SURVEILLANCE SUMMARY REPORT

EPIDEMIOLOGICAL WEEK 1:
1 – 7 JANUARY 2023

The Surveillance Summary Report contains information on syndromes and communicable diseases reported into the Epidemiology and Surveillance Unit by Epidemiological Week (or as otherwise indicated). The Report currently contains 3 sections:

1. *Syndromic Surveillance (including Influenza and Severe Acute Respiratory Infection (SARI))*
2. *Routine Communicable Disease Surveillance*
3. *COVID-19 Surveillance*

REPORT BASED ON DATA RECEIVED IN THE EPIDEMIOLOGY AND SURVEILLANCE UNIT BY 11 JANUARY 2023

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Syndromic Surveillance

Public health surveillance is, according to the World Health Organization (WHO), "the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice." Public health surveillance may be used to serve as an early warning system for impending public health emergencies, monitor and clarify the epidemiology of health problems, allow priorities to be set, and inform public health policy and strategies.

Syndromic surveillance is the analysis of data to detect or anticipate disease outbreaks. According to a CDC definition, "the term 'syndromic surveillance' applies to surveillance using health-related data that precede diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response." This is important as the first indications of disease outbreak may not be the definitive diagnosis of a physician or a lab. Action on an increase or alert in the reported syndromes under surveillance could potentially stop or slow the spread of the outbreak. The syndromes under surveillance are as follows:

Acute Flaccid Paralysis (AFP): Acute (sudden) onset of flaccid paralysis in the absence of trauma. Any patient in whom a healthcare worker suspects acute flaccid paralysis is considered to be a suspected case of poliomyelitis.
Fever and Haemorrhagic symptoms: Acute (sudden) onset of fever (> 38.0°C or 100.4°F) in a previously healthy person, presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice (e.g. purpura, epistaxis, haemoptysis, melena).
Fever and Neurological symptoms (except AFP): Acute (sudden) onset of fever (> 38.0°C or 100.4°F) with or without headache and vomiting in a previously healthy person presenting with at least one of the following signs: meningeal irritation, convulsions, altered consciousness, altered sensory manifestations, paralysis except AFP.
Fever and Rash: Acute (sudden) febrile illness (>38.0°C or 100.4°F) in a previously healthy person, presenting generalized rash. Any patient in whom a healthcare worker suspects measles or rubella infection is considered to be a suspected measles/rubella case. These patients generally have fever and generalized rash illnesses.
Fever and Respiratory Symptoms (Acute Respiratory Infection): Acute (sudden) febrile illness (> 38.0°C or 100.4°F) in a previously healthy person, presenting with cough or sore throat with or without respiratory distress.
Gastroenteritis: Acute (sudden) onset of diarrhoea, with or without fever (> 38C or 100.4F) and presenting with 3 or more loose or watery stools in the past 24 hours, with or without dehydration, vomiting and/or visible blood.
Undifferentiated Fever: An acute (sudden) febrile illness (> 38.0°C or 100.4°F) in a previously healthy person of less than 7 days duration with two or more of the following manifestations: headache, retro-orbital pain, myalgia, arthralgia, nausea, vomiting, jaundice – AND without any particular symptoms fitting another syndrome definition.

Alert Levels:

Alert levels are used to identify potential public health risks. A risk assessment will determine the need for any public health action.

Epidemiological Week 1

Syndrome	# of Reported Cases	Alert Level
Acute Flaccid Paralysis	0	LOW
Fever and Haemorrhagic Symptoms	0	LOW
Fever and Neurological Symptoms	0	LOW
Fever and Rash	0	LOW
Fever and Respiratory Symptoms (under 5 years)	10	MEDIUM
Fever and Respiratory Symptoms (5 years and older)	49	LOW
Gastroenteritis (under 5 years)	1	LOW
Gastroenteritis (5 years and older)	11	MEDIUM
Undifferentiated Fever (under 5 years)	0	LOW
Undifferentiated Fever (5 years and older)	0	LOW
% of sentinel sites reporting		**100.00%**

The data presented in this section of the report reflects information reported into the Epidemiology and Surveillance Unit through Bermuda's sentinel surveillance system. Routine reporting from sentinel sites decreased from EW 13 (2020) as measures were implemented to minimize COVID-19 exposure in healthcare settings.

