150 YEARS
OF ADVANCING
PUBLIC
HEALTH

COVID-19 SURVEILLANCE DATA

W. MA COVID-19 Dashboard Advisory Group

December 18, 2020

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State Epidemiologist

Dashboard of Public Health Indicators

Total Cases By Age Group
from 11/29/2020-12/12/2020

Testing and Cases

Newly Reported Confirmed Cases	Total New Molecular Tests Reported	7-Day Average Positivity	Estimated Active Cases
5,450	124,172	6.03%	74,212

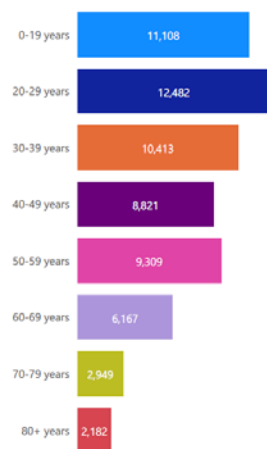| Age Group	Cases
0-19 years	11,108
20-29 years	12,482
30-39 years	10,413
40-49 years	8,821
50-59 years	9,309
60-69 years	6,167
70-79 years	2,949
80+ years	2,182

Hospitalization

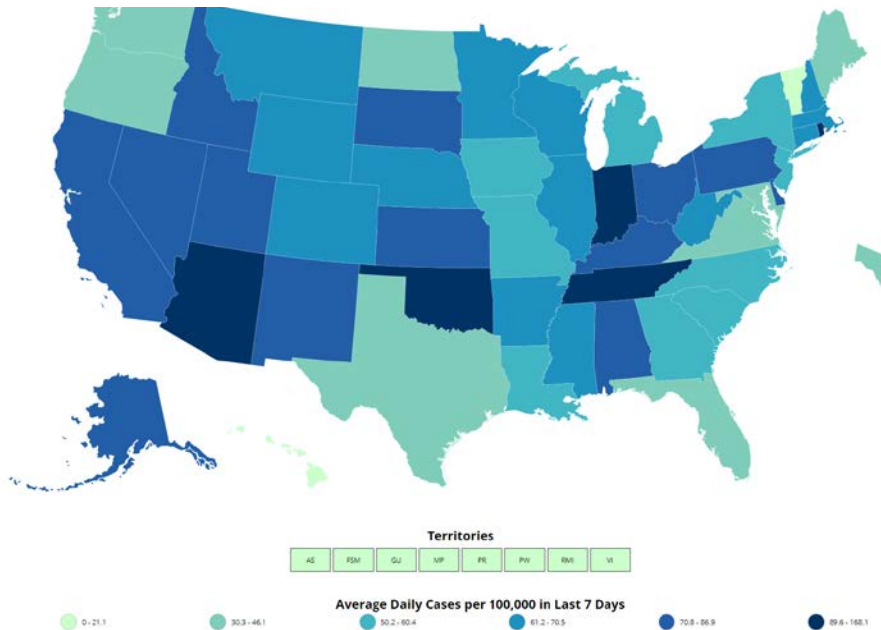| Total Confirmed COVID Patients in Hospital	Total Confirmed COVID Patients in ICU	Average Age of Cases that were Hospitalized*
1,851	382	67

Deaths | | **Turnaround Time**

Newly Reported Deaths among Confirmed	Average Age of Deaths*	14-Day Average Turnaround (from Test Sample to Report to DPH)*
71	81	1.83

Note: For definitions, please see the Glossary at the end of this document in 'Definitions and Disclaimers'. Average age of hospitalized cases and deaths are calculated for a two week period covering 11/29/2020 to 12/12/2020. Please see the most current weekly dashboard for more details https://www.mass.gov/info-details/covid-19-response-reporting
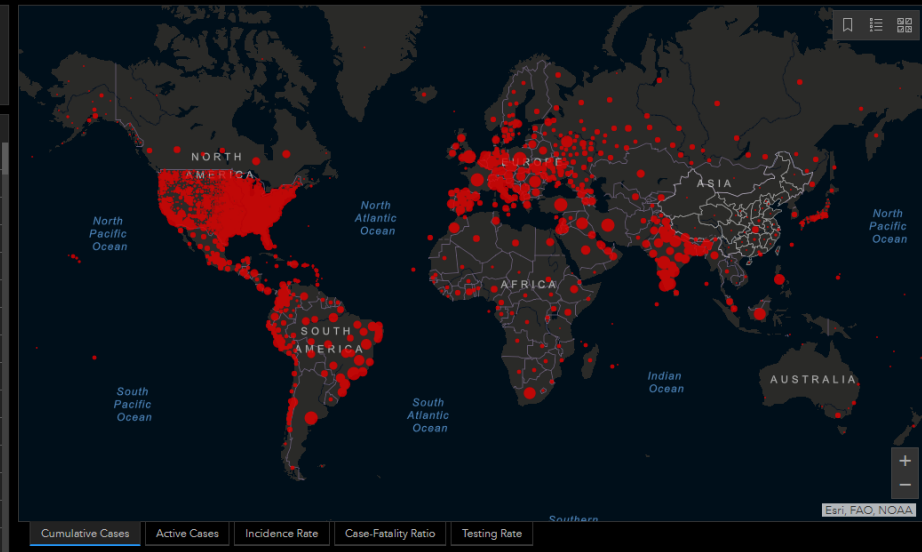
*Last updated Wednesday, 12/16/2020

COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)

Global Cases
74,632,358

Cases by Country/Region/Sovereignty

17,068,357	US
9,956,557	India
7,040,608	Brazil
2,736,727	Russia
2,483,380	France
1,955,680	Turkey
1,954,266	United Kingdom
1,906,377	Italy
1,785,421	Spain
1,517,046	Argentina
1,456,599	Colombia
1,436,966	Germany
1,277,499	Mexico
1,171,854	Poland
1,138,530	Iran

Admin0   Admin1   Admin2

Last Updated at (M/D/YYYY)
12/17/2020, 2:29 PM

191 countries/regions

Cumulative Cases | Active Cases | Incidence Rate | Case-Fatality Ratio | Testing Rate

Esri, FAO, NOAA

Lancet Inf Dis Article: Here. Mobile Version: Here. Data sources: Full list. Downloadable database: GitHub, Feature Layer. Lead by JHU CSSE. Technical Support: Esri Living Atlas team and JHU APL. Financial Support: JHU, NSF, Bloomberg Philanthropies and Stavros Niarchos Foundation. Resource support: Slack, Github and AWS. Click here to **donate** to the CSSE dashboard team, and other JHU COVID-19 Research Efforts. FAQ. Read more in this blog. Contact US.

Massachusetts

Total deaths | Daily deaths | Infections and testing | Hospital resource use | Mask use | Social distancing

Trend | Compare | Map

15,002 COVID-19 deaths
based on Current projection scenario by April 1, 2021

Scenario: Projection × | Masks × | Rapid rollout × | Easing ×

Today

Date

— Observed (smoothed)   --- Current projection   --- Universal masks   --- Rapid vaccine rollout   --- Mandates easing

All deaths specific to COVID-19 patients.

