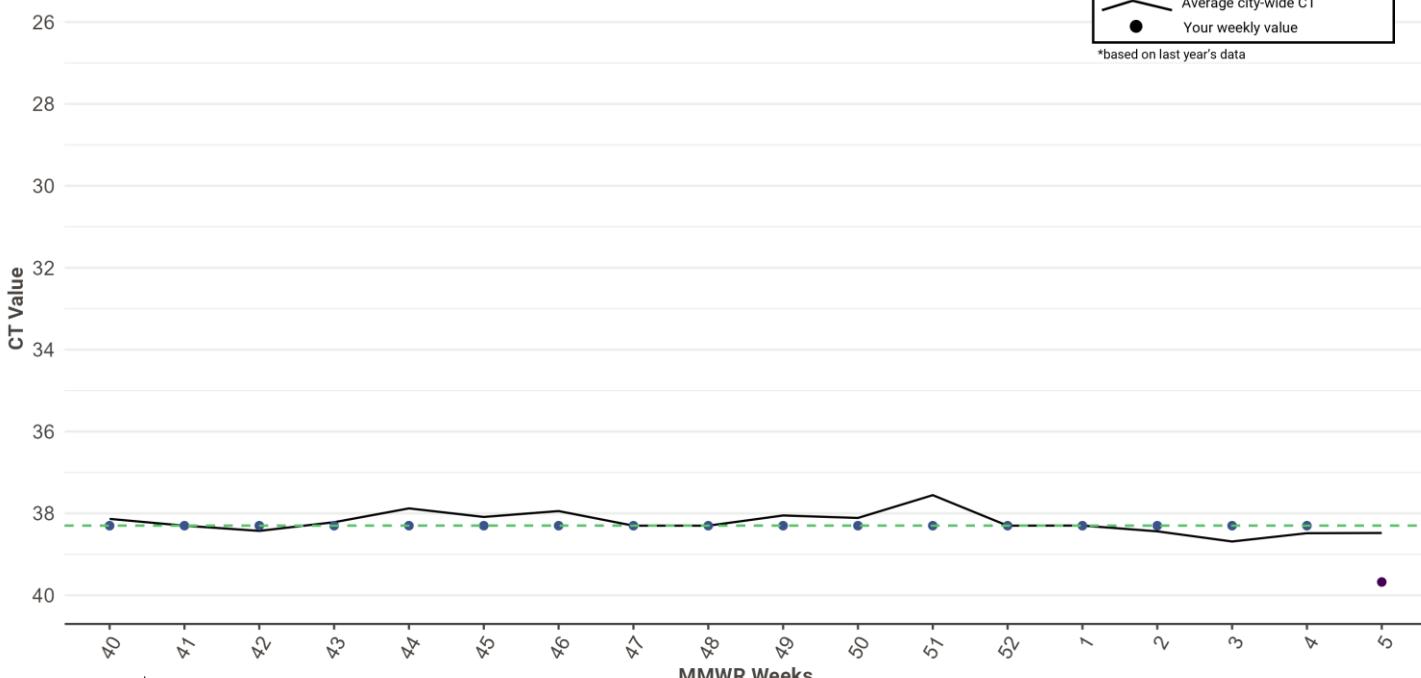


CT values for ENTEROVIRUS at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - ●	Low (25 th percentile)
●	Minimal (<25 th percentile)

Average city-wide CT
Your weekly value

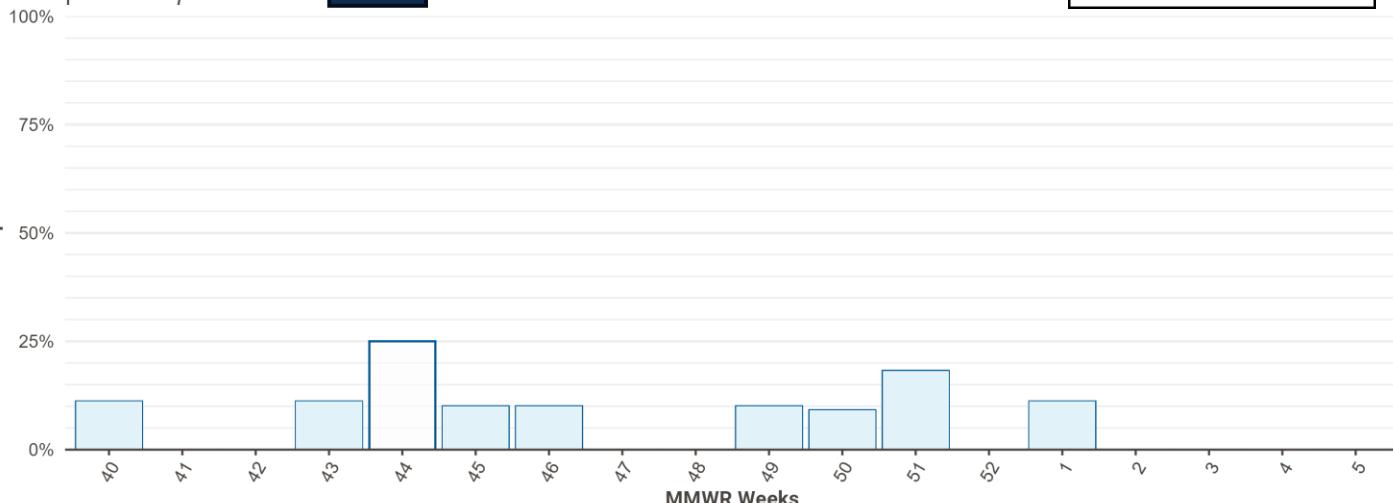
*based on last year's data



ENTEROVIRUS

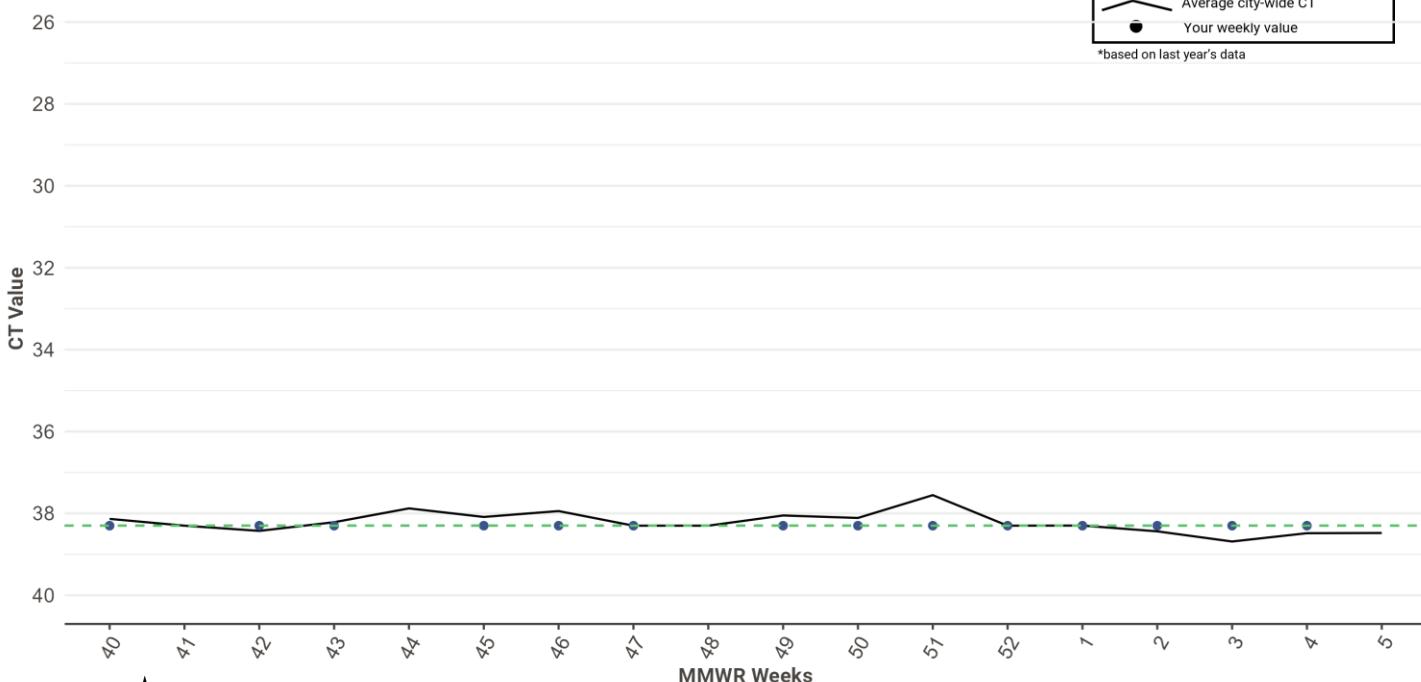
City-wide percent positive detection of ENTEROVIRUS , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS	
Positive	[REDACTED]
Negative	[REDACTED]



CT values for ENTEROVIRUS at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - - ●	High (75 th percentile)
- - - - ●	Moderate (50 th percentile)
- - - - - ●	Low (25 th percentile)
●	Minimal (<25 th percentile)
	Average city-wide CT
	Your weekly value

*based on last year's data


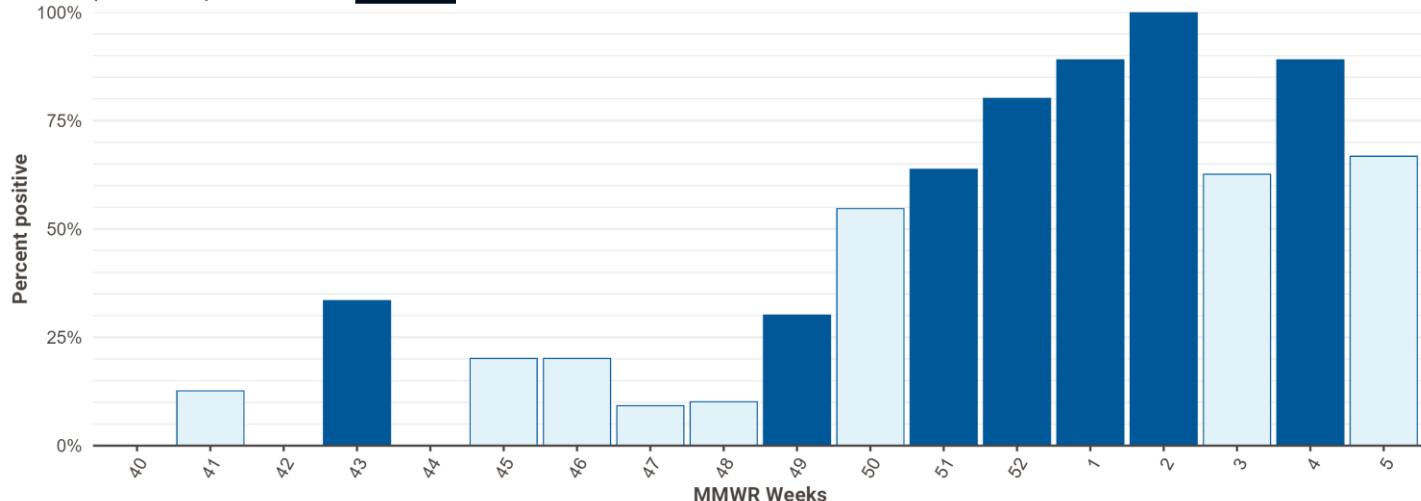
INFLUENZA A

City-wide percent positive detection of INFLUENZA A , plus detect/non-detect at [REDACTED]