During EW 1, there were syndromic surveillance alerts for Fever and Respiratory Symptoms and Gastroenteritis.

Syndromes reported in EW 1 included Fever and Respiratory Symptoms (adenovirus, bronchitis, coronavirus NL63, human metapneumovirus, human rhinovirus/enterovirus, influenza, parainfluenza, RSV, SARS-CoV-2/COVID-19) and Gastroenteritis (campylobacter, c. difficile, norovirus, rotavirus, salmonella).

All cases of SARS-CoV-2 (COVID-19) may not be reflected in this syndromic surveillance data as the disease presentation does not always fit within a specific syndrome. COVID-19 data is presented in another section of this report.

Epidemiological Week 1

Syndrome	# of Reported Cases	5-Yr Average*	Medium Alert Threshold**	High Alert Threshold***	Alert Level
Acute Flaccid Paralysis	0	0	0	0	LOW
Fever and Haemorrhagic Symptoms	0	0	0	0	LOW
Fever and Neurological Symptoms	0	0	1	2	LOW
Fever and Rash	0	0	1	2	LOW
Fever and Respiratory Symptoms (under 5 years)	10	3	6	11	MEDIUM
Fever and Respiratory Symptoms (5 years and older)	49	61	100	180	LOW
Gastroenteritis (under 5 years)	1	1	2	5	LOW
Gastroenteritis (5 years and older)	11	5	8	15	MEDIUM
Undifferentiated Fever (under 5 years)	0	0	0	1	LOW
Undifferentiated Fever (5 years and older)	0	0	1	2	LOW
% of sentinel sites reporting					**100.00%**

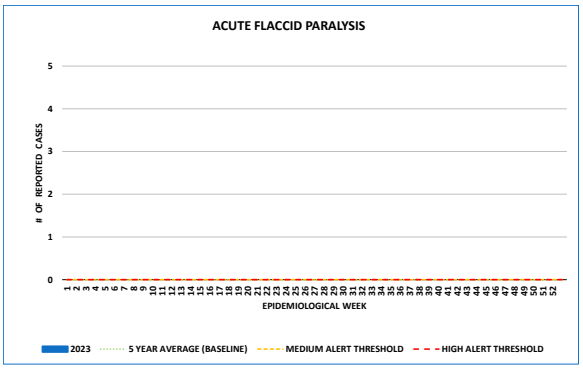
*5-Yr Average calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years.

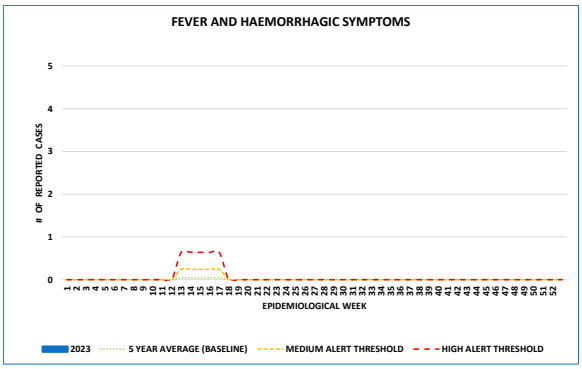
** Medium Alert Threshold is set at 1 standard deviation above 5-yr average

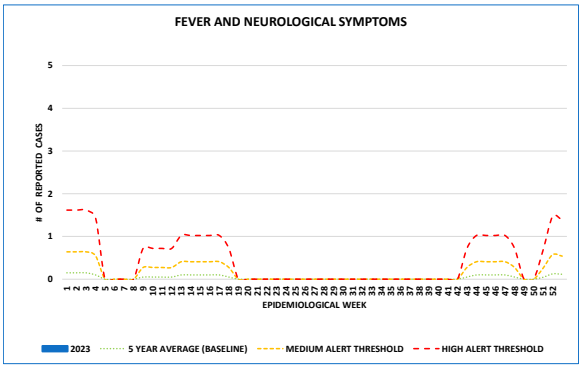
*** High Alert Threshold is set at 3 standard deviations above 5-year average