Apr '20   May '20   Jun '20   Jul '20   Aug '20   Sep '20   Oct '20   Nov '20   Dec '20   Jan '21   Feb '21   Mar '21   Apr '21

Territories

AS   FSM   GU   MP   PR   PW   RMI   VI

Average Daily Cases per 100,000 in Last 7 Days

0 - 21.1 | 30.3 - 46.1 | 50.2 - 60.4 | 61.2 - 70.5 | 70.8 - 86.9 | 89.6 - 168.1
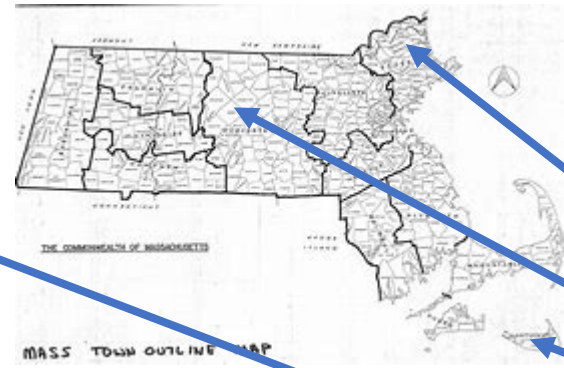
Case Investigation and Contact Tracing

Patient visits health care provider

Lab test ordered

Results shared in MAVEN with one of 351 local health departments

Results reported to MDPH – electronic database MAVEN

- Data loss
  - Patient doesn't go to provider
  - Provider doesn't order test
  - Provider does POC test
  - Lab reports incomplete data
  - Lab reports by fax/spreadsheet
  - Patient isn't investigated
  - Patient never responds to call
  - Provider never responds to call
  - Data aren't entered into MAVEN
  - Data are entered as free text
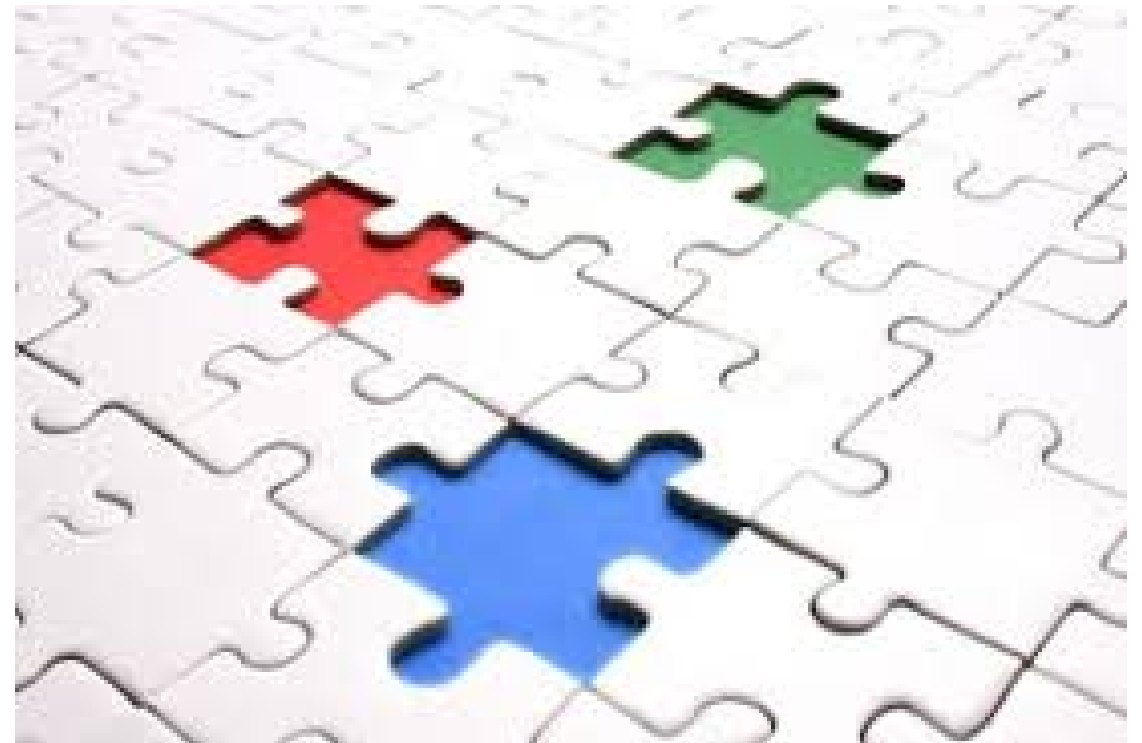
Massachusetts Department of Public Health COVID-19 Dashboard – Friday, November 27, 2020
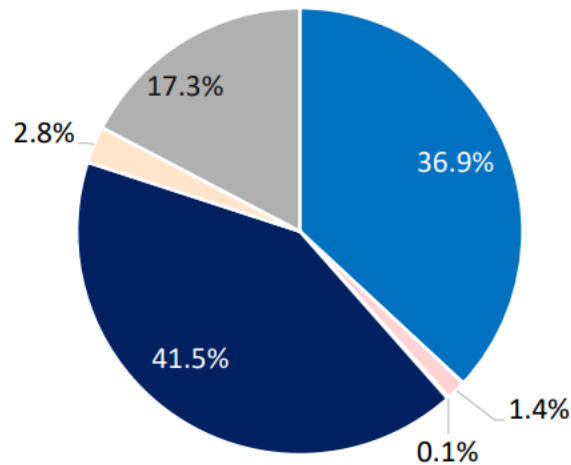## MA Contact Tracing: Case and Contact Outreach Outcomes for Last Two Weeks

Case Outreach Completed:
82.7% of **15,332**
(**64%** Case Outreach Completed Within 1 Day)
Nov. 8- Nov. 21, 2020

Contact Outreach Completed:
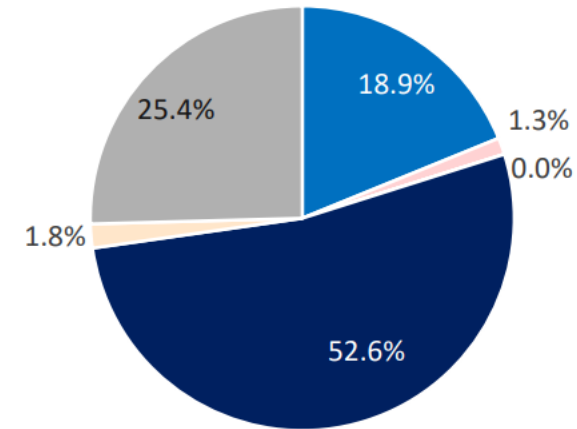**74.6%** of **15,972**
Nov. 8- Nov. 21, 2020