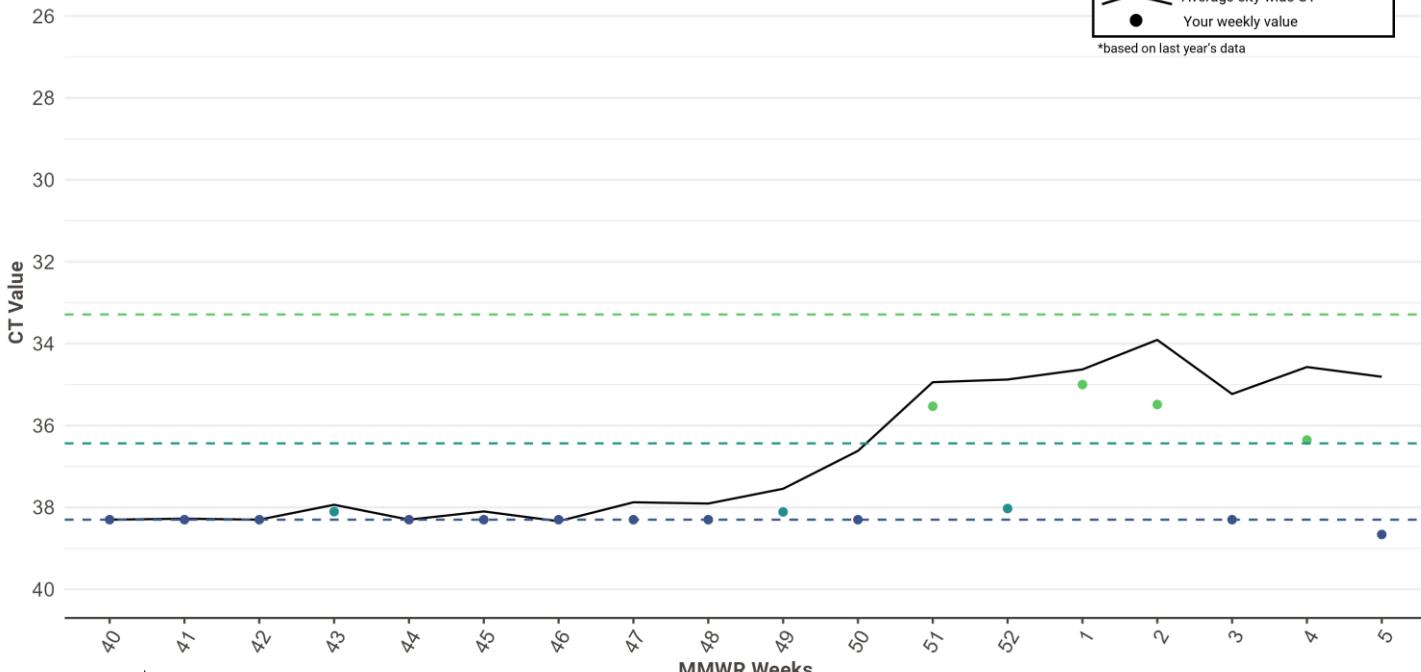
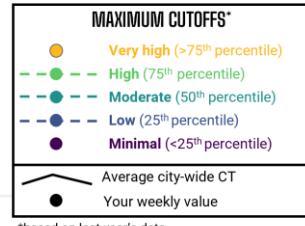
YOUR FACILITY RESULTS

● Positive
○ Negative

○ No cartridge submitted



CT values for INFLUENZA A at [REDACTED] plus city average trendline



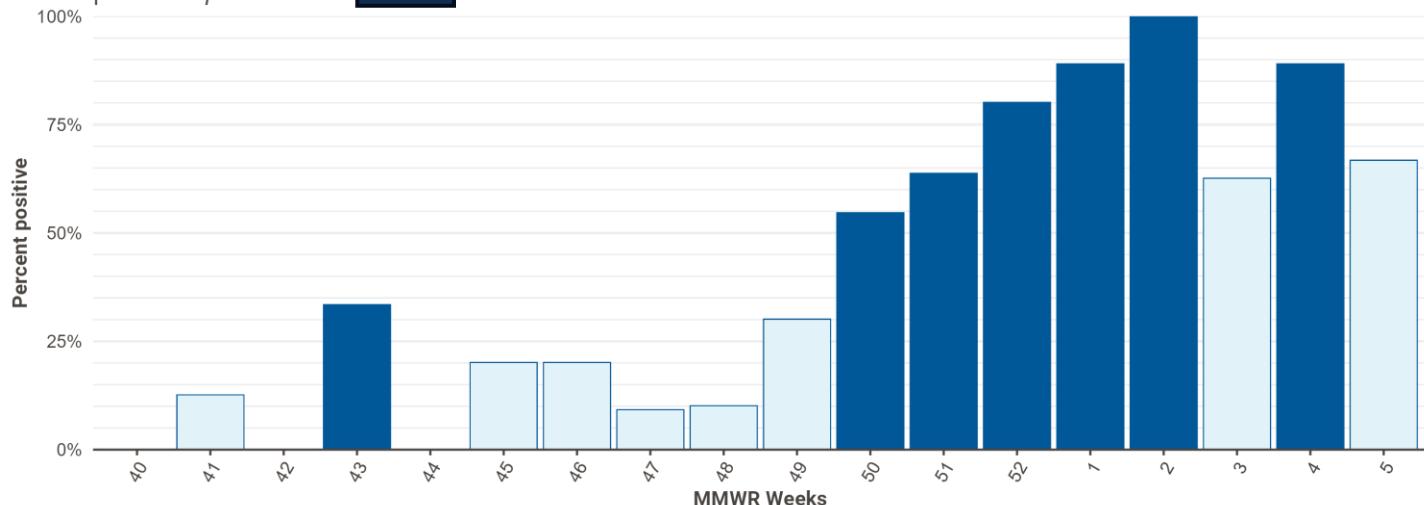
INFLUENZA A

City-wide percent positive detection of INFLUENZA A , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS

● Positive
○ Negative

○ No cartridge submitted



CT values for INFLUENZA A at [REDACTED] plus city average trendline

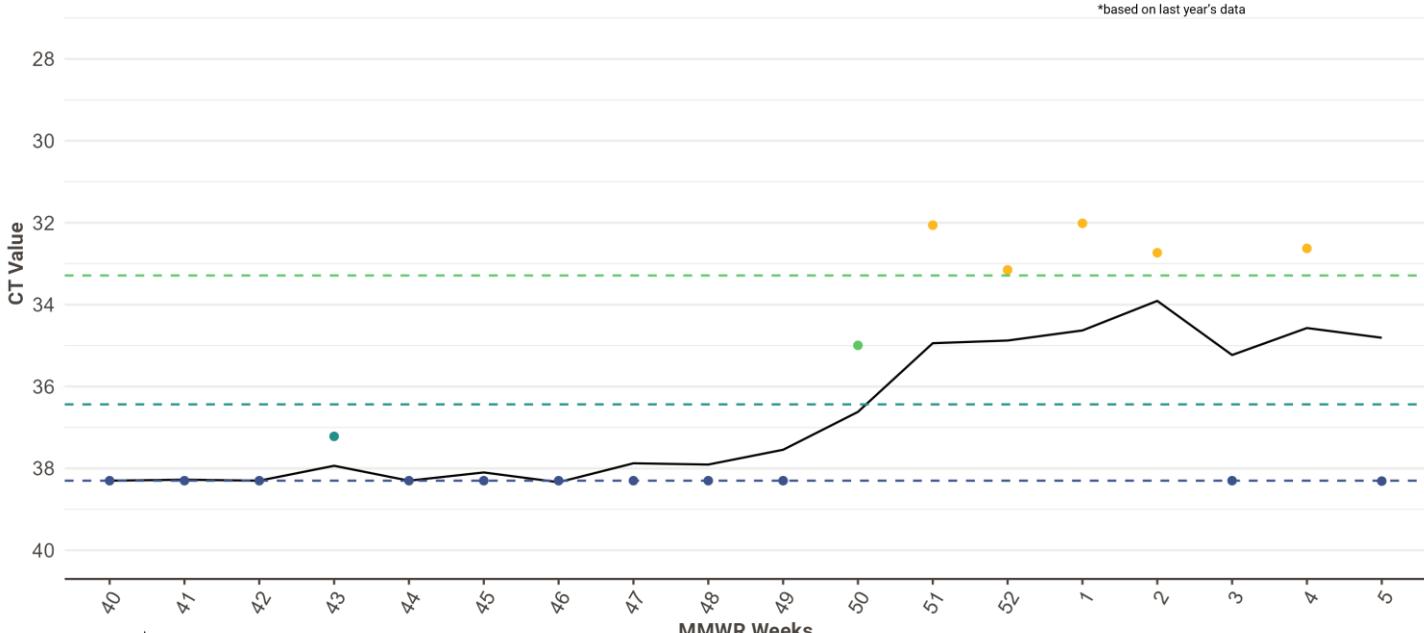
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- - Low (25th percentile)
- Minimal (<25th percentile)