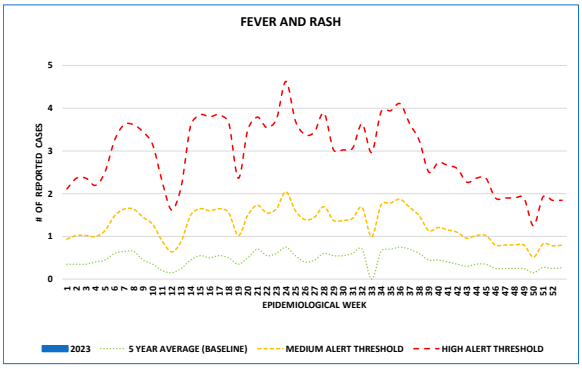
4-Week Summary: Epidemiological Weeks 50-52, 2022 - 1, 2023

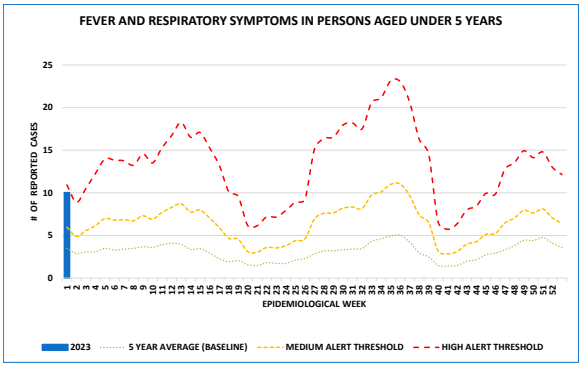
Syndrome	# of Reported Cases	5-Yr Average	Medium Alert Threshold**	High Alert Threshold***	Alert Level
Acute Flaccid Paralysis	0	0	0	0	LOW
Fever and Haemorrhagic Symptoms	0	0	0	0	LOW
Fever and Neurological Symptoms	0	0	1	2	LOW
Fever and Rash	0	0	2	4	LOW
Fever and Respiratory Symptoms (under 5 years)	31	3	20	34	MEDIUM
Fever and Respiratory Symptoms (5 years and older)	156	61	237	413	LOW
Gastroenteritis (under 5 years)	1	1	4	9	LOW
Gastroenteritis (5 years and older)	28	5	21	37	MEDIUM
Undifferentiated Fever (under 5 years)	0	0	0	1	LOW
Undifferentiated Fever (5 years and older)	0	0	1	3	LOW

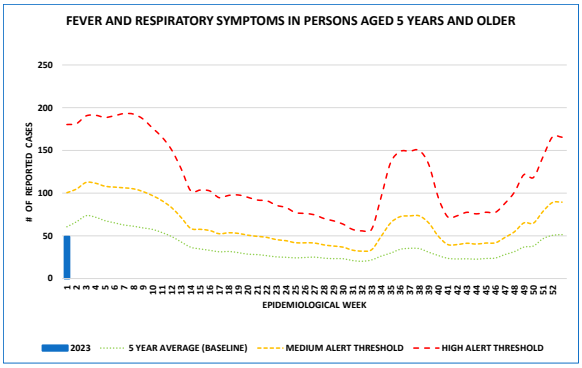

ACUTE FLACCID PARALYSIS
OF REPORTED CASES
EPIDEMIOLOGICAL WEEK
2023
5 YEAR AVERAGE (BASELINE)
MEDIUM ALERT THRESHOLD
HIGH ALERT THRESHOLD


FEVER AND HAEMORRHAGIC SYMPTOMS
OF REPORTED CASES
EPIDEMIOLOGICAL WEEK
2023
5 YEAR AVERAGE (BASELINE)
MEDIUM ALERT THRESHOLD
HIGH ALERT THRESHOLD