Case Outreach Outcomes
Nov. 8- Nov. 21, 2020

- 17.3%
- 2.8%
- 36.9%
- 41.5%
- 0.1%
- 1.4%

Legend:
- Isolation/Quarantine Complete
- Lost-to Follow Up
- Deceased
- Ongoing Monitoring
- Other
- Not Reached

Contact Outreach Outcomes
Nov. 8- Nov. 21, 2020

- 25.4%
- 18.9%
- 1.3%
- 0.0%
- 1.8%
- 52.6%

Total Workforce (Nov. 23, 2020)	2,453

Combined case investigation, contact tracing, and monitoring workforce

Note: The COVID-19 Community Tracing Collaborative (CTC) began operation on April 10, 2020. Data in this dashboard reflect the combined contact tracing conducted by Local Health Departments, Massachusetts Department of Public Health (MDPH) and the CTC since that date. Prior to April 10, 2020, all COVID-19 contact tracing in Massachusetts was conducted by Local Health Departments.
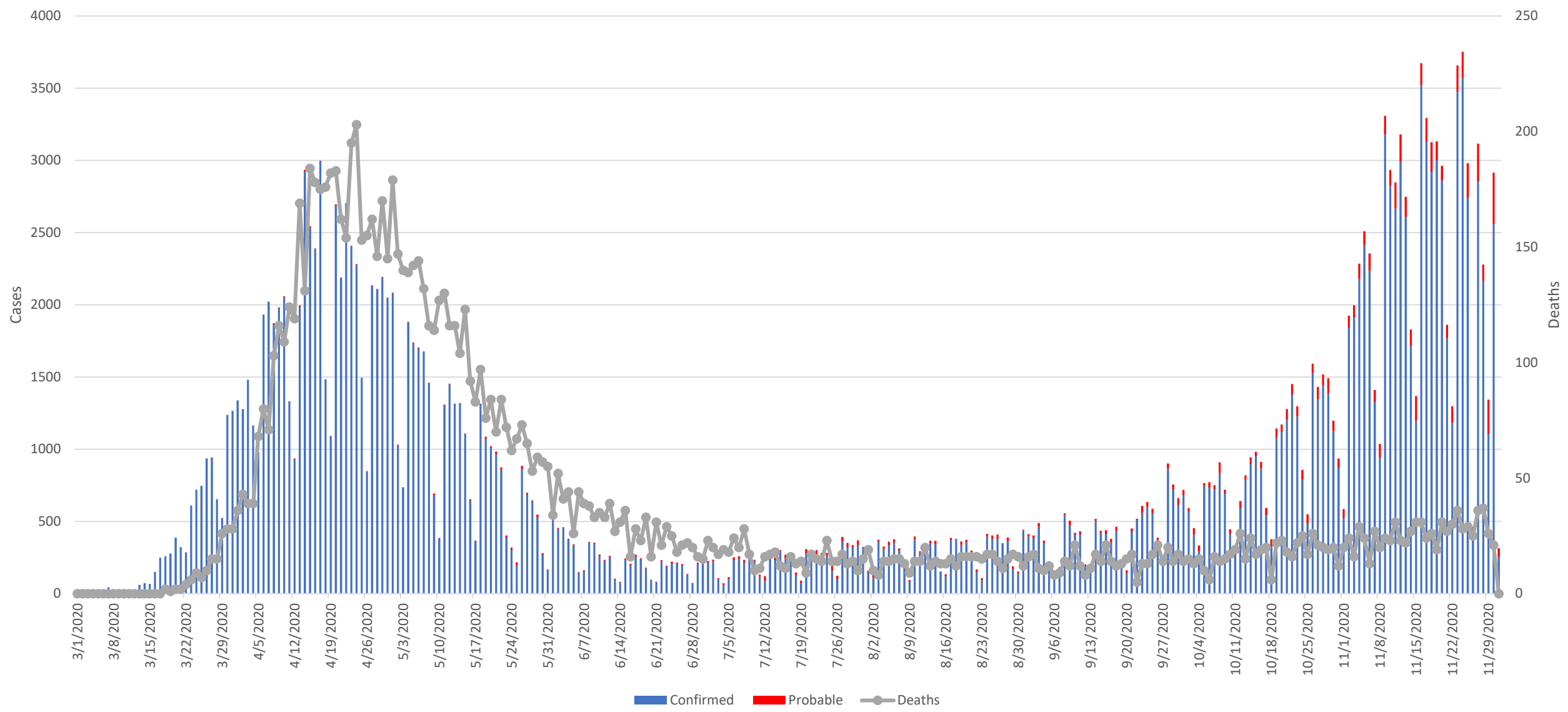
30

- Other data sources
  - Medical records
  - Vital records
  - Claims data
  - Hospital reporting
  - Syndromic surveillance
  - Sentinel sites

- Required reporting:
  - DPH
  - Additional statue requirements
  - Additional federal requirements