Average city-wide CT

Your weekly value

*based on last year's data

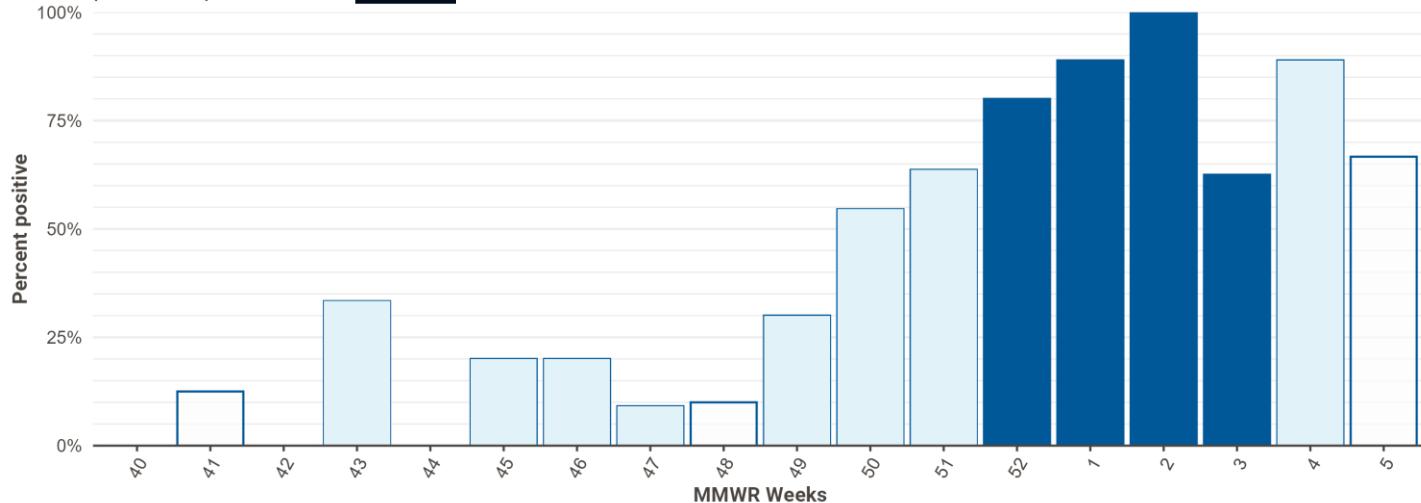


INFLUENZA A

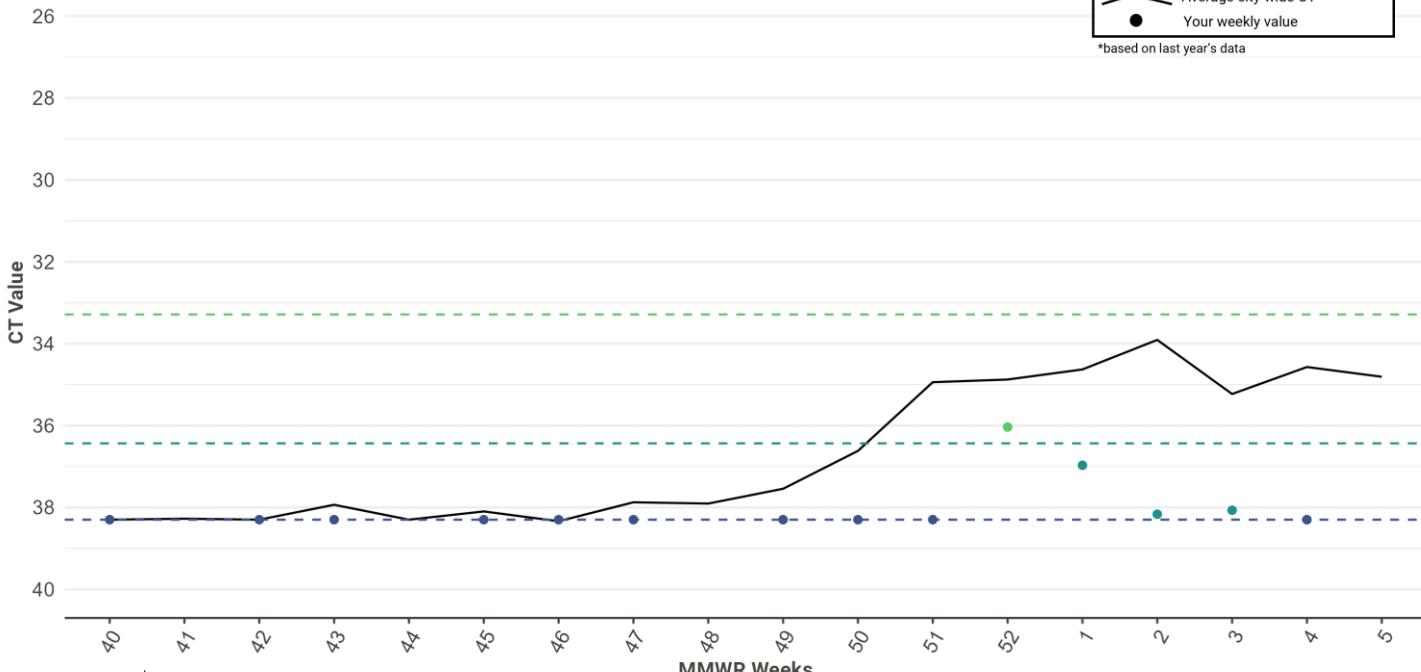
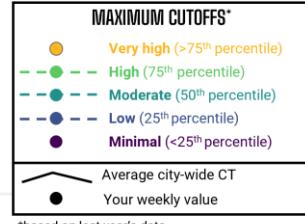
City-wide percent positive detection of INFLUENZA A , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS

● Positive
○ Negative
○ No cartridge submitted



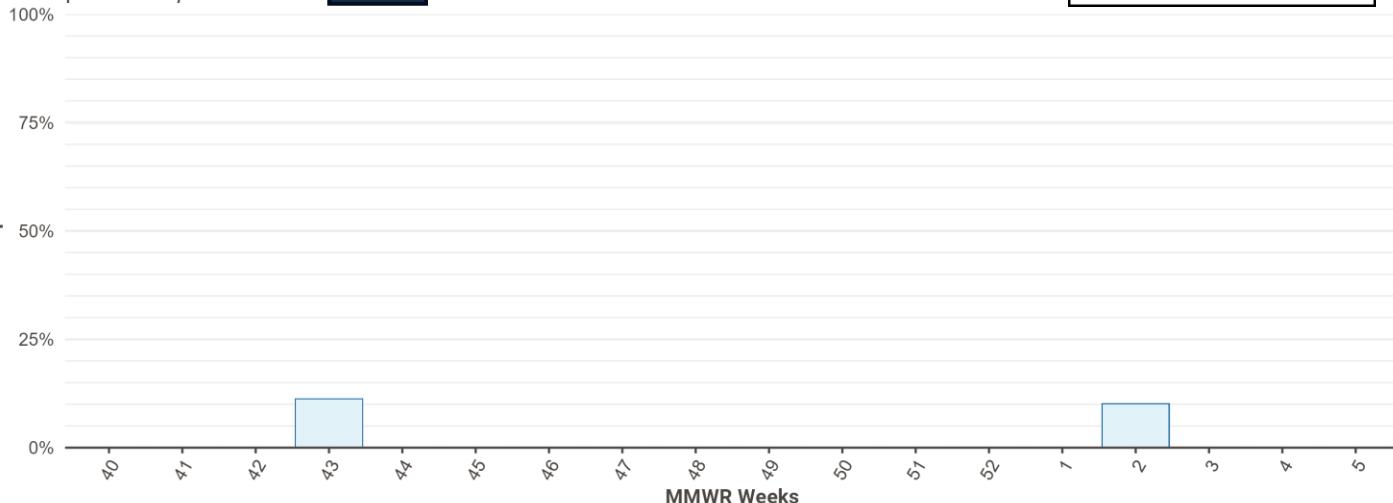
CT values for INFLUENZA A at [REDACTED] plus city average trendline



INFLUENZA B

City-wide percent positive detection of INFLUENZA B , plus detect/non-detect at [REDACTED]

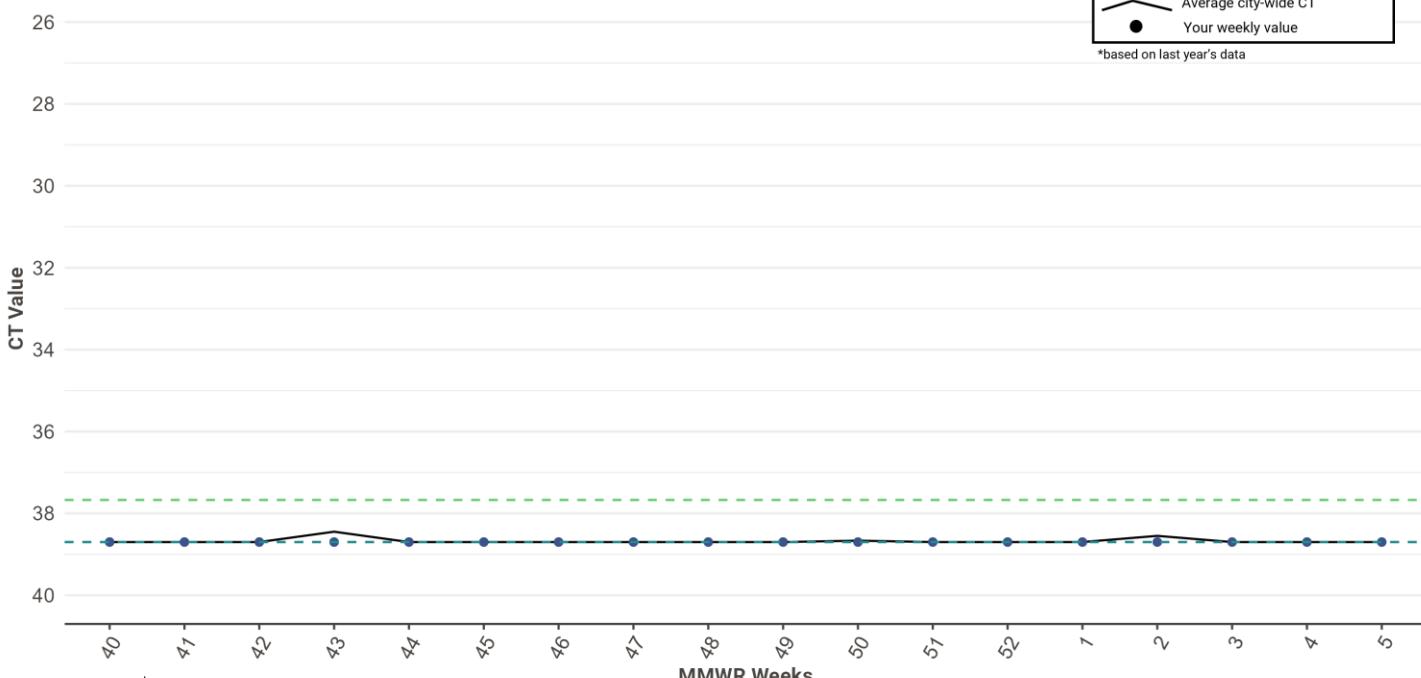
YOUR FACILITY RESULTS	
Positive	[REDACTED]
Negative	[REDACTED]



CT values for INFLUENZA B at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
 ●	Average city-wide CT
 ●	Your weekly value

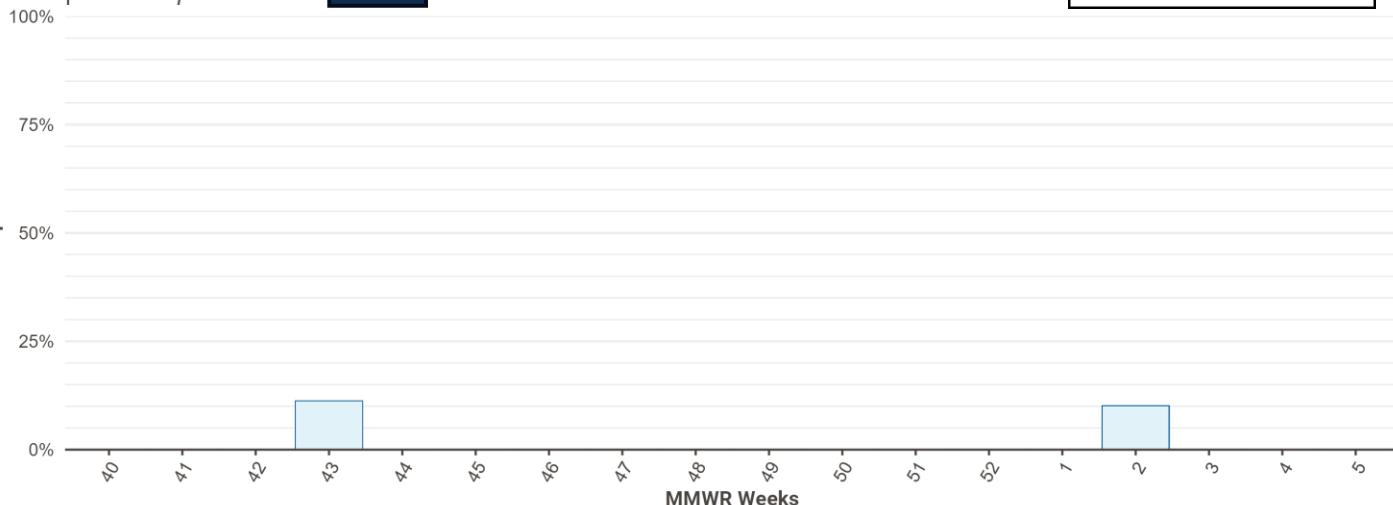
*based on last year's data



INFLUENZA B

City-wide percent positive detection of INFLUENZA B ,
plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS	
Positive	[REDACTED]
Negative	[REDACTED]

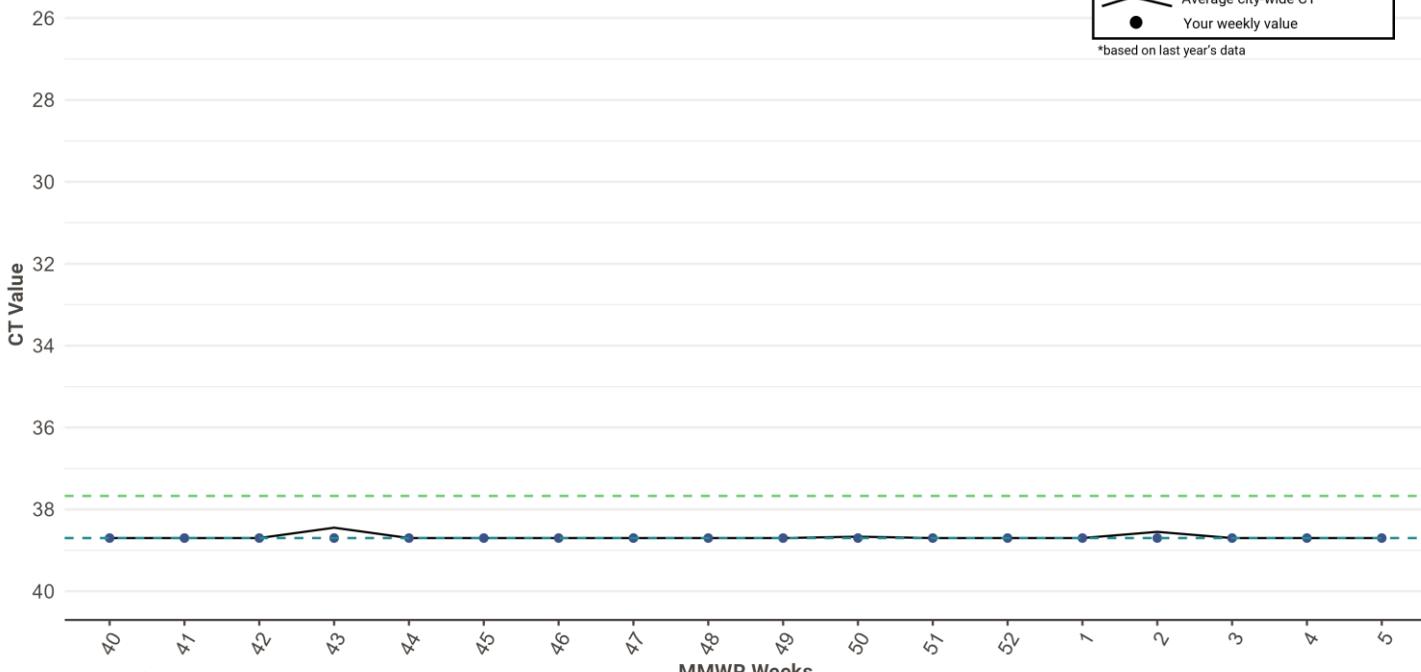


CT values for INFLUENZA B at [REDACTED]
plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - - ●	High (75 th percentile)
- - - - ●	Moderate (50 th percentile)
- - - - - ●	Low (25 th percentile)
●	Minimal (<25 th percentile)