FEVER AND NEUROLOGICAL SYMPTOMS
OF REPORTED CASES
EPIDEMIOLOGICAL WEEK
2023
5 YEAR AVERAGE (BASELINE)
MEDIUM ALERT THRESHOLD
HIGH ALERT THRESHOLD


FEVER AND RASH
OF REPORTED CASES
EPIDEMIOLOGICAL WEEK
2023
5 YEAR AVERAGE (BASELINE)
MEDIUM ALERT THRESHOLD
HIGH ALERT THRESHOLD


FEVER AND RESPIRATORY SYMPTOMS IN PERSONS AGED UNDER 5 YEARS
OF REPORTED CASES
EPIDEMIOLOGICAL WEEK
2023
5 YEAR AVERAGE (BASELINE)
MEDIUM ALERT THRESHOLD
HIGH ALERT THRESHOLD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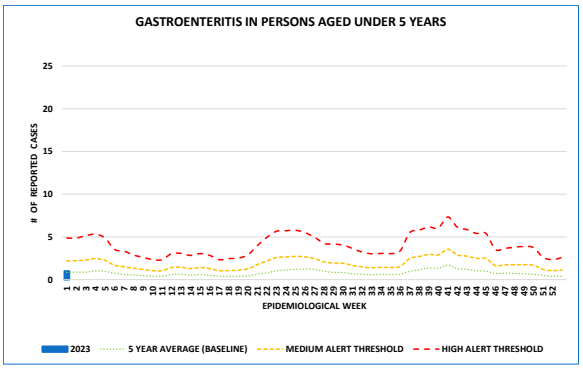
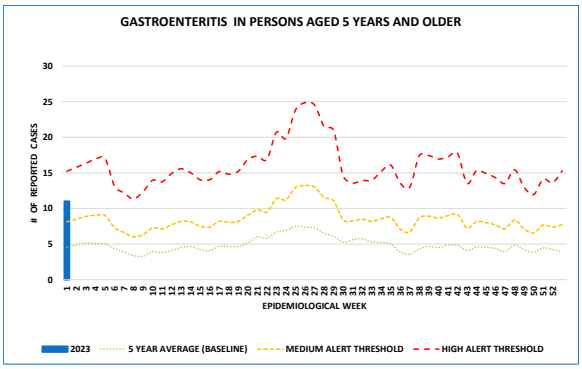
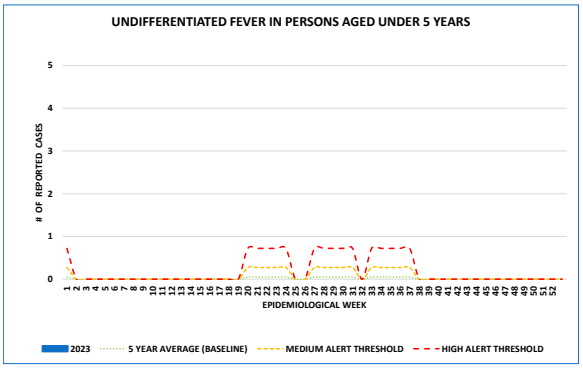
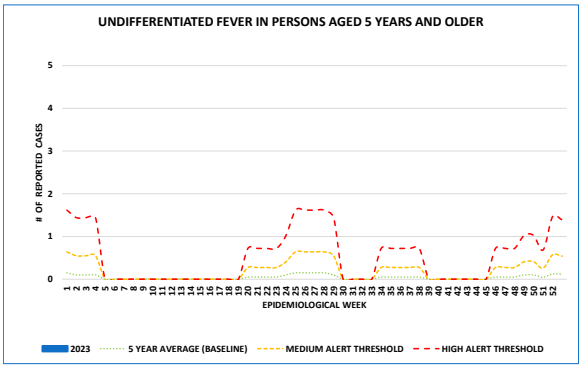








Influenza and Severe Acute Respiratory Infection (SARI)

Surveillance case definitions included here are as follows:

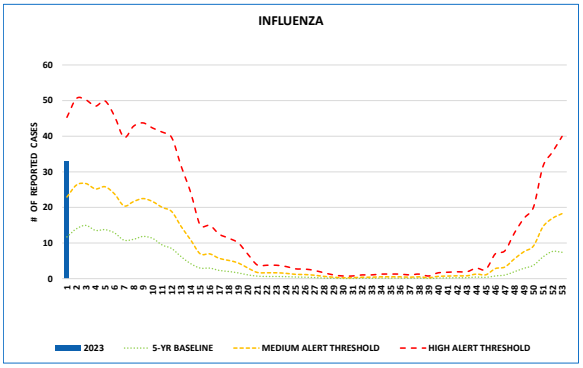
Influenza:

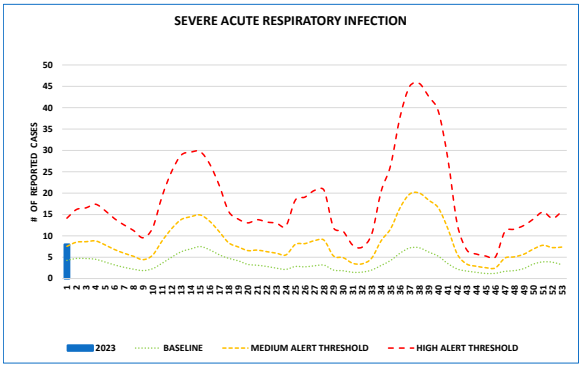
Clinical (or suspect): A person with fever, headache, myalgia, and cough

Laboratory confirmed: A clinical or suspect case with positive laboratory findings

Severe Acute Respiratory Infection (SARI):

An acute respiratory infection with history of fever or measured fever of ≥38°C and cough, with onset within the last 10 days, and requiring hospitalization.





Routine Communicable Disease Surveillance *(EWs 45-48, 2022)*

An increase in confirmed diseases may not necessarily indicate a true increase in disease incidence. Reporting and confirmatory testing may rise due to other causes such as increased testing capability and increased awareness of circulating diseases, locally and globally.

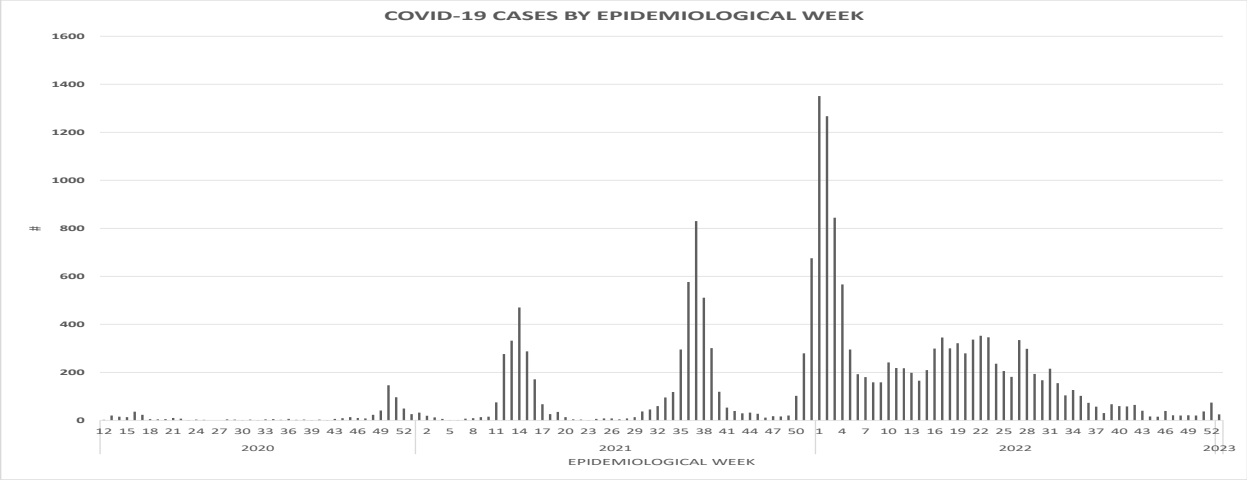
In instances where the relative level is above normal (indicated in red), further epidemiological investigation may be conducted to determine if there are clusters of illness or outbreaks occurring. This is dependent on many factors, including the severity of the illness, the potential for spread, the availability of control measures, political considerations, public relations, and available resources.

