

COVID-19 Report

11/18/2020



Testing

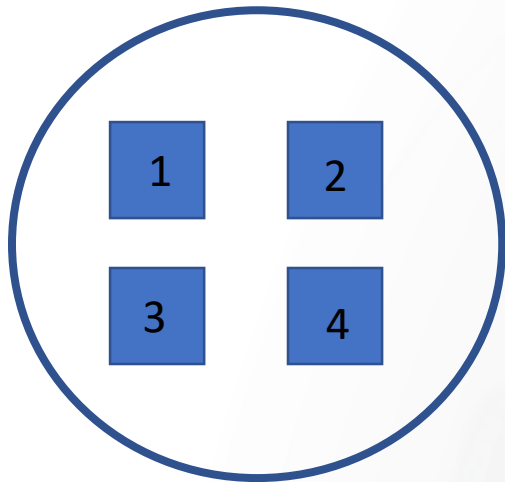
of Total PCR tests to date (1/17 PM) = 14,185 (including OIH & Sherburne)

With the current surge in cases across the state, results are taking a bit longer than usual

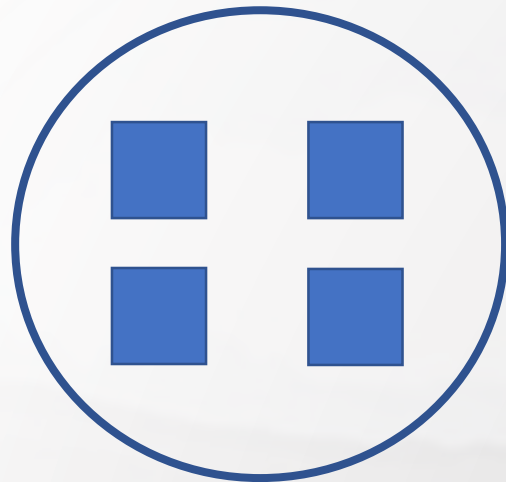
Overview

- There is significant spread caused by a lack of adherence to COVID mitigation measures and household spread.
- We had 62 cases in the last 10 days
- 101 cases in the last 20 days
- 132 cases in the last 30 days
- Not all cases are symptomatic, but many are

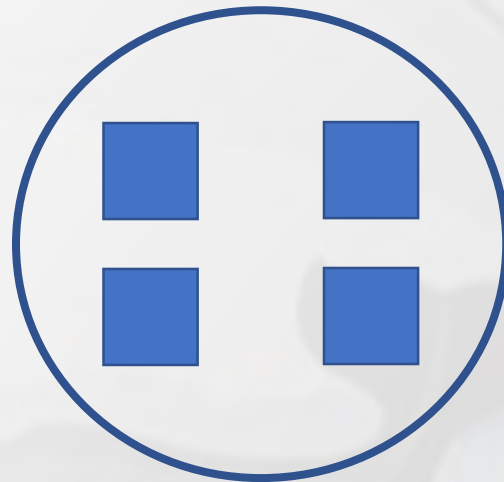
How it's spreading



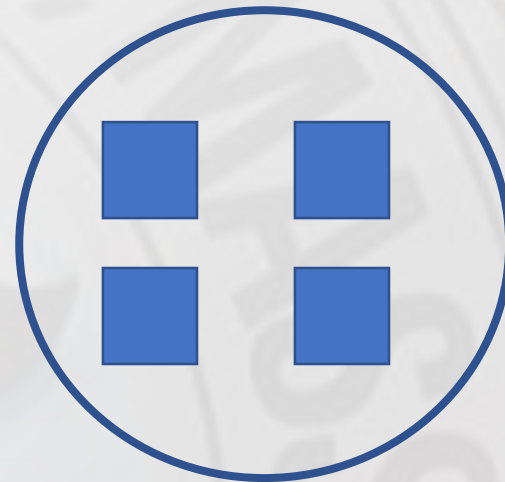
Pod 1



Pod 2









Pod 3






Pod 4

Metrics

Indicator	Measure	Status
1	COVID-19 positive test rate	
2	Number of individuals who died from COVID-19	
3	Number of patients with COVID-19 in hospitals	
4	Healthcare system readiness	
5	Testing capacity	
6	Contact tracing capabilities	