Average city-wide CT
Your weekly value

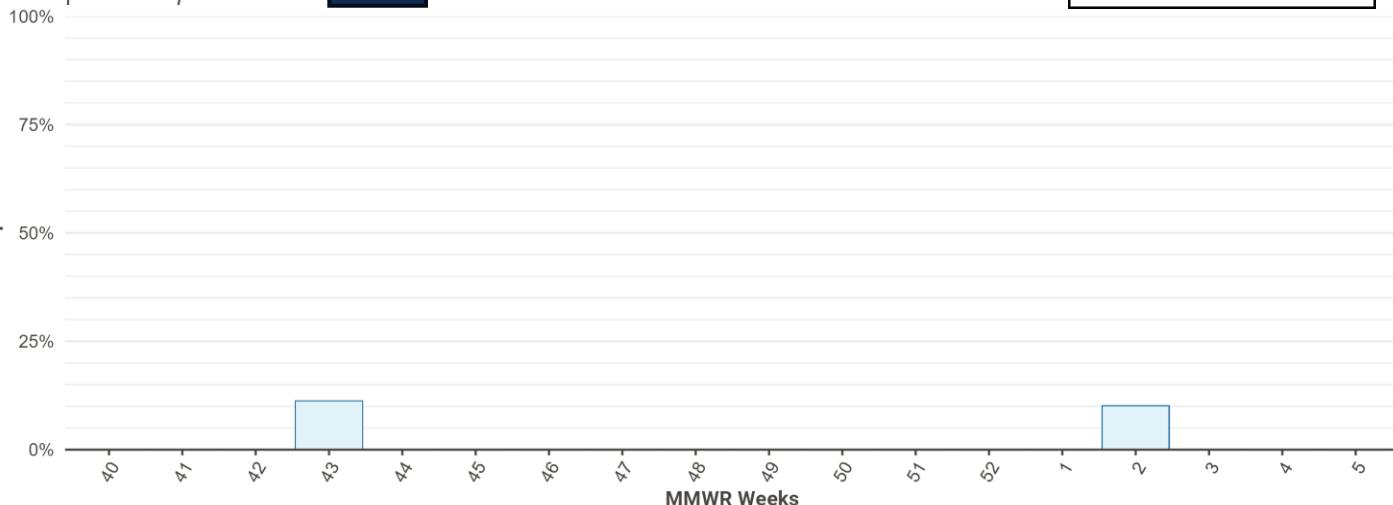
*based on last year's data



INFLUENZA B

City-wide percent positive detection of INFLUENZA B , plus detect/non-detect at [REDACTED]

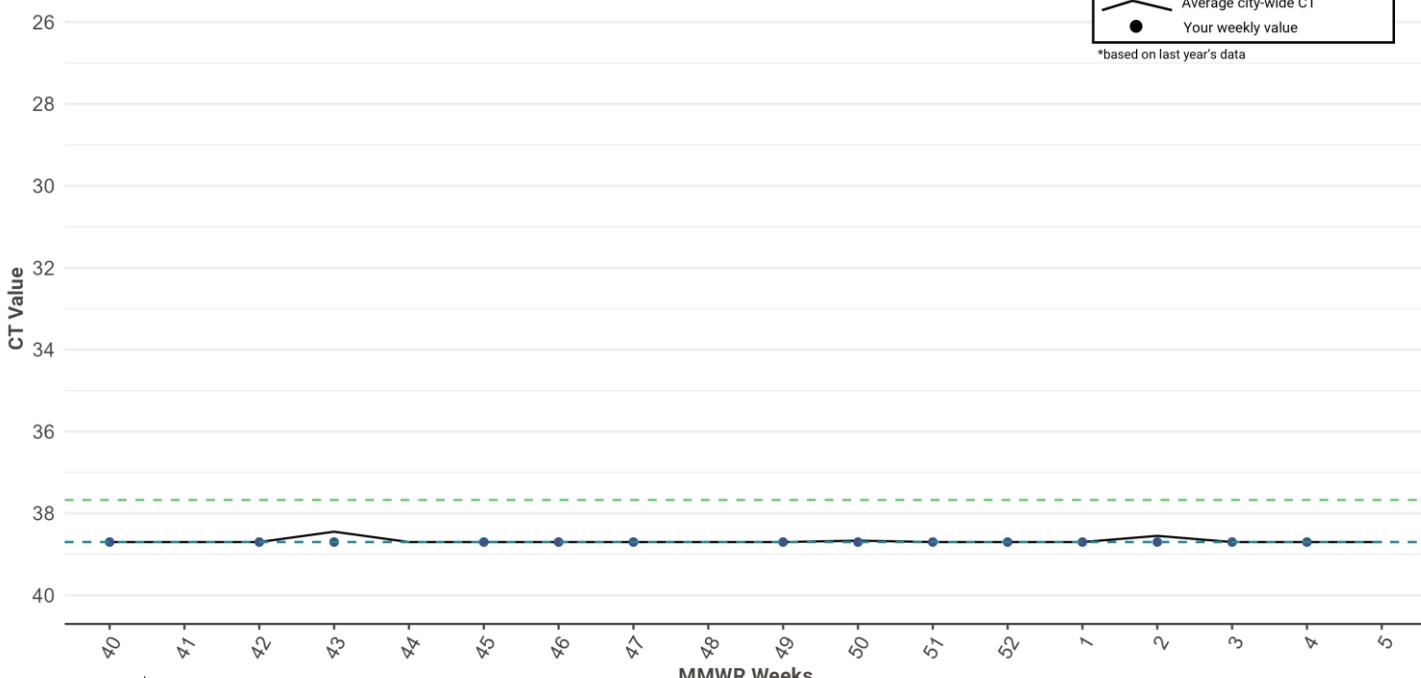
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for INFLUENZA B at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
	Average city-wide CT
	Your weekly value

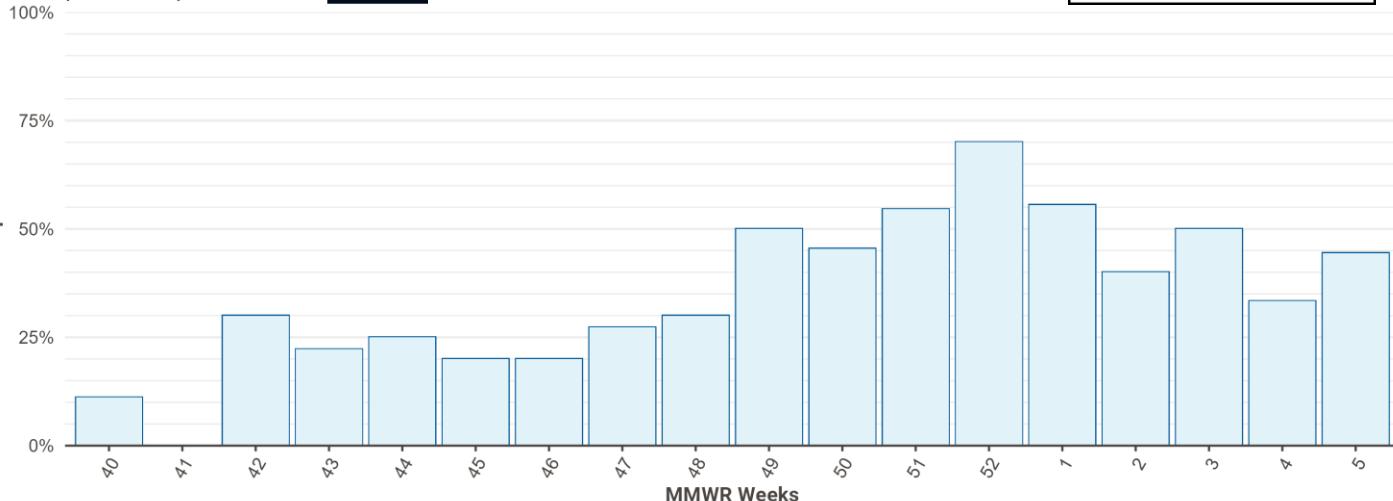
*based on last year's data



RESPIRATORY SYNCYTIAL VIRUS (RSV)

City-wide percent positive detection of RESPIRATORY SYNCYTIAL VIRUS (RSV), plus detect/non-detect at [REDACTED]

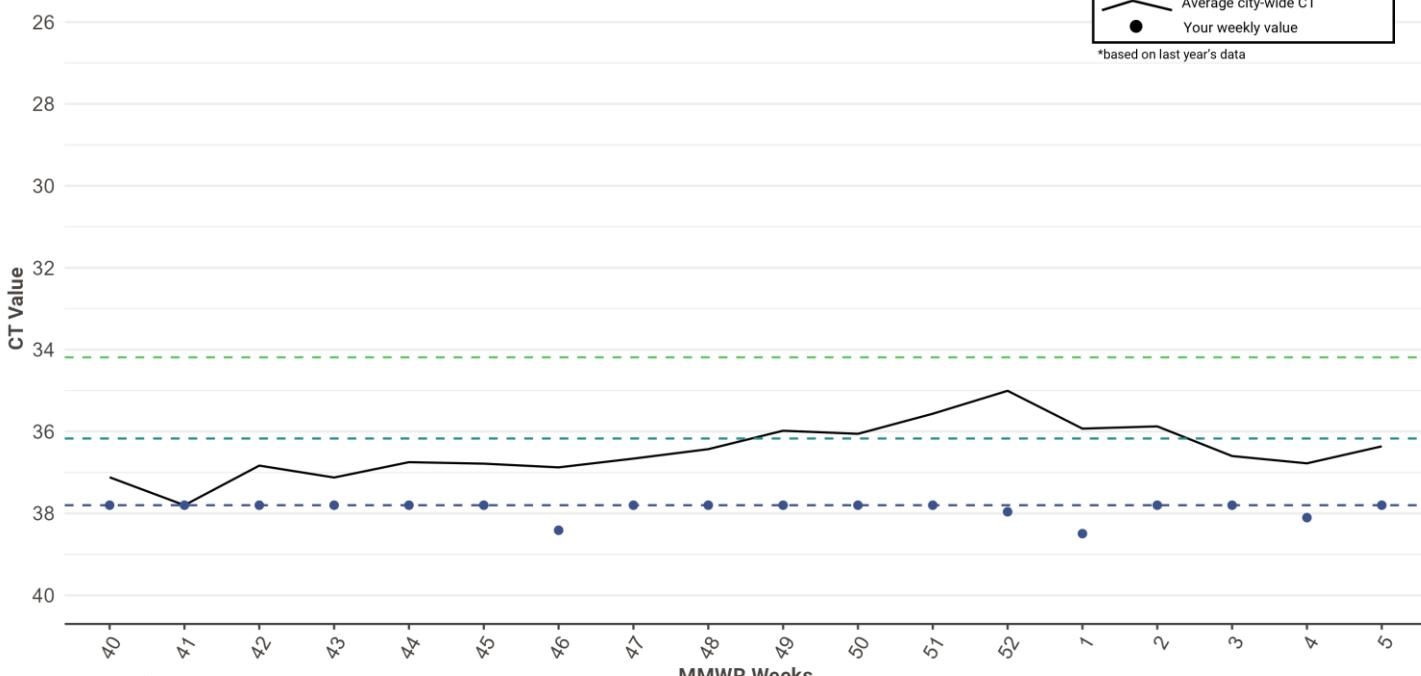
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for RESPIRATORY SYNCYTIAL VIRUS (RSV) at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - -	Low (25 th percentile)
●	Minimal (<25 th percentile)