DISEASES/PATHOGENS	Cumulative Total (Lab Conf. cases)	
	Curr. Yr	Last Yr.
Diseases Reportable under the International Health Regulations		
Cholera	0	0
Human Influenza (new sub-type)	0	0
Pneumonic Plague	0	0
Poliomyelitis	0	0
Severe Acute Respiratory Syndrome (SARS)	0	0
Yellow Fever	0	0
Air Borne Diseases		
Adenoviruses	42	9
COVID-19	11712	5132
Human Metapneumovirus [hMPV]	25	11
Influenza	48	2
Respiratory Syncytial Virus [RSV]	86	19
Tuberculosis - Extrapulmonary	1	0
Tuberculosis - Pulmonary	0	2
Vaccine Preventable Diseases under the Caribbean Expanded Programme on Immunization		
Chicken Pox [Varicella] (clinically confirmed)	9	5
Diphtheria	0	0
Measles	0	0
Meningitis [due to *Haemophilus influenzae*]	0	0
Meningitis [due to *Streptococcus pneumoniae*]	0	0
Meningococcal Infection [due to *Neisseria meningitidis*]	0	0
Mumps	0	0
Pertussis [Whooping Cough]	0	0
Pneumonia [due to *Haemophilus influenzae*]	0	0
Pneumonia [due to *Streptococcus pneumoniae*]	0	12
Rotavirus	7	2
Rubella [Congenital German Measles]	0	0
Rubella [German Measles]	0	0
Tetanus [excluding Neonatal]	1	0
Tetanus Neonatorum	0	0
Vector Borne Diseases		
Chagas Disease	0	0
Chikungunya	0	0
Dengue Fever	0	0
Dengue Haemorrhagic Fever/Shock Syndrome	0	0
Leptospirosis	0	0
Malaria	0	0
Zika	0	0
Food and Water Borne Pathogens		
Campylobacter	35	58
Ciguatera Poisoning (clinically confirmed)	0	1
Cryptosporidium	8	2
E. Coli (pathogenic)	46	25
Giardia	4	5
Hepatitis A	0	0
Listeria	1	0
Norovirus	9	5
Salmonella	40	40
Shigella	1	1
Staphylococcus (pathogenic)	0	2
Taxoplasma	0	0
Typhoid and *Paratyphoid*	0	0
Vibrio (excluding Cholera)	0	0
Other Diseases		
Viral Encephalitis/Meningitis	0	0
Hepatitis B	0	2
Hepatitis C	0	1
Leprosy (Hansens Disease)	0	0
Meningitis/Encephalitis (not specified)	0	0
Rabies (in Humans)	0	0
Specific Diseases under Country Surveillance		
Chlamydia	188	167
Gonorrhoea	15	16
Herpes	61	32
Syphilis	1	2

COVID-19 Surveillance

Bermuda's Current COVID-19 Status and Indicators

As of EW 1, Bermuda has reported 18,709 confirmed cases of COVID-19.