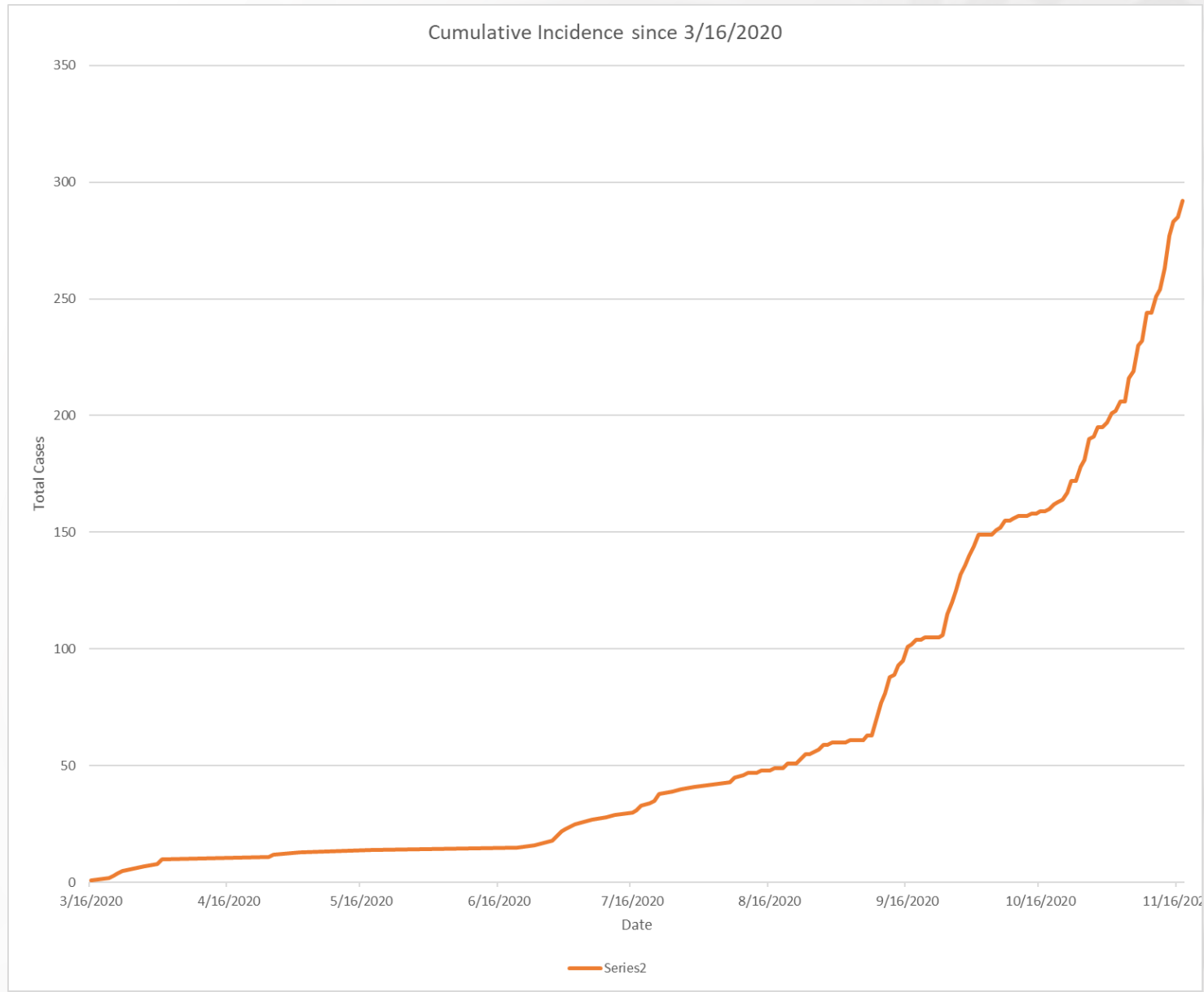
Legend

-  Positive trend
-  In progress
-  Negative trend

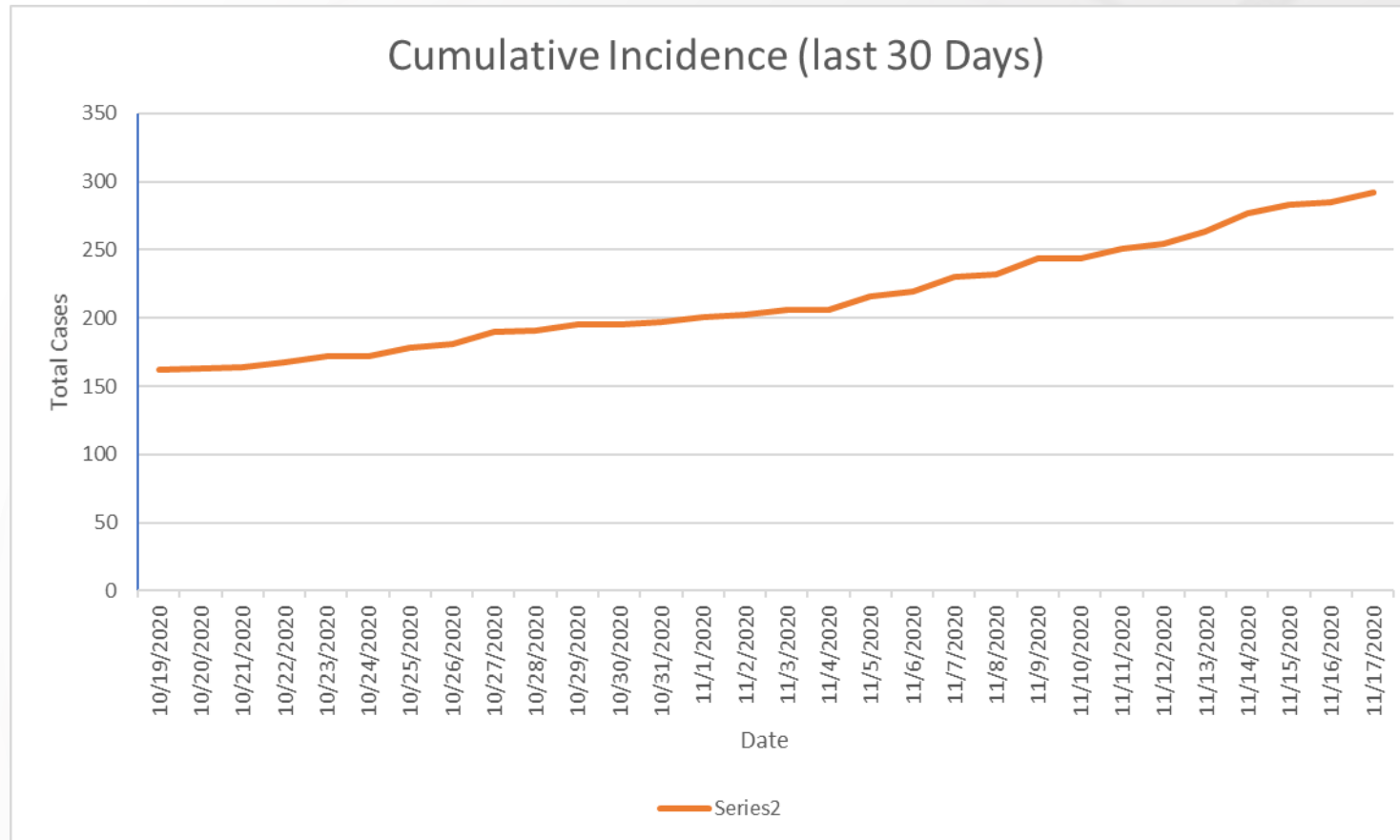
Metrics (continued)

- **COVID-19 positive test rate** – Want to keep this number below 10%. Currently at 5.8% of 7 day average
- **Number of individuals who died from COVID-19** – Keep below 5% of cases.
- **Number of patients with COVID-19 in hospitals** – Keep below 10 here
- **Healthcare system readiness** – Qualitative response. Field hospitals in Worcester are deployed, and Boston is in stand by
- **Testing capacity** – Qualitative. Ability to keep up with demand. Currently, “yes”
- **Contact tracing capabilities** – Qualitative. Ability to keep up with demand. Currently “Yes” but there is difficulty
- **Sewer Predictive Incidence** –Qualitative evaluation of a Quantitative graph. Shows a spike with 1-5 cases per day