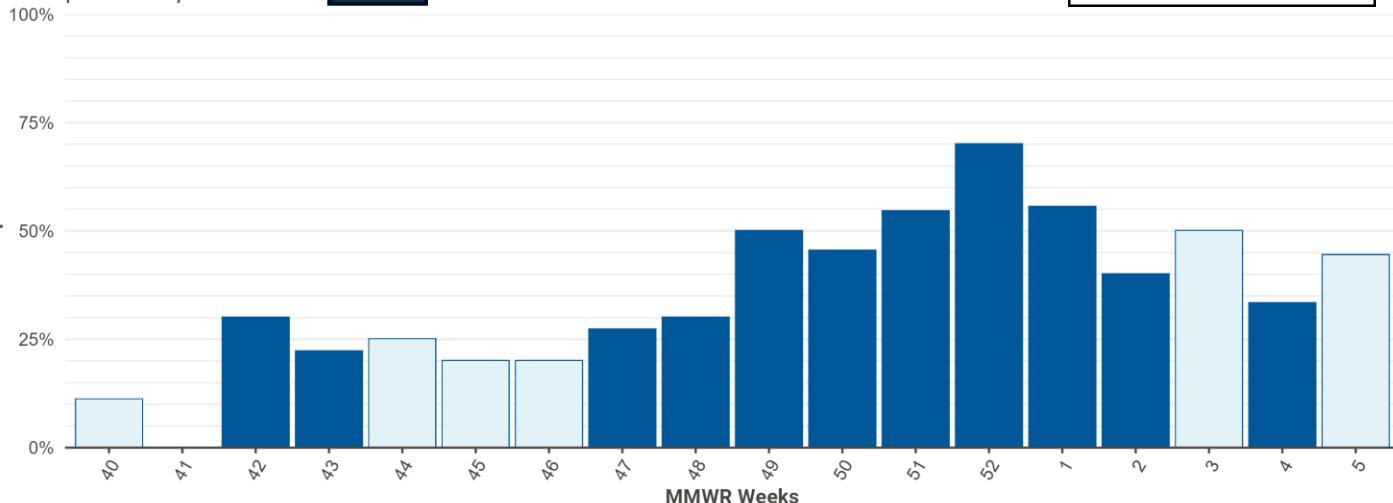
Average city-wide CT
Your weekly value

*based on last year's data


RESPIRATORY SYNCYTIAL VIRUS (RSV)

City-wide percent positive detection of RESPIRATORY SYNCYTIAL VIRUS (RSV), plus detect/non-detect at [REDACTED]

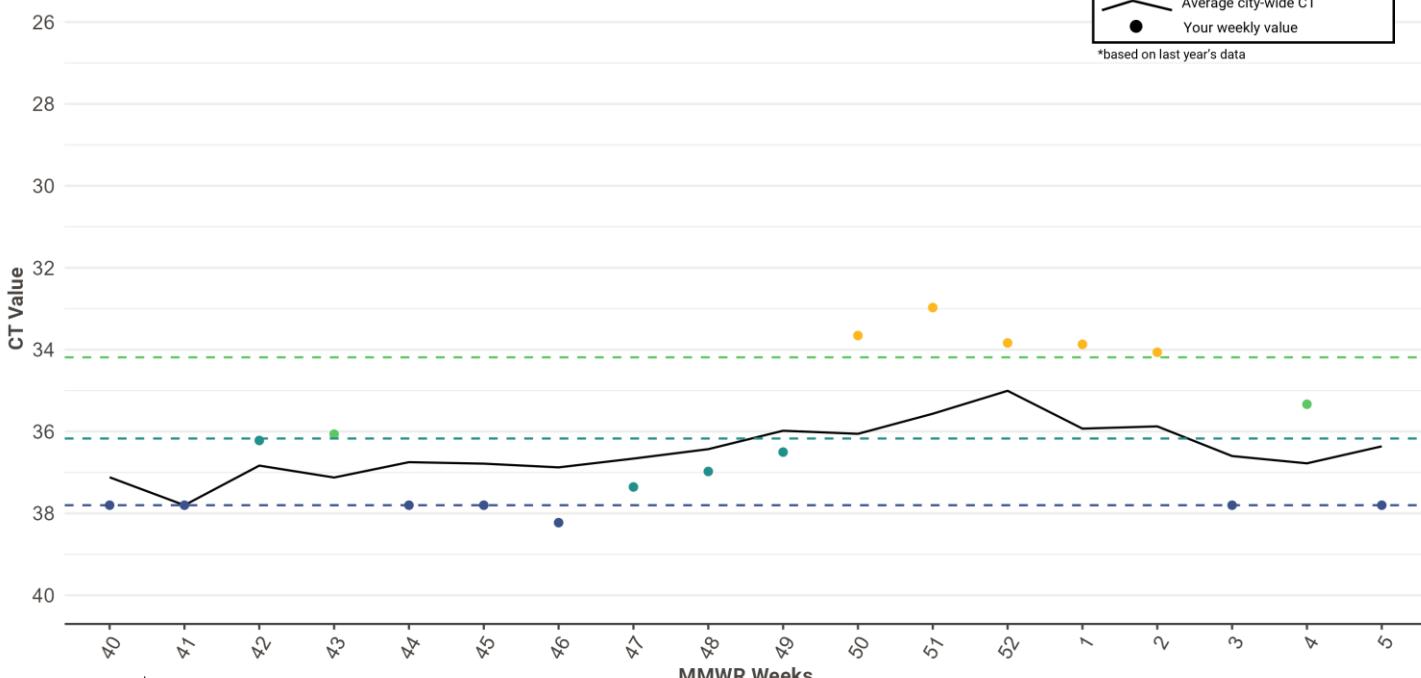
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for RESPIRATORY SYNCYTIAL VIRUS (RSV) at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - -	Low (25 th percentile)
●	Minimal (<25 th percentile)

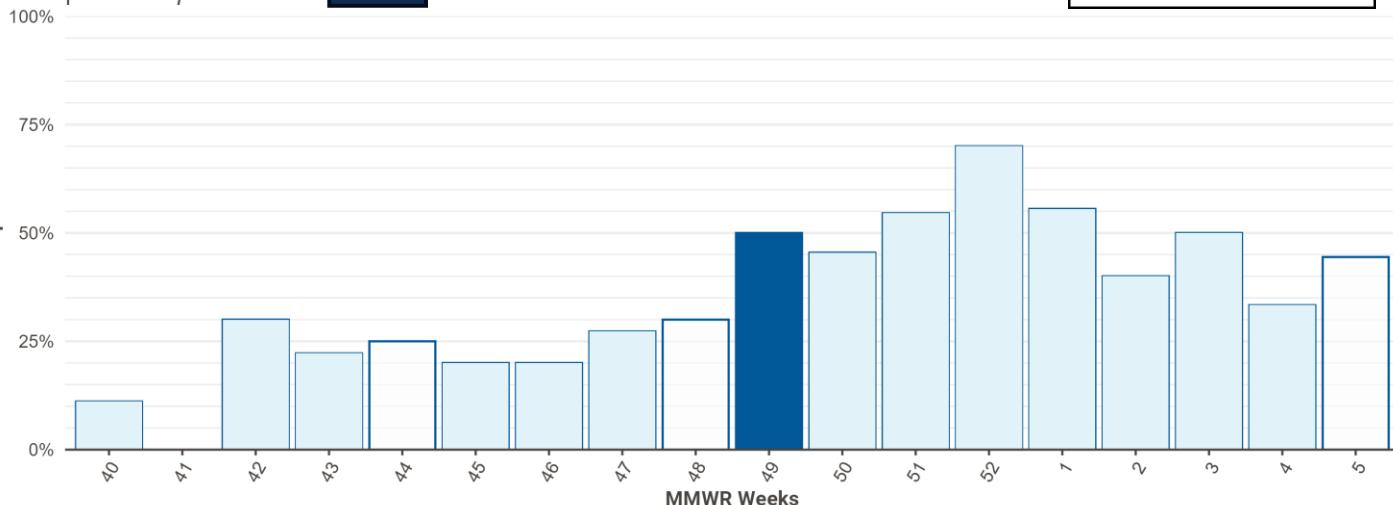
Average city-wide CT
Your weekly value

*based on last year's data


RESPIRATORY SYNCYTIAL VIRUS (RSV)

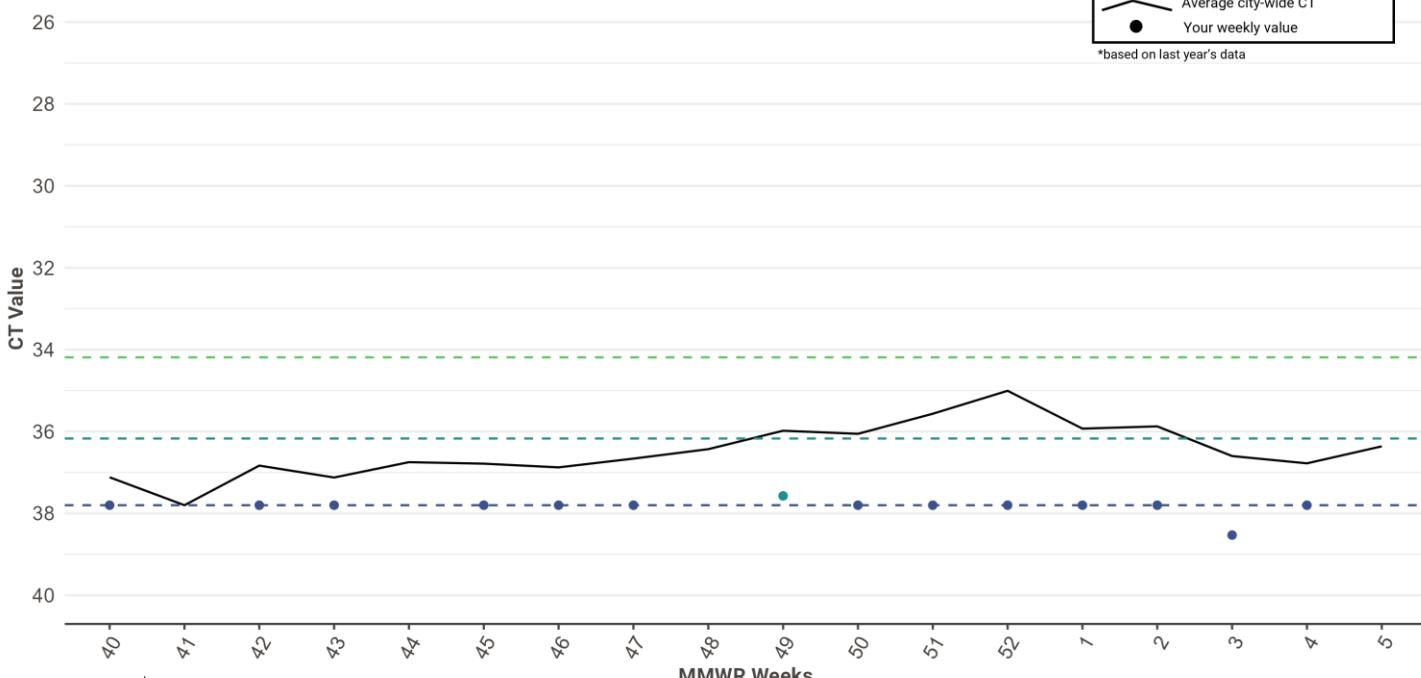
City-wide percent positive detection of RESPIRATORY SYNCYTIAL VIRUS (RSV) , plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for RESPIRATORY SYNCYTIAL VIRUS (RSV) at [REDACTED] plus city average trendline