Indicator *(Data subject to change upon reconcilaition)*	Target	At end of EW 50 17-Dec-22	At end of EW 51 24-Dec-22	At end of EW 52 31-Dec-22	At end of EW 1 7-Jan-23
New Cases	decreasing	20	37	74	25
% imported					
% unlinked	decreasing	55%	57%	30%	76%
Country Transmission Classification					
Effective reproduction number					
Effective reproduction number (7 day moving average)	<1	1.15	1.38	1.42	1.01
Positivity rate (%)					
Positivity Rate (%) (7 day moving average)	<1%	2.5%	8.4%	15.3%	2.3%
Positivity Rate (%) (14 day moving average)	<1%	4.8%	5.5%	11.9%	8.8%
Incidence Rate					
Incidence Rate per 100,000 (7 day moving average)	<10	4	8	17	6
Incidence Rate per 100,000 (14 day moving average)	<10	5	6	12	11
Hospitalization rate: New admissions					
Hospitalization rate per 100,000 (7 day moving average)	<2.5	0.9	1.6	1.1	1.8
Hospitalization rate per 100,000 (14 day moving average)	<2.5	1.0	1.2	1.3	1.4
Hospitalization rate: Current admissions					
Hospitalization rate per 100,000 (7 day moving average)	<25	12.5	17.1	12.9	13.2
Hospitalization rate per 100,000 (14 day moving average)	<25	11.5	14.8	15.0	13.1
Mortality rate:					
Mortality rate per 100,000 (7 day moving average)	<0.5	0.0	0.3	0.0	0.7
Mortality rate per 100,000 (14 day moving average)	<0.5	0.0	0.2	0.2	0.3
CDC Community Levels		Low	Low	Low	Medium
New Cases per 100,000	<200	31	58	116	39
Hospitalization rate per 100,000 (7 day total)	<10	6.2	10.9	7.8	12.5
Inpatient beds occupied by COVID-19 patients (7-day average)	<10%	6%	8%	6%	6%
CDC Travel Health Notice Level					
Primary Criteria					
New non-imported cases (past 28 days)	<50	82	98	152	156
Secondary Criteria					
Population Testing Rate per 100,000 (past 28 days)	>1500	138	138	151	156
Test-to-Case Ratio (past 28 days)	>30	30	25	18	8
Interventions (Curfew/Shelter in Place)					

Key	
Significantly worse than target (CDC only)	
Worse than target	
Around target	
Better than target	
Worse than historical trends	
Around historical trends	
Better than historical trends	

Epidemiological Weeks 2023

WEEK	FROM	TO	WEEK	FROM	TO
1	1-Jan-23	7-Jan-23	27	2-Jul-23	8-Jul-23
2	8-Jan-23	14-Jan-23	28	9-Jul-23	15-Jul-23
3	15-Jan-23	21-Jan-23	29	16-Jul-23	22-Jul-23
4	22-Jan-23	28-Jan-23	30	23-Jul-23	29-Jul-23
5	29-Jan-23	4-Feb-23	31	30-Jul-23	5-Aug-23
6	5-Feb-23	11-Feb-23	32	6-Aug-23	12-Aug-23
7	12-Feb-23	18-Feb-23	33	13-Aug-23	19-Aug-23
8	19-Feb-23	25-Feb-23	34	20-Aug-23	26-Aug-23
9	26-Feb-23	4-Mar-23	35	27-Aug-23	2-Sep-23
10	5-Mar-23	11-Mar-23	36	3-Sep-23	9-Sep-23
11	12-Mar-23	18-Mar-23	37	10-Sep-23	16-Sep-23
12	19-Mar-23	25-Mar-23	38	17-Sep-23	23-Sep-23
13	26-Mar-23	1-Apr-23	39	24-Sep-23	30-Sep-23
14	2-Apr-23	8-Apr-23	40	1-Oct-23	7-Oct-23
15	9-Apr-23	15-Apr-23	41	8-Oct-23	14-Oct-23
16	16-Apr-23	22-Apr-23	42	14-Oct-23	21-Oct-23
17	23-Apr-23	29-Apr-23	43	22-Oct-23	28-Oct-23
18	30-Apr-23	6-May-23	44	29-Oct-23	4-Nov-23
19	7-May-23	13-May-23	45	5-Nov-23	11-Nov-23
20	14-May-23	20-May-23	46	12-Nov-23	18-Nov-23
21	21-May-23	27-May-23	47	19-Nov-23	25-Nov-23
22	28-May-23	3-Jun-23	48	26-Nov-23	2-Dec-23
23	4-Jun-23	10-Jun-23	49	3-Dec-23	9-Dec-23
24	11-Jun-23	17-Jun-23	50	10-Dec-23	16-Dec-23
25	18-Jun-23	24-Jun-23	51	17-Dec-23	23-Dec-23
26	25-Jun-23	1-Jul-23	52	24-Dec-23	30-Dec-23