Metrics (continued)

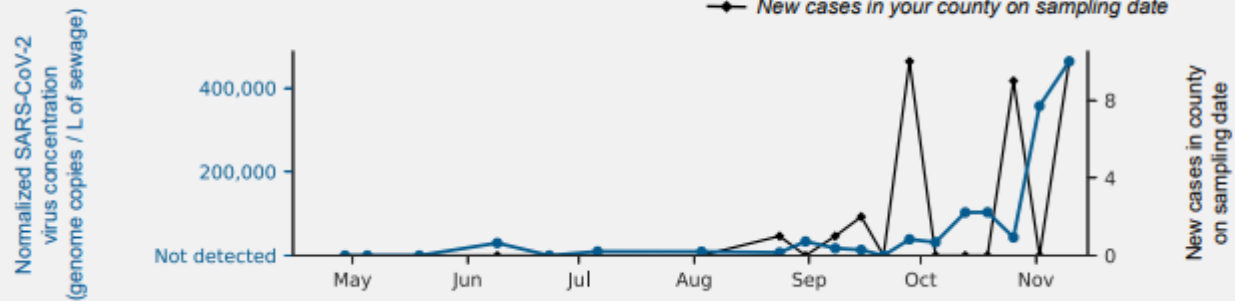


Metrics (continued)



Metrics (Sewage)

Normalized virus concentration over time



Biobot COVID19 incidence estimate*

* using Biobot's current analysis model v2.0, which reflects active R&D and will change over time with developing research

10 new cases / day

(0.07% incidence rate)

Using a reported flow rate of 1.3 MGD

For more information, read the whitepaper:

<https://doi.org/10.1101/2020.06.15.20117747>

This incidence estimate represents the projected average of **confirmed new clinical cases (per day)** that will be reported in your community 7 days from the sampling date. This estimate reflects active R&D.

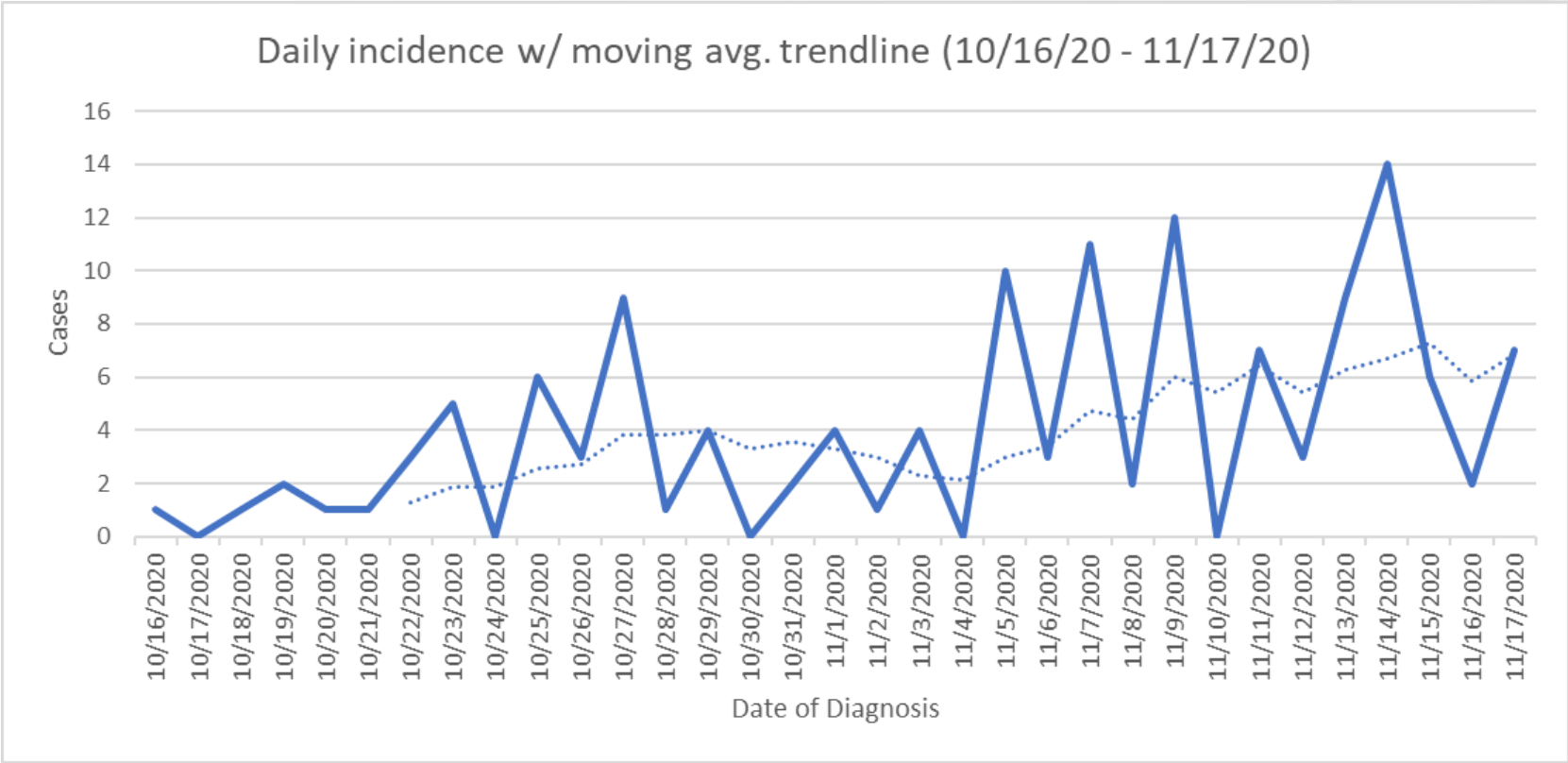
This number is derived from Biobot's latest proprietary case model, leveraging thousands of samples analyzed for Covid-19. For context, USAFacts reports **10 new cases** on this sampling date in **Nantucket County, MA**.