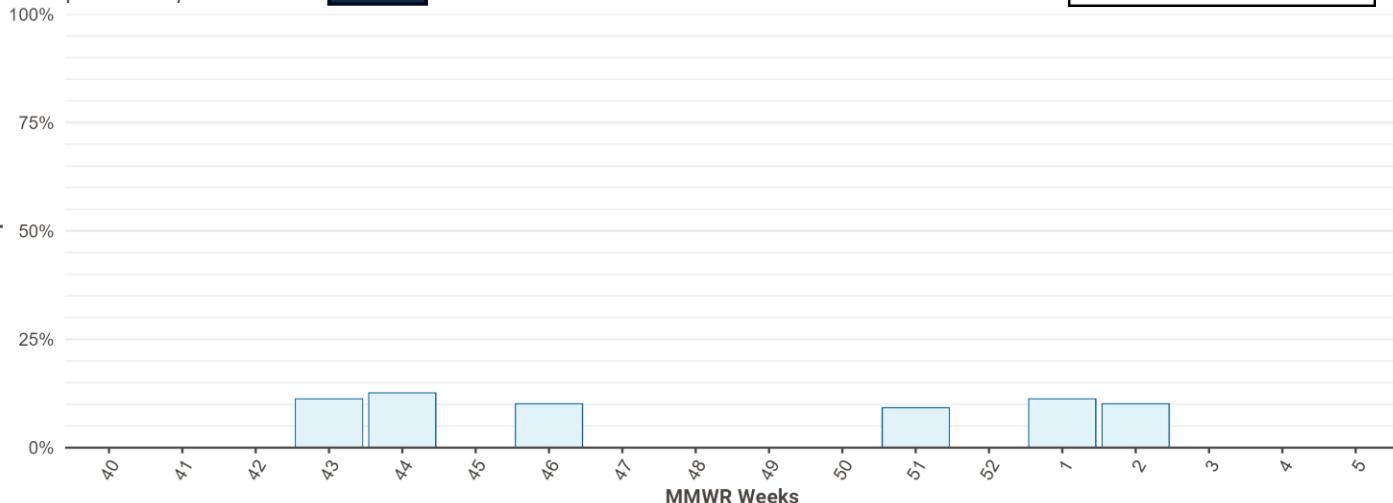
MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
 ●	Average city-wide CT
 ●	Your weekly value

*based on last year's data


METAPNEUMOVIRUS (MPV)

City-wide percent positive detection of METAPNEUMOVIRUS (MPV), plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS			
●	Positive	○	No cartridge submitted
●	Negative	●	

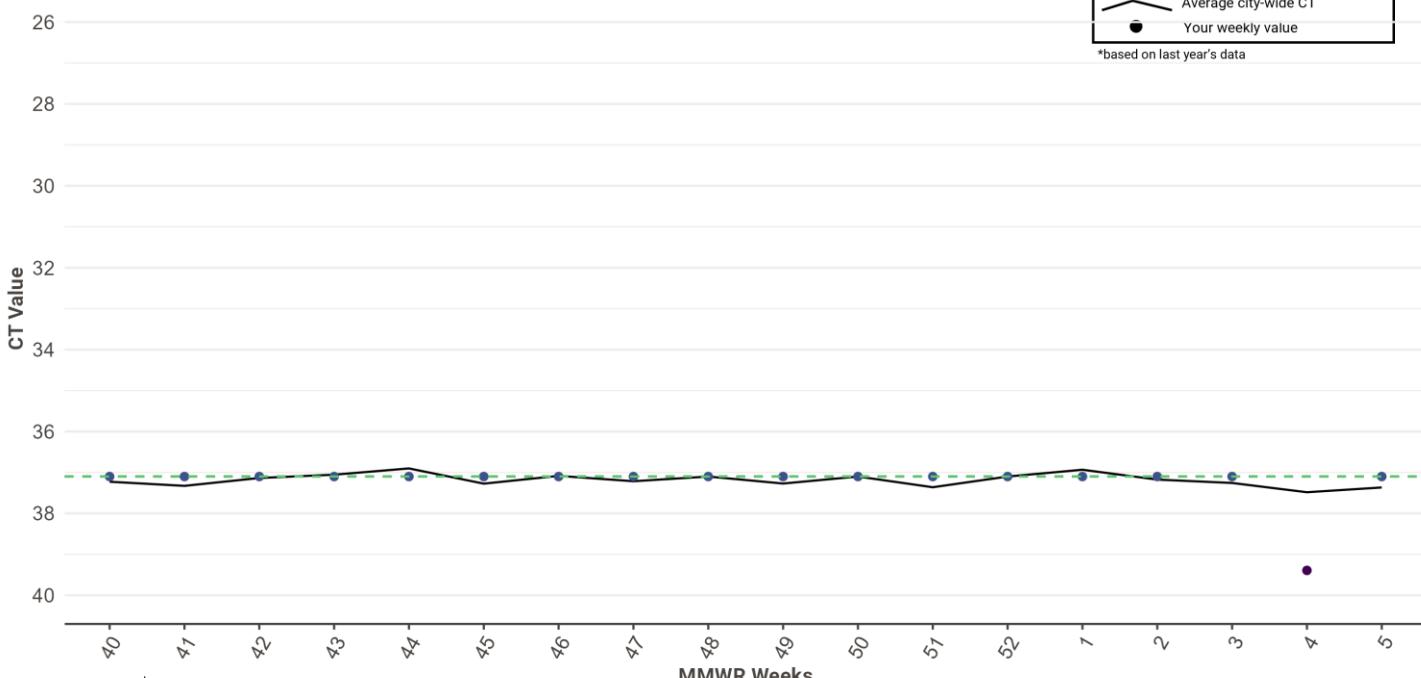


CT values for METAPNEUMOVIRUS (MPV) at [REDACTED], plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
●	High (75 th percentile)
●	Moderate (50 th percentile)
●	Low (25 th percentile)
●	Minimal (<25 th percentile)

Average city-wide CT
Your weekly value

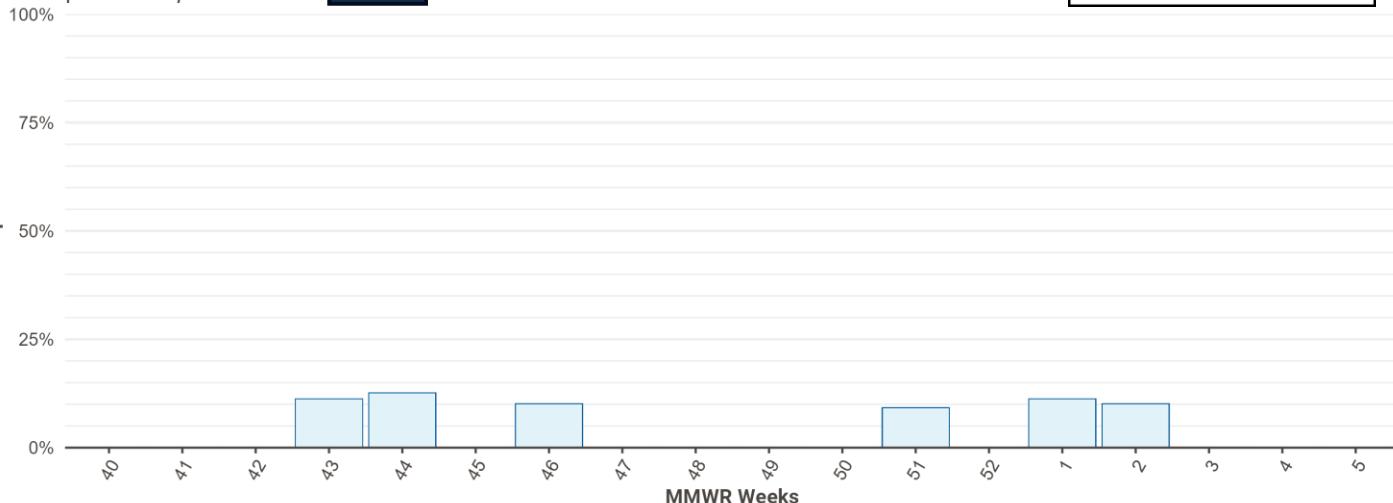
*based on last year's data



METAPNEUMOVIRUS (MPV)

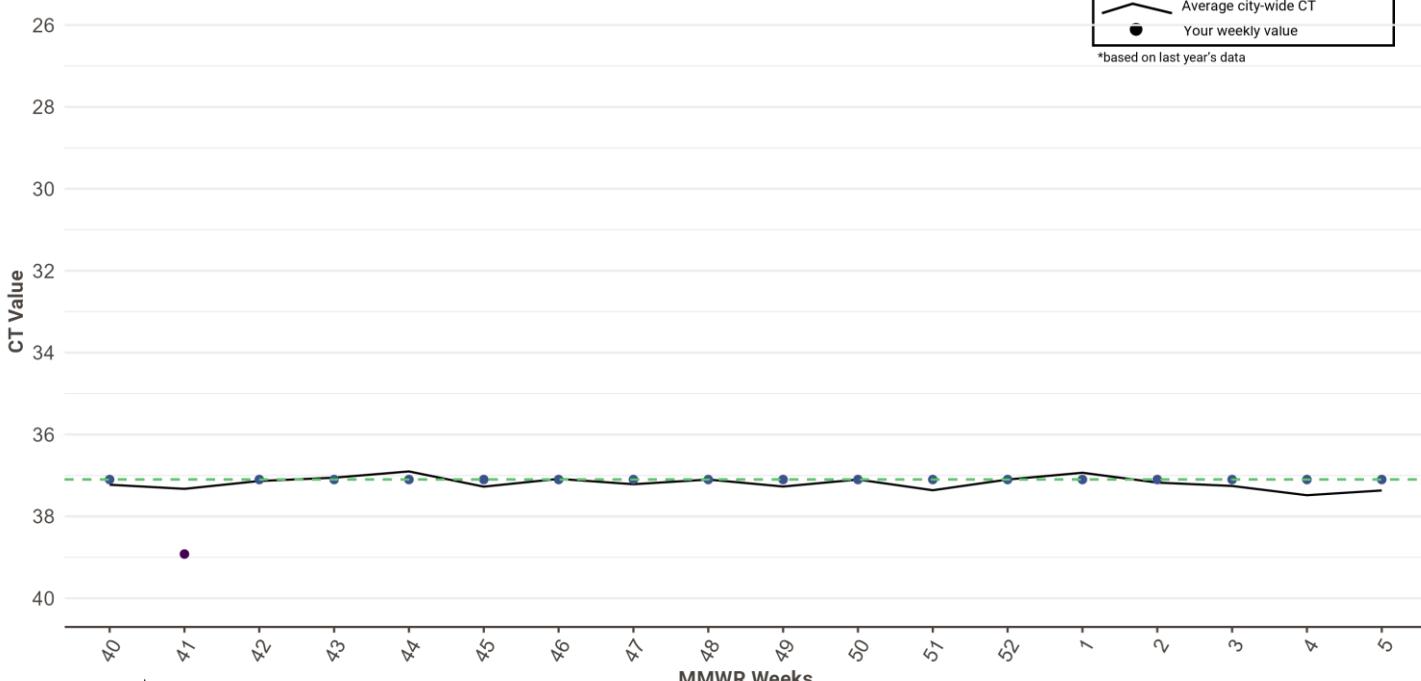
City-wide percent positive detection of METAPNEUMOVIRUS (MPV), plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for METAPNEUMOVIRUS (MPV) at [REDACTED], plus city average trendline