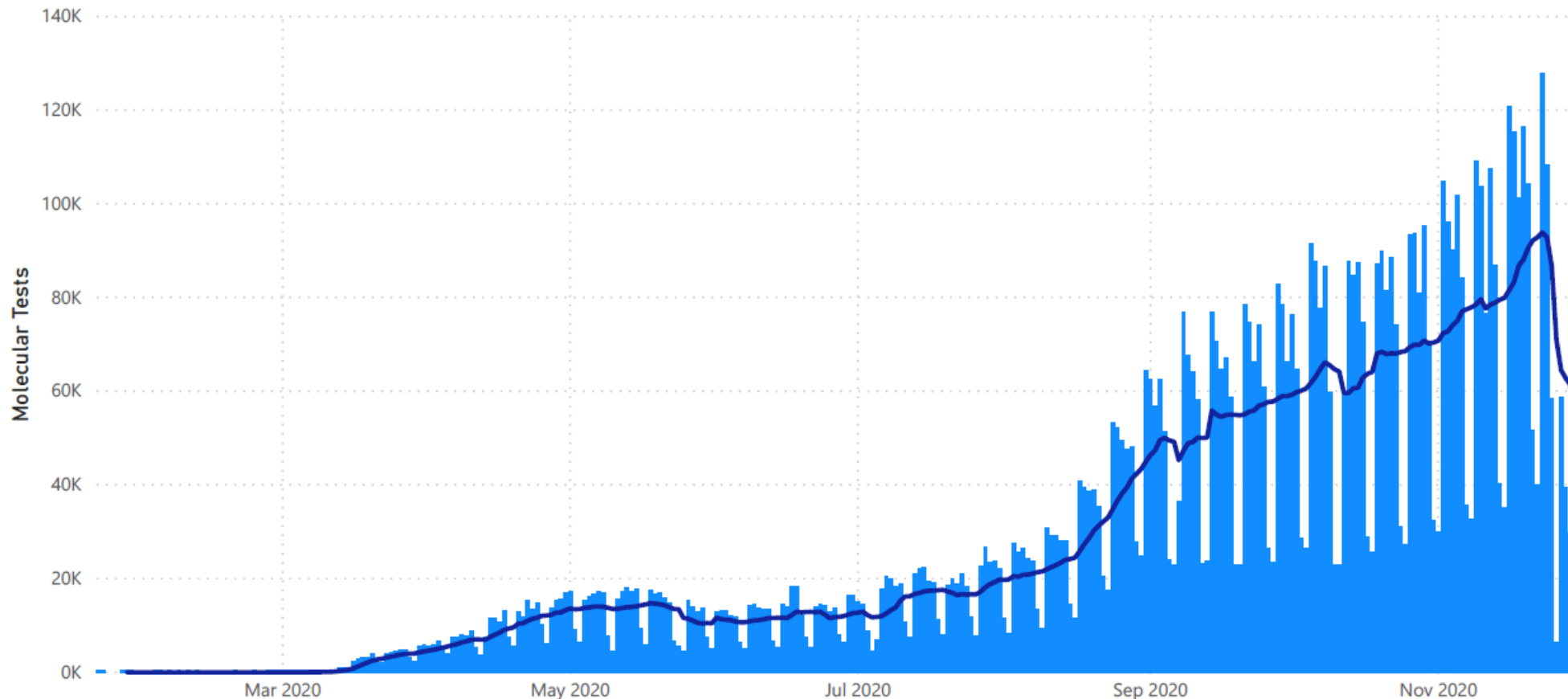# Cases and Deaths, MA, 3/1 – 11/30/2020

Massachusetts Department of Public Health COVID-19 Dashboard- Wednesday, December 02, 2020

Testing by Date - Molecular (Total Tests Conducted Since March)

Total Molecular Tests by Date

● All Molecular Tests ● 7-Day Average of All Molecular Tests

Total Molecular Tests Administered

8,566,262

7-Day Average Test Rate per 100,000 Residents

578

Data Sources: COVID-19 Data provided by the Bureau of Infectious Disease and Laboratory Sciences; State Population Estimate 2019: Small Area Population Estimates 2011-2020, version 2019, Massachusetts Department of Public Health, Bureau of Environmental Health; Tables and Figures created by the Office of Population Health.

Note: all data are current as of 11:59 pm on 12/1/2020. Due to lag in reporting by laboratories, counts for most recent dates are likely to be incomplete. This includes individuals who have had more than one molecular test.

Household Data

Household Data Details

- A household "cluster" is defined as two or more confirmed Massachusetts cases who reside at the same address with COVID-19 infection within 14 days of each other AND are not associated with another cluster.

- Other rules applied are the same as other cluster types:
  - The date assigned to each confirmed case's event is that of the first positive lab date.
  - A cluster is deemed closed once two incubation periods (28 days) have passed from the last confirmed case.
  - Cluster date (which determines the week in which it is presented in the graph) is determined by the date of the positive lab of the first associated case.

Confirmed COVID Cases Reported to MDPH by Cluster Association, 3/1/2020-12/12/2020

Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences.
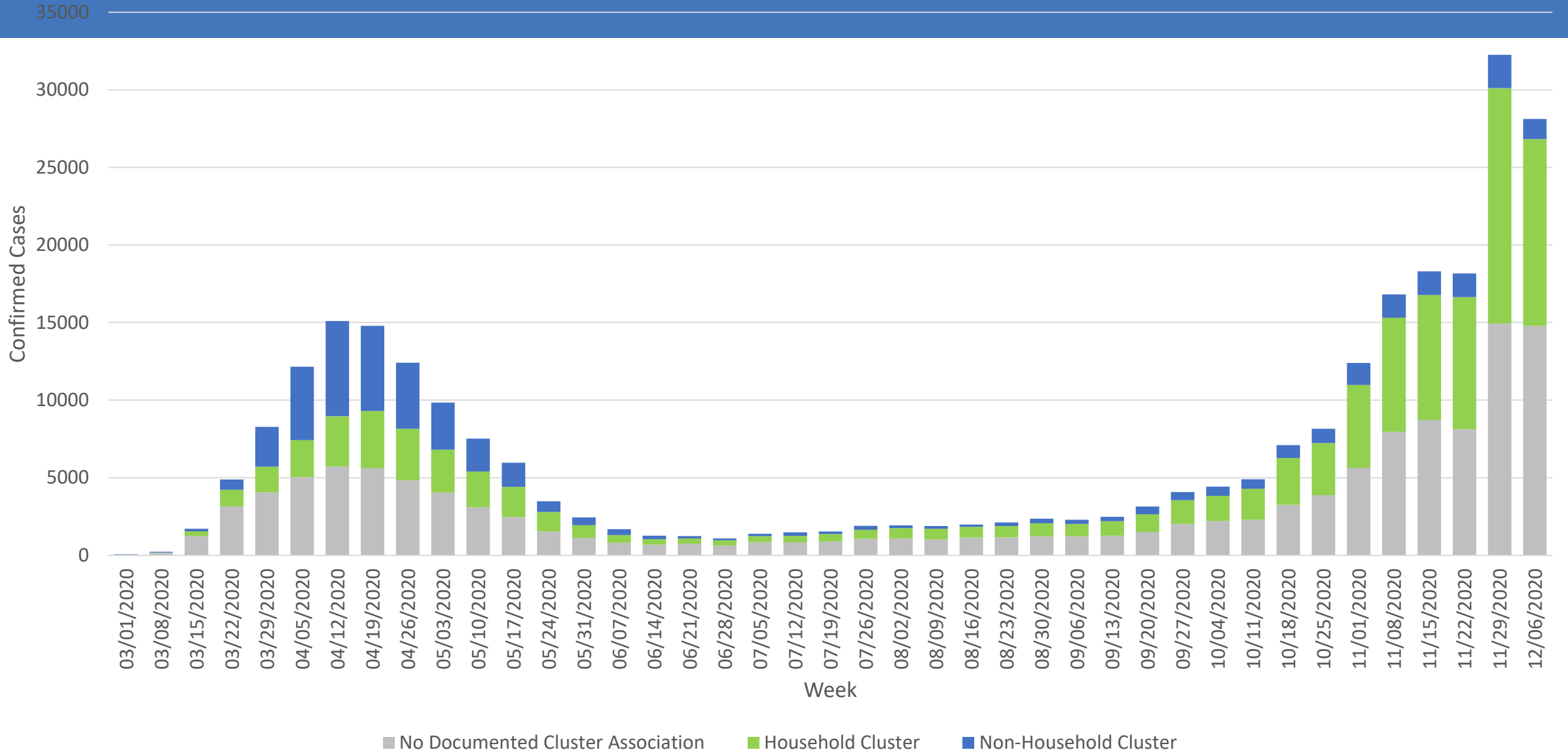
Massachusetts Department of Public Health