Visit our website for more details behind the process:

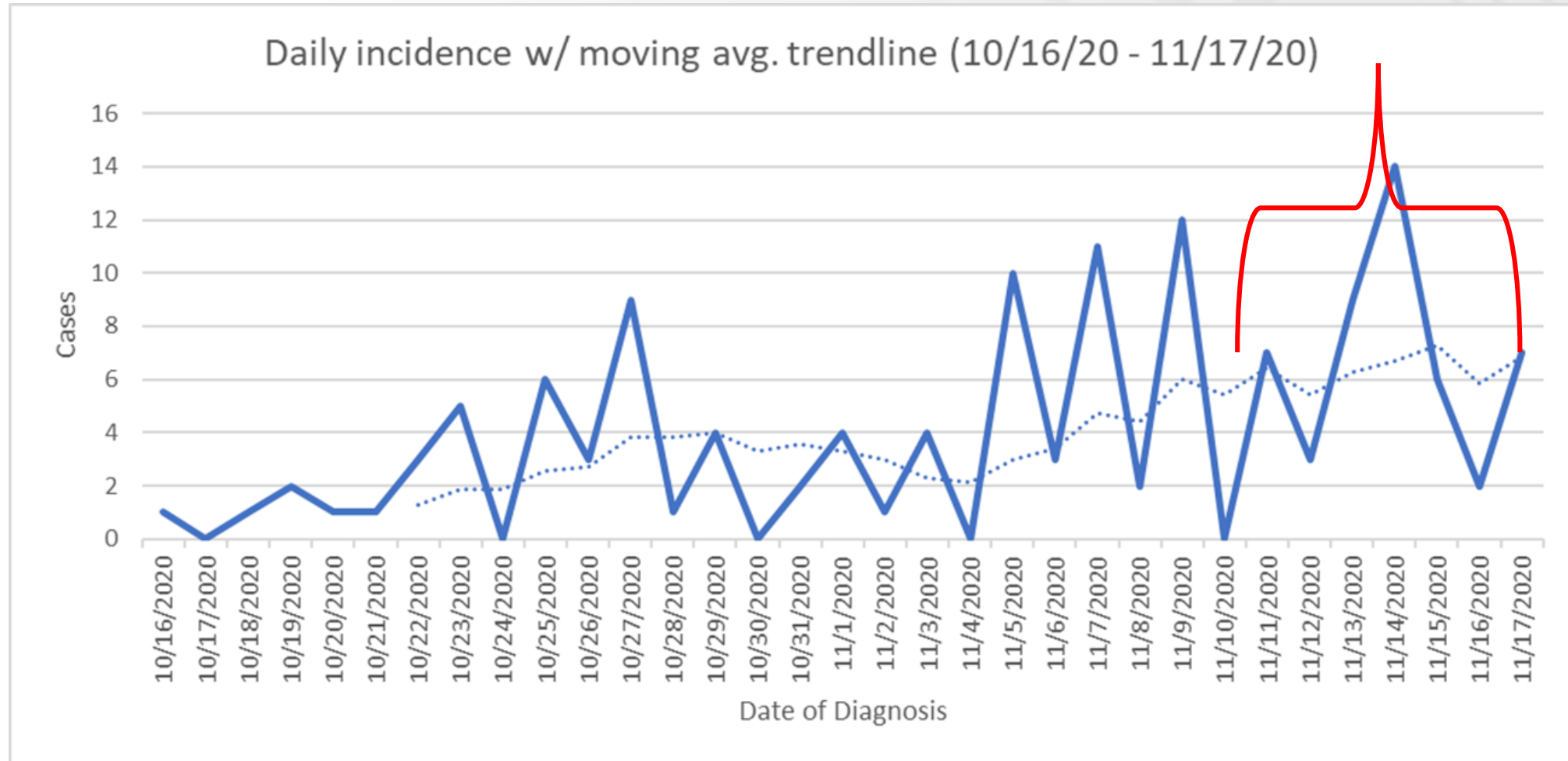
<https://www.biobot.io/case-estimates>

<https://www.biobot.io/updated-model>