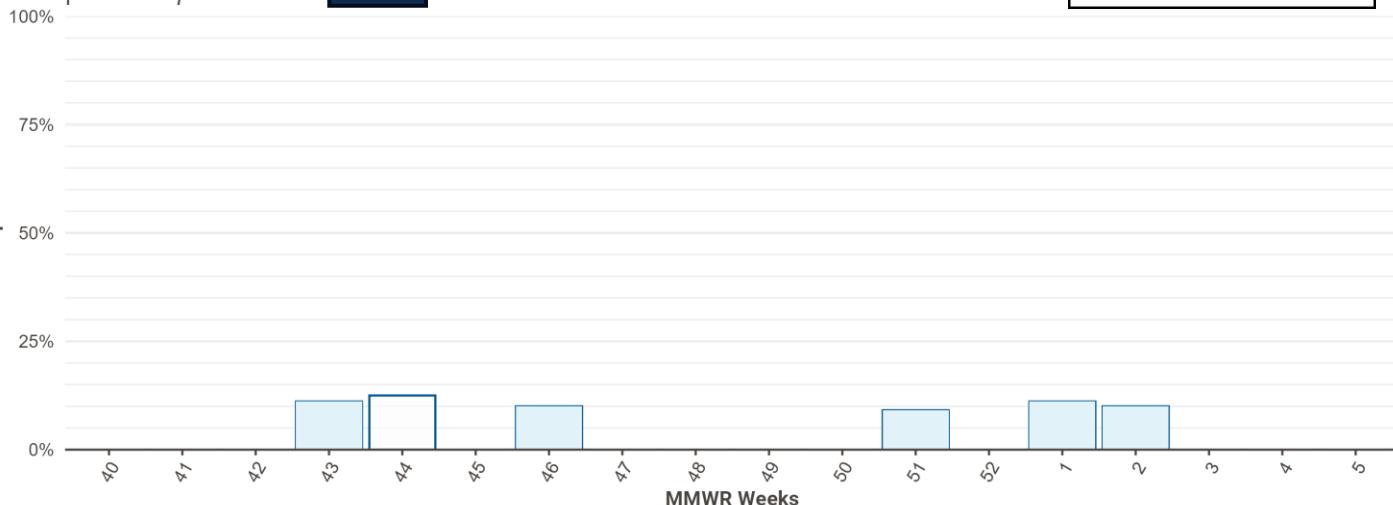
MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - - ●	High (75 th percentile)
- - - - ●	Moderate (50 th percentile)
- - - - - ●	Low (25 th percentile)
●	Minimal (<25 th percentile)
 Average city-wide CT	
 Your weekly value	

*based on last year's data


METAPNEUMOVIRUS (MPV)

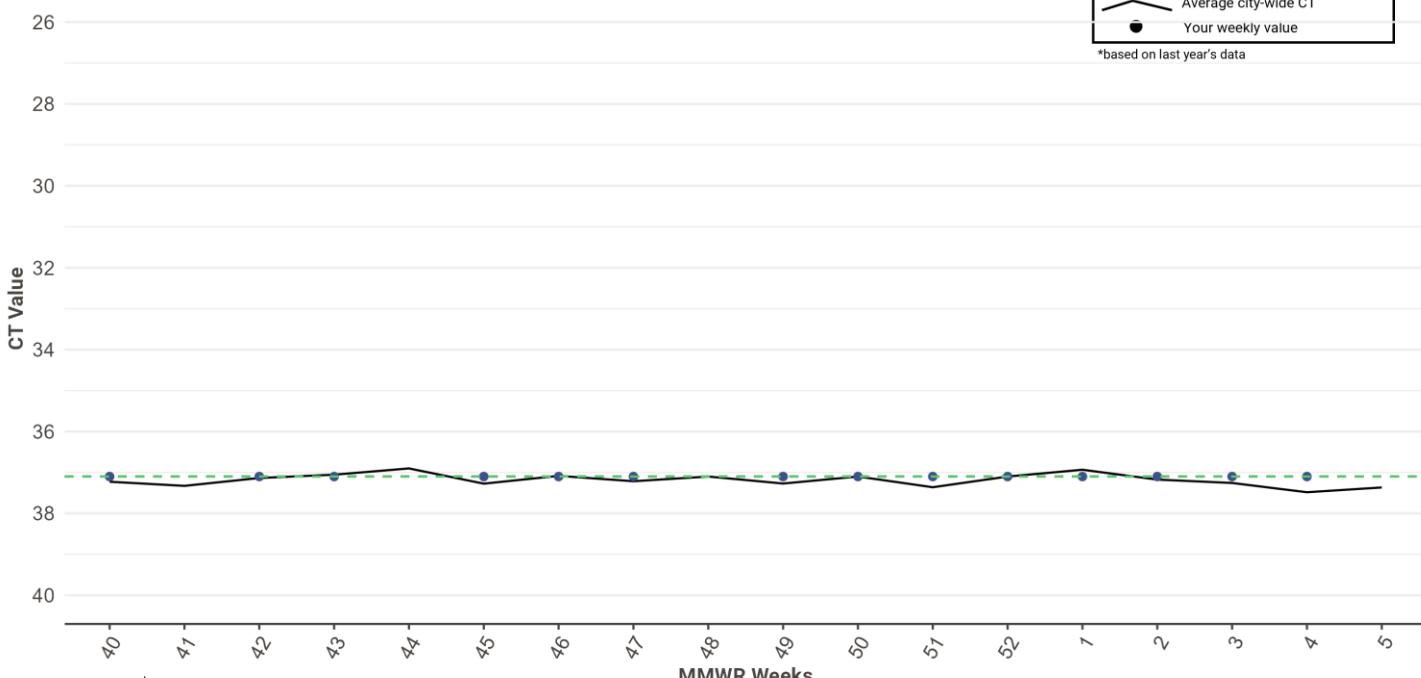
City-wide percent positive detection of METAPNEUMOVIRUS (MPV), plus detect/non-detect at [REDACTED]

YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for METAPNEUMOVIRUS (MPV) at [REDACTED], plus city average trendline

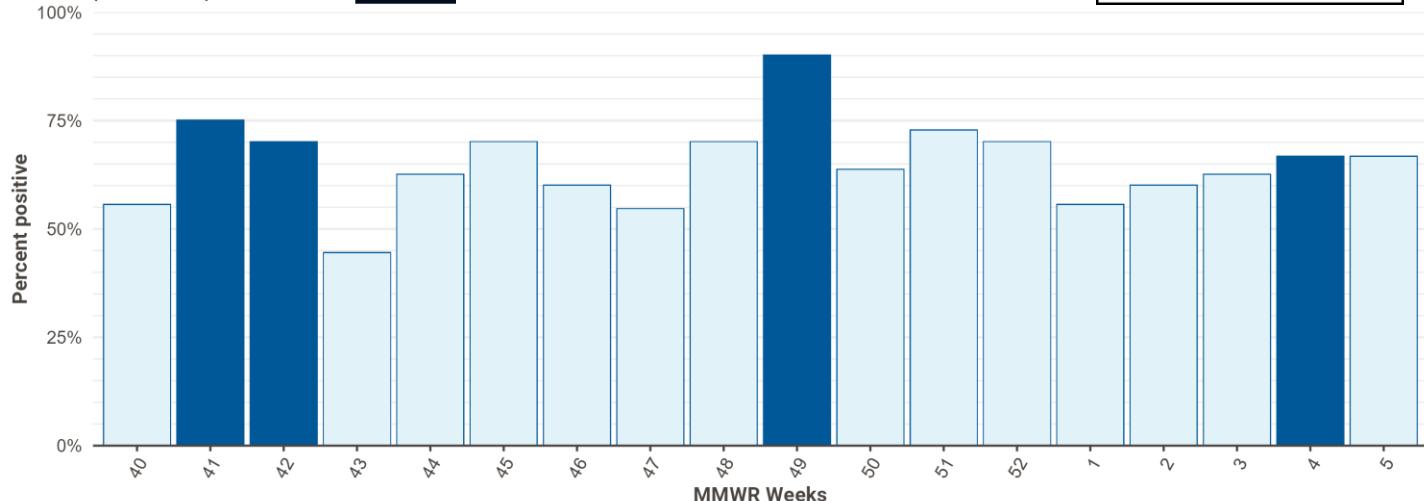
MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
 Average city-wide CT	
 Your weekly value	

*based on last year's data


STREPTOCOCCUS PNEUMONIAE

City-wide percent positive detection of S. PNEUMONIAE , plus detect/non-detect at [REDACTED]

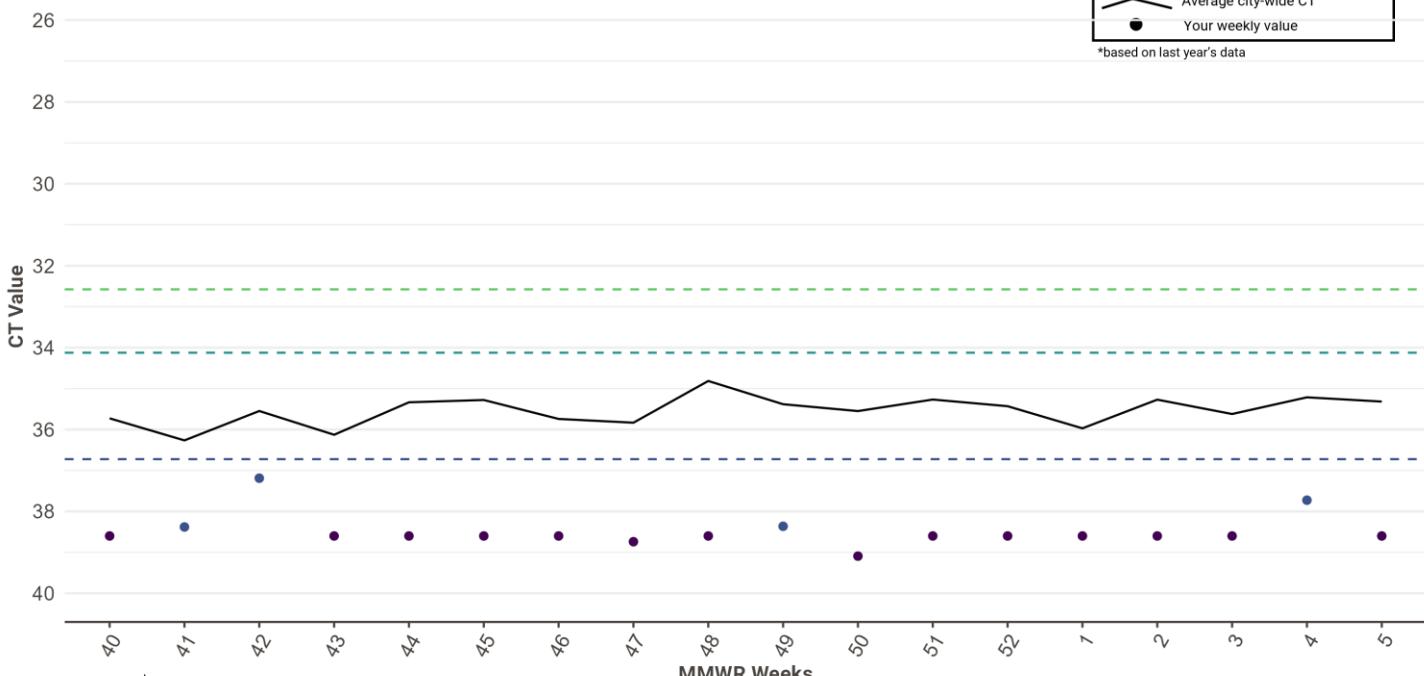
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for S. PNEUMONIAE at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
	Average city-wide CT
	Your weekly value