COVID-19 Cluster Analysis

Exposure Setting Types

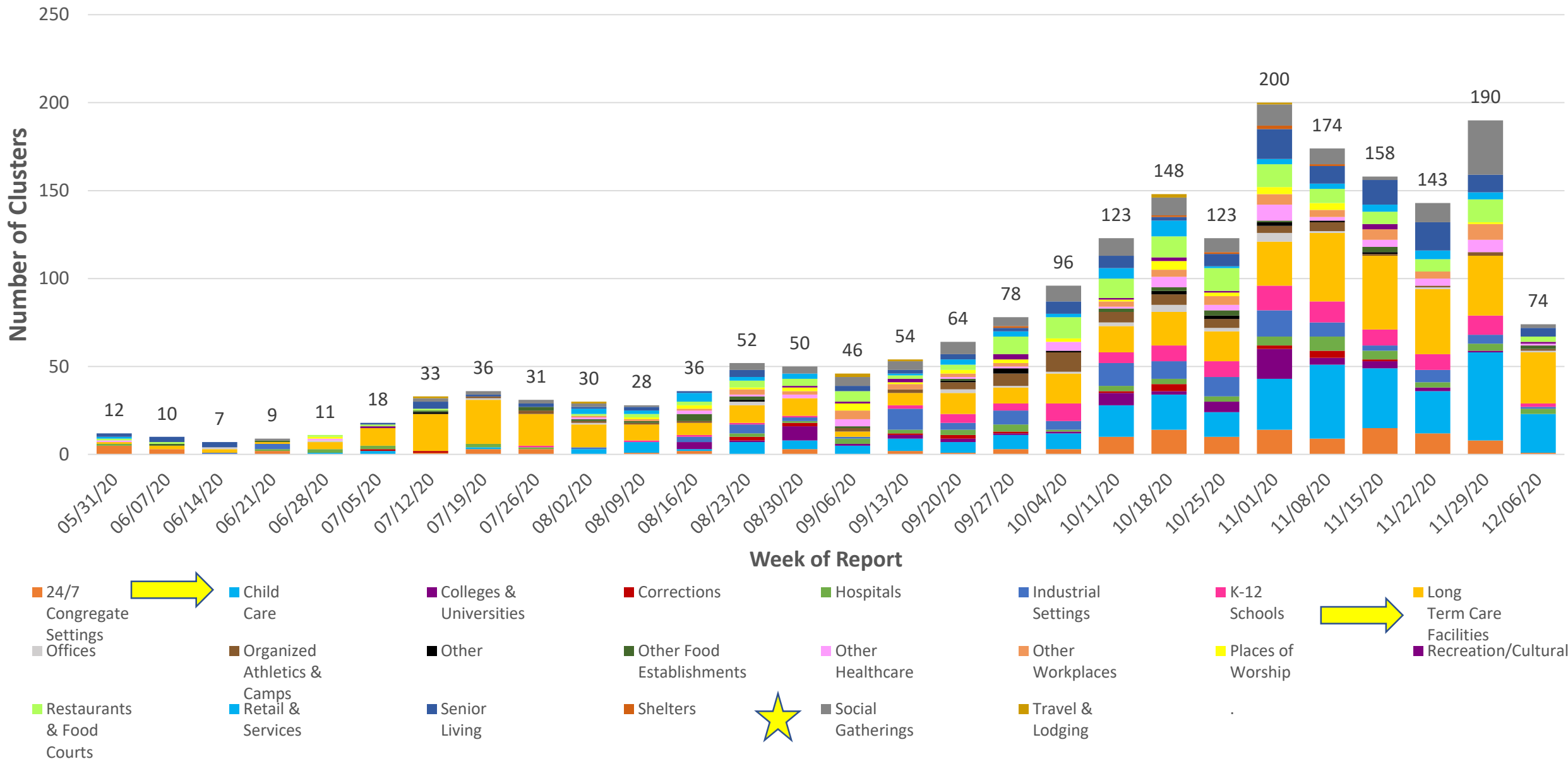| Exposure Setting	Includes
24/7 Congregate Settings	Group homes, congregate housing, disabled community housing, halfway houses, sober homes, residential treatment centers, lodging and rooming houses
Child Care	
Colleges and Universities	
Corrections	Jails, prisons, houses of corrections, correctional treatment centers
Hospitals	All hospitals, including inpatient psychiatric, inpatient addiction treatment, chronic disease and rehabilitation
Household	Shared residence – not associated with another cluster
Industrial Settings	Industrial settings including construction and non-food manufacturers, warehouses and distribution centers
K-12 Schools	Boarding schools, public schools, private schools, special education schools
Long Term Care Facilities	
Organized Athletics and Camps	Sports teams, tournaments, and clubs; children's camps
Other	
Other Food Establishments	Food distributors, manufacturers, warehouses, processors, farms, and food pantries
Other Healthcare	Ambulatory mental health services, community health centers, home health, dental, ambulatory care settings, hospice, addiction treatment (non-residential or outpatient), emergency medical services
Other Workplaces	Offices, work-related events, first responders
Places of Worship	
Recreation/Cultural	Gyms, fitness centers, swimming pools, beaches, movie theaters, golfing, boating, casinos
Restaurants and Food Courts	
Retail and Services	Grocery stores, hair salons, barbers, other retail stores
Senior Living	Assisted living facilities, retirement communities, senior housing
Shelters	
Social Gatherings	Parties, group gatherings, weddings, funerals
Travel and Lodging	Domestic or international travel, hotels, cruise ships

DATA DETAILS

National Healthcare Safety Network Data (Long Term Care Facilities, beginning the week of 5/31/2020)
- A confirmed case is defined as a staff or resident with a new positive COVID-19 test result.
- Confirmed cases are reported by each facility in aggregate, at least once a week, and are assigned to the week in which the data are submitted.
- A cluster is defined as two or more confirmed cases in a facility that has not reported a confirmed case in the prior 4 weeks.
- A cluster is deemed closed when a facility has gone 4 weeks without reporting a confirmed case among staff or residents.
- Cluster date (which determines the week in which it is presented in the graph) is determined by the week in which the cumulative number of confirmed cases for a facility is greater than 2.

MAVEN Data (All other reported data)
- The data presented include only clusters that meet the following definition: two or more confirmed Massachusetts cases with a common exposure.
- The date assigned to each confirmed case's event is that of the first positive lab date.
- The date assigned to each contact is that of the date they were linked to the cluster.
- A cluster is deemed closed once two incubation periods (28 days) have passed from the last confirmed case.
- Cluster date (which determines the week in which it is presented in the graph) is determined by the date of the positive lab of the first associated case.

COVID Clusters Reported to MDPH by Week and Exposure Setting Type, 5/31/2020-12/12/2020

Legend:
- 24/7 Congregate Settings
- Child Care
- Colleges & Universities
- Corrections
- Hospitals
- Industrial Settings
- K-12 Schools
- Long Term Care Facilities
- Offices
- Organized Athletics & Camps
- Other
- Other Food Establishments
- Other Healthcare
- Other Workplaces
- Places of Worship
- Recreation/Cultural
- Restaurants & Food Courts
- Retail & Services
- Senior Living
- Shelters
- Social Gatherings
- Travel & Lodging
- .

Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences. Long Term Care Facility Data from the National Healthcare Safety Network beginning 6/7/2020. All other data from MAVEN and are subject to change. Only clusters consisting of two or more confirmed Massachusetts cases with a common exposure have been included.

Exposure Setting Types

Exposure Setting	Includes
24/7 Congregate Settings	Group homes, congregate housing, disabled community housing, halfway houses, sober homes, residential treatment centers, lodging and rooming houses
Child Care	
Colleges and Universities	
Corrections	Jails, prisons, houses of corrections, correctional treatment centers
Hospitals	All hospitals, including inpatient psychiatric, inpatient addiction treatment, chronic disease and rehabilitation
Industrial Settings	Industrial settings including construction and non-food manufacturers, warehouses and distribution centers
K-12 Schools	Boarding schools, public schools, private schools, special education schools
Long Term Care Facilities	
Organized Athletics and Camps	Sports teams, tournaments, and clubs; children's camps
Offices	
Other	
Other Food Establishments	Food distributors, manufacturers, warehouses, processors, farms, and food pantries
Other Healthcare	Ambulatory mental health services, community health centers, home health, dental, ambulatory care settings, hospice, addiction treatment (non-residential or outpatient), emergency medical services
Other Workplaces	Offices, work-related events, first responders
Places of Worship	
Recreation/Cultural	Gyms, fitness centers, swimming pools, beaches, movie theaters, golfing, boating, casinos
Restaurants and Food Courts	
Retail and Services	Grocery stores, hair salons, barbers, other retail stores
Senior Living	Assisted living facilities, retirement communities, senior housing
Shelters	
Social Gatherings	Parties, group gatherings, weddings, funerals
Travel and Lodging	Domestic or international travel, hotels, cruise ships

Exposure Setting	Total 10/18-11/14			Total 11/15 – 12/12		
	Clusters	Confirmed Cases	Contacts	Clusters	Confirmed Cases	Contacts
24/7 Congregate Settings	53	190	84	94	284	80
Child Care	115	182	471	250	445	719
Colleges & Universities	37	131	123	40	70	39
Corrections	12	401	10	16	862	128
Hospitals	25	110	208	39	336	58
Households	8,327	17,030	---	22,487	44,039	---
Industrial Settings	63	195	111	81	227	81
K-12 Schools	56	116	258	82	174	253
Long Term Care Facilities	206	1,475	---	313	3,154	---
Offices	14	34	9	16	6	2
Organized Athletics & Camps	42	40	233	30	41	199
Other	10	18	27	9	10	30
Other Food Establishments	9	25	19	13	34	7
Other Healthcare	23	80	12	39	93	74
Other Workplaces	16	70	6	43	138	66
Places of Worship	15	104	59	16	18	11
Recreation/Cultural	9	20	36	8	23	.
Restaurants & Food Courts	52	151	85	84	203	163
Retail & Services	23	44	11	34	52	26
Senior Living	39	144	34	91	441	175
Shelters	3	13	25	5	3	11
Social Gatherings	61	162	105	95	278	93
Travel & Lodging	4	15	4	3	.	.
TOTAL	9,214	20,750	1,930	23,888	50,931	2,215

Cases per Cluster Type - 10/18-11/14

Cases per Cluster Type - 11/15-12/12
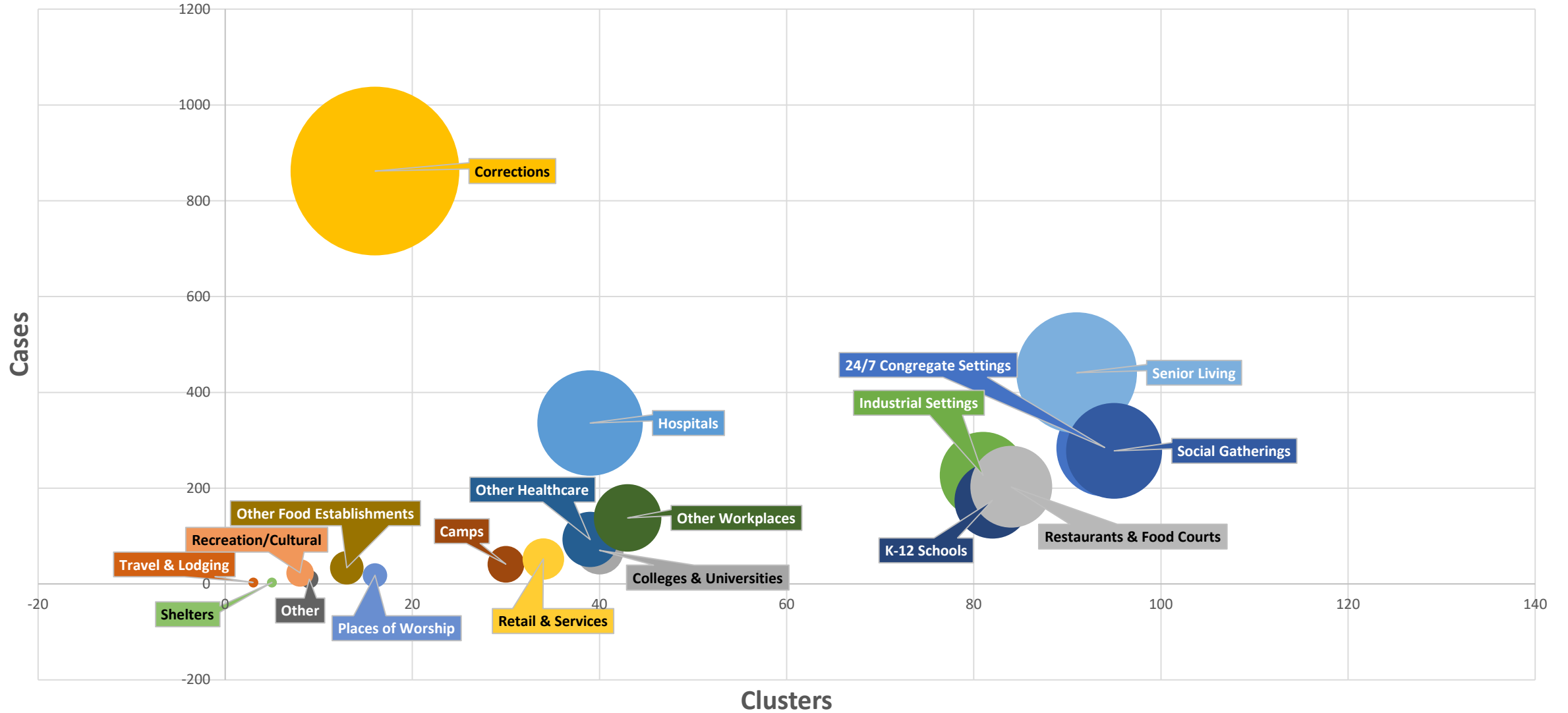
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- Senior Living
- Shelters
- Social Gatherings
- Travel & Lodging

- 14 day incubation period

- 45% asymptomatic

- Aerosol transmission possible

- Multiple settings
  - School
  - Sports
  - Friends
  - Activities
  - Household
  - Bus/carpool

- Poor memory

- Lack of transparency

- Don't understand importance

- Small clusters

- Denominator?