Flatten The Curve



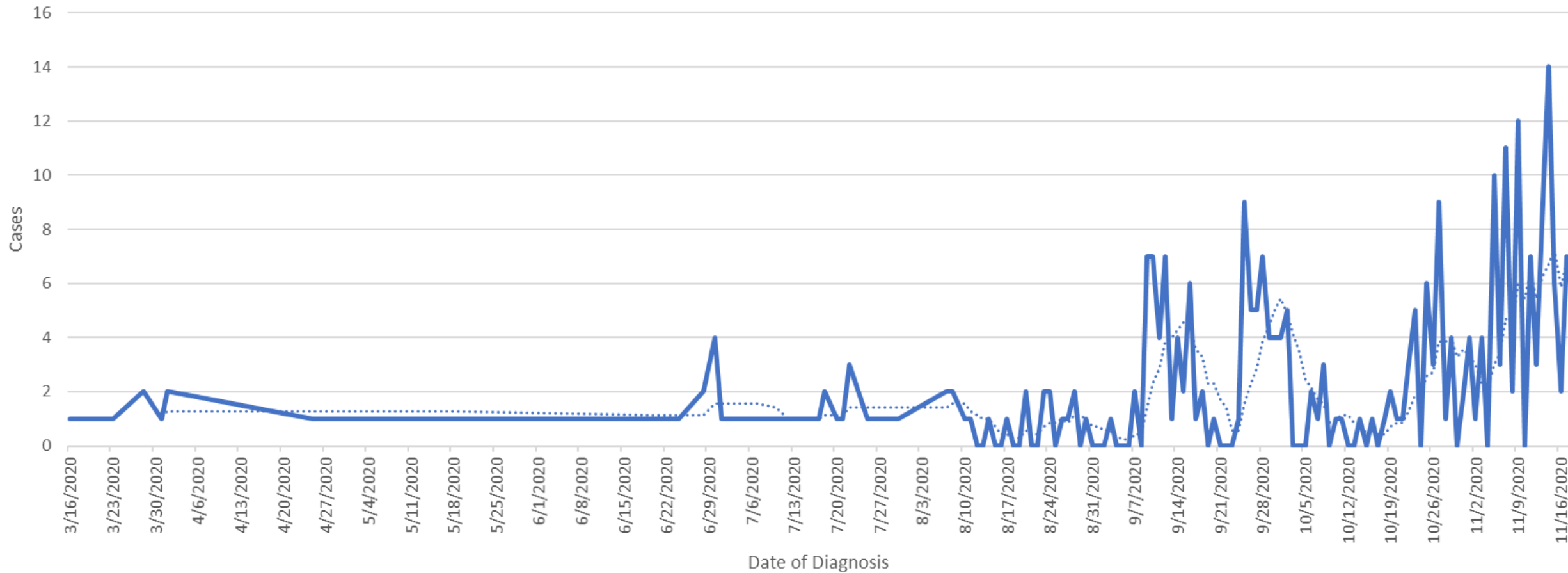
R_0 Visualized



7-day $R_0 \sim 1.14$

R_0 Visualized

Daily incidence w/ moving avg. trendline (since 3/16)