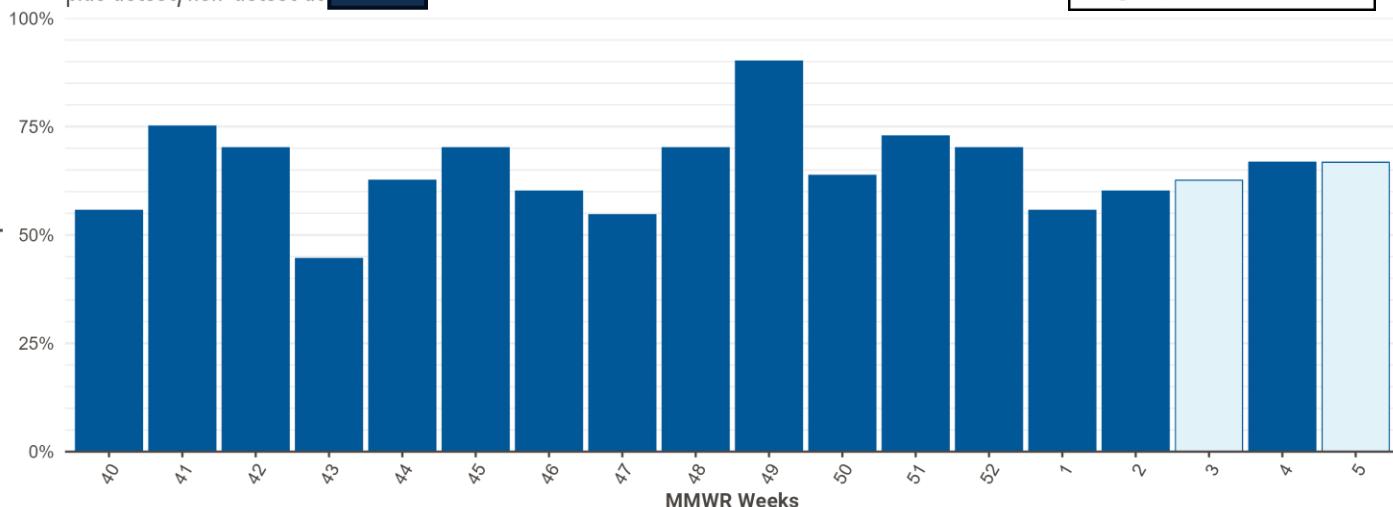
*based on last year's data



STREPTOCOCCUS PNEUMONIAE

City-wide percent positive detection of S. PNEUMONIAE , plus detect/non-detect at [REDACTED]

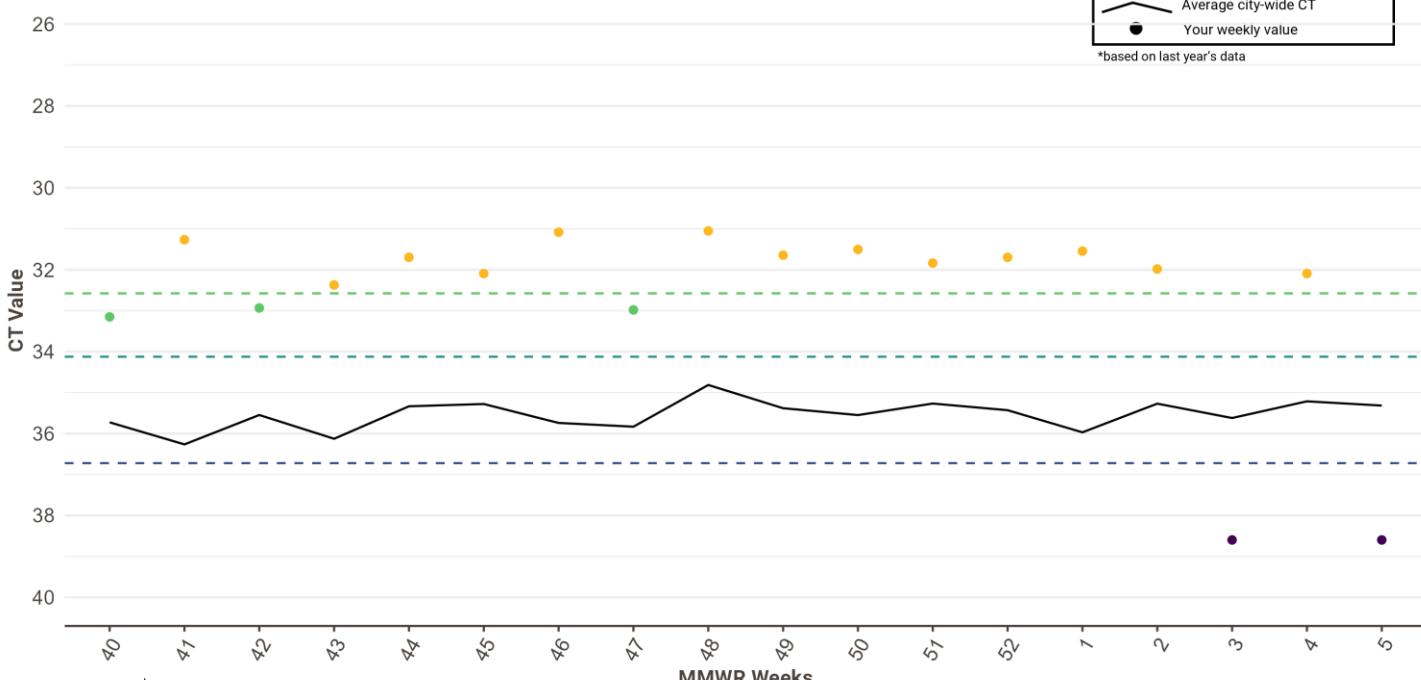
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for S. PNEUMONIAE at [REDACTED], plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
- - -	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
—	Average city-wide CT
●	Your weekly value

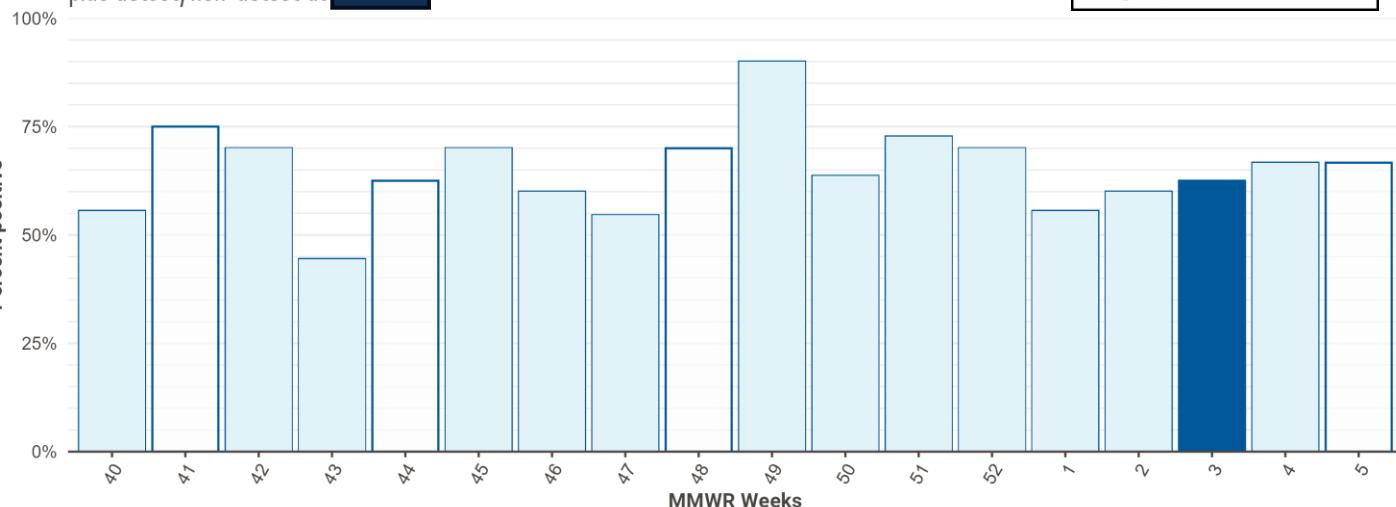
*based on last year's data



STREPTOCOCCUS PNEUMONIAE

City-wide percent positive detection of S. PNEUMONIAE , plus detect/non-detect at [REDACTED]

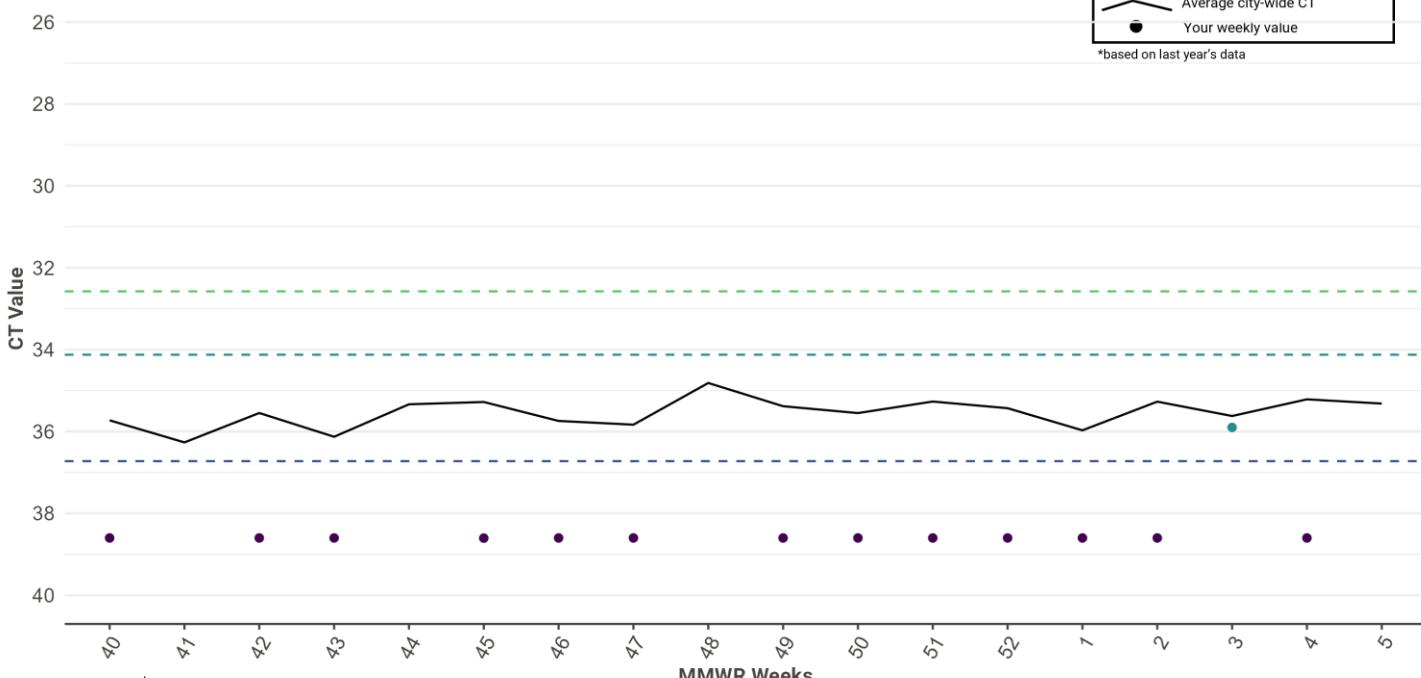
YOUR FACILITY RESULTS		
Positive	Negative	No cartridge submitted



CT values for S. PNEUMONIAE at [REDACTED] plus city average trendline

MAXIMUM CUTOFFS*	
●	Very high (>75 th percentile)
○	High (75 th percentile)
- - -	Moderate (50 th percentile)
- - - -	Low (25 th percentile)
●	Minimal (<25 th percentile)
	Average city-wide CT
	Your weekly value

*based on last year's data



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CDPH Lakeview Specialty Clinic



Hannah Barbian, PhD

Sofiya Bobrovska, MPH

Latifah Boyd, MPH

Mary Hayden, MD

Kevin J. Kunstman

Stefan J. Green, PhD

Erin P. Newcomer, PhD

LAB-BASED SURVEILLANCE TEAM

Kendall Anderson, MPH

Alyse Kittner, MPH

Keenan Bailey, MS

Colin Korban, MPH

Rachel Berkowitz, MPH

Krystal Lamb, MPH

Kristian Clausell-Mobley, MS

V. Eloesa McSorley, PhD

Peter DeJonge, PhD

Samantha Smith, MS

Dorothy Foulkes, MS

Haifa Wahbeh, MBA, CFFE

Hallie Hutchison, MPH

Deniz Yuce, MD, PhD

Cover photo:

3D renditions of COVID-19 (left), RSV (center; oblong shape), and flu (right), three respiratory viruses.

Credit:

National Institute of Allergy and Infectious Diseases

CONTACT:

Haifa Wahbeh

haifa.wahbeh@cityofchicago.org