- Adaptation of data systems

Deep Dives

- > 200 positive worshippers.
- 88 businesses and organizations exposed (currently in contact investigation).
- Of these, 23 businesses and organizations with known clusters.
- Of these, 12 business and organization clusters with known links (shown at right).
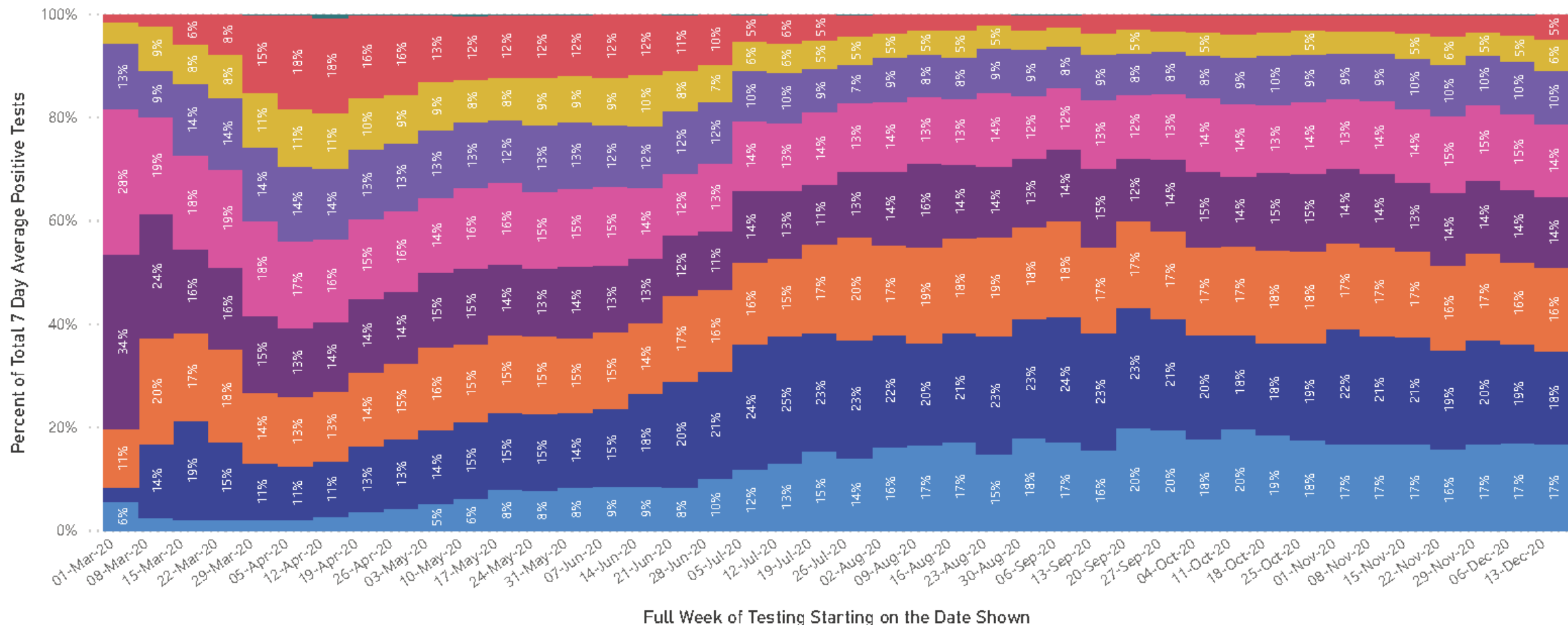
Massachusetts Department of Public Health COVID-19 Dashboard- Wednesday, December 16, 2020
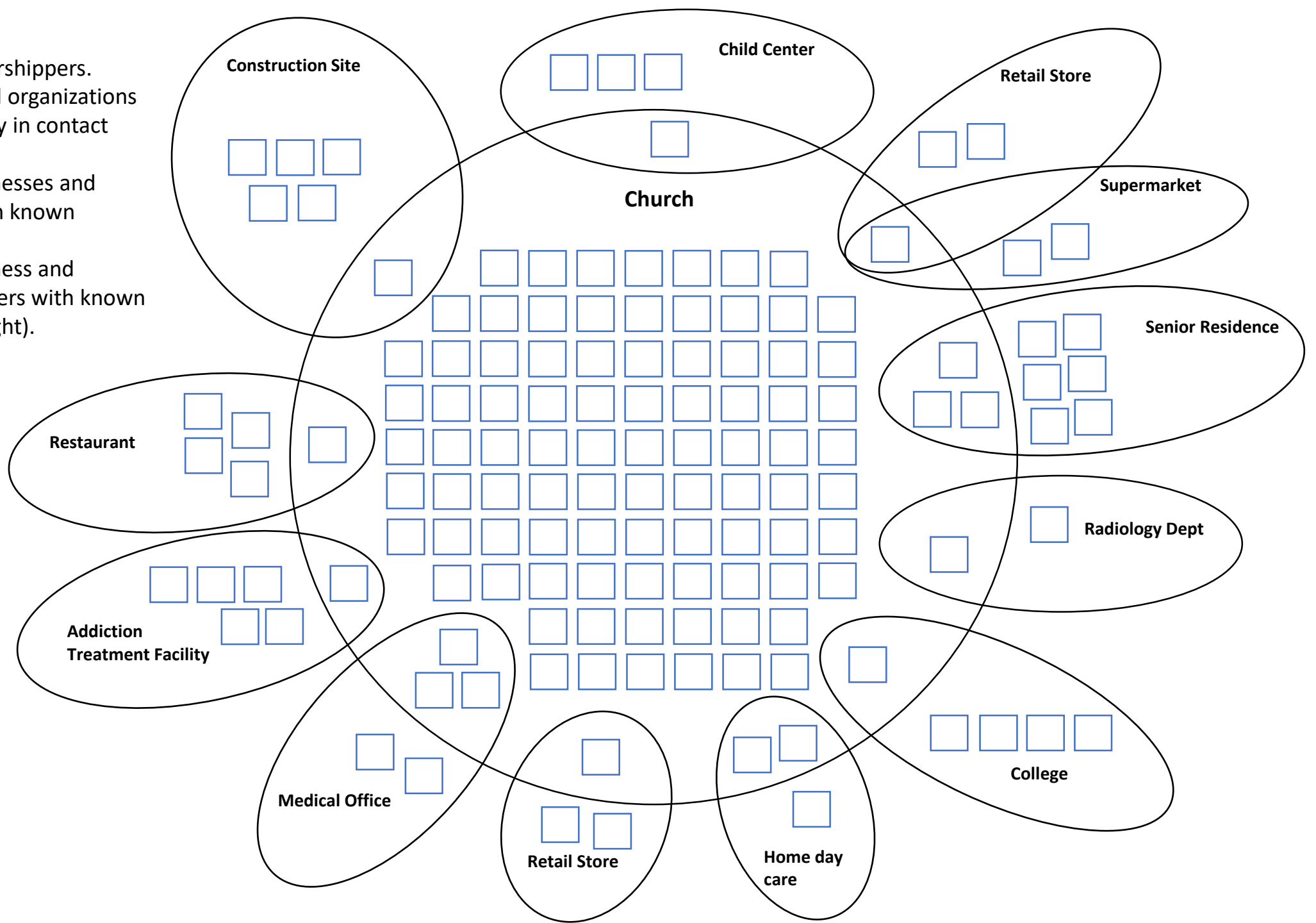
Positive Tests by Age Group