R_0 Visualized

Massachusetts ▾

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Current R_t

1.22

Cases

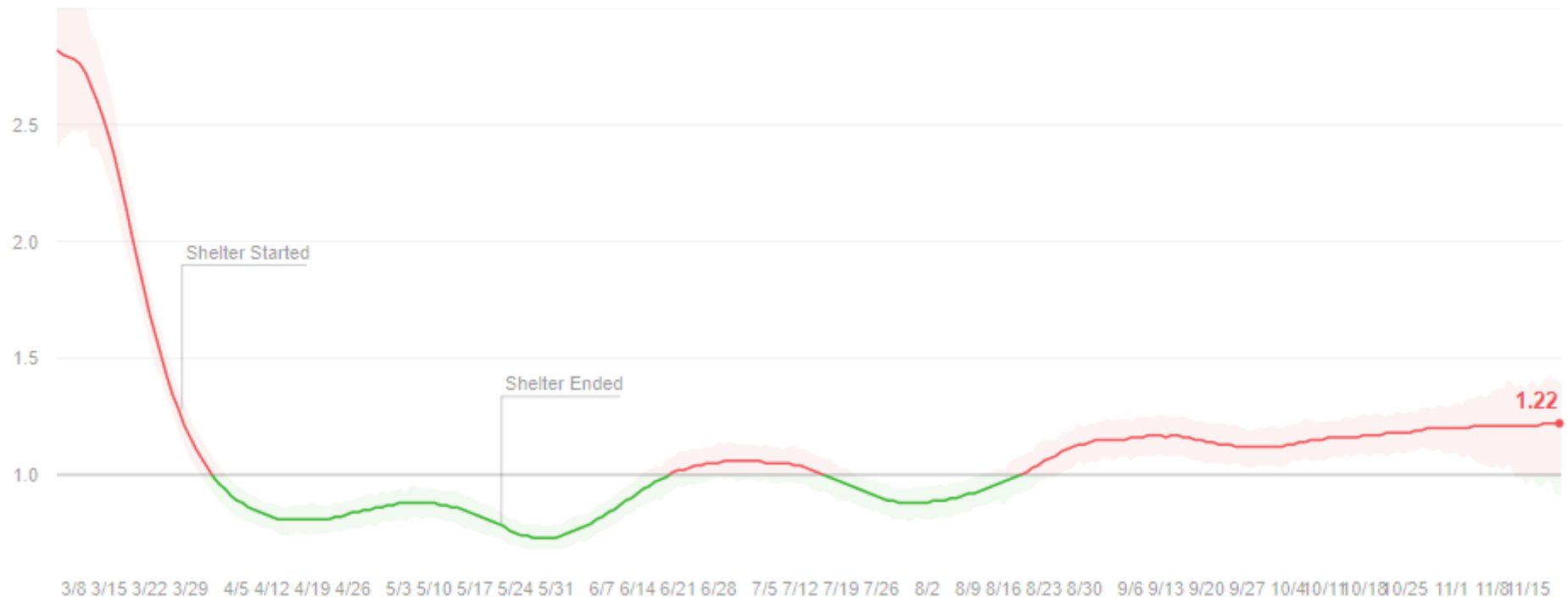
200,713

Tests

7,387,170

Effective Reproduction Rate · R_t

R_t is the average number of people who become infected by an infectious person. If it's above 1.0, COVID-19 will spread quickly. If it's below 1.0, infections will slow. [Learn More](#).



How to avoid COVID during the holidays

- Do not travel, and celebrate with your own household
- Wear a mask
- Stay 6 feet away from others not in your household
- Bring your own food, drinks, cups, plates, & napkins
- Consider hosting virtual Thanksgiving meals