Percent Positive by Week and Age Group

Age Group ● 0-19 years ● 20-29 years ● 30-39 years ● 40-49 years ● 50-59 years ● 60-69 years ● 70-79 years ● 80+ years ● Unknown

Full Week of Testing Starting on the Date Shown

Data Sources: COVID-19 Data provided by the Bureau of Infectious Disease and Laboratory Sciences; Tables and Figures created by the Office of Population Health.
Note: this data was last updated on Wednesday, 12/16/2020 . This includes individuals who have had more than one molecular test.

7

Hockey vs. Other Organized Sports Cluster Events documented in MAVEN
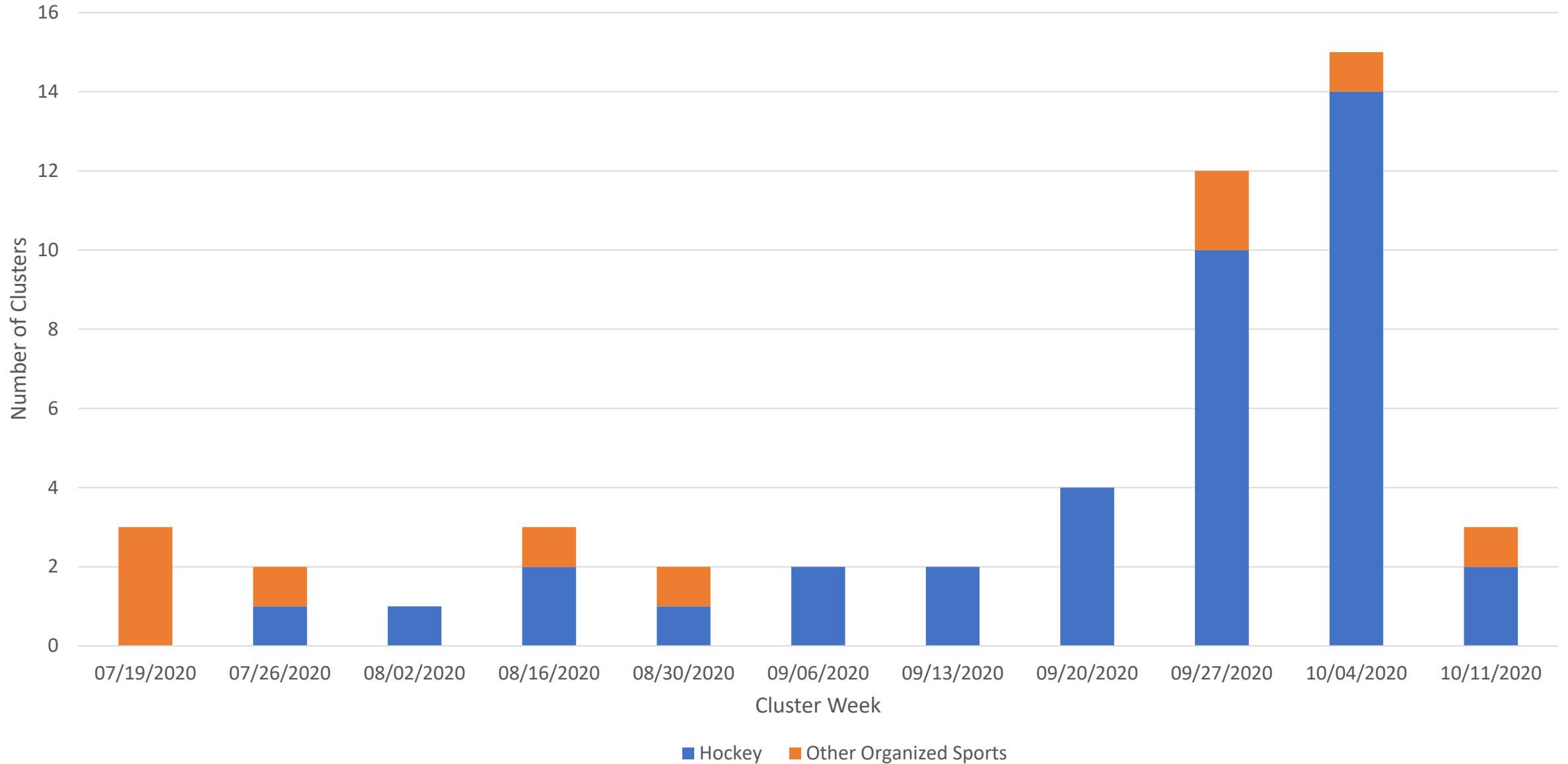
Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences. Data from MAVEN as of 10/17/2020 and are subject to change.
Cluster Date is the date associated with the earliest case (hierarchy to assigning: first PCR+ lab, first Antigen+ lab, or date cluster was created). Other organized sports clusters include: Baseball (2),
Basketball (1), Football (2), Gymnastics (1), Lacrosse (1), Soccer (1), Swim (2)

COVID Clusters Reported to MDPH by Exposure Setting Type
Four week period: 11/1/2020-11/28/2020

Exposure Setting	New			Ongoing			Total		
	Clusters	Confirmed Cases	Contacts	Clusters	Confirmed Cases	Contacts	Clusters	Confirmed Cases	Contacts
24/7 Congregate Settings	33	157	43	43	59	24	76	216	67
Child Care	90	256	367	66	39	121	156	295	488
Colleges & Universities	23	104	24	20	23	34	43	127	58
Corrections	6	105	5	9	572	115	15	677	120
Hospitals	14	159	19	18	54	74	32	213	93
Households	9,393	23,756	---	3,510	2,004	---	12,903	25,760	---
Industrial Settings	20	70	39	47	99	89	67	169	128
K-12 Schools	30	106	111	39	27	88	69	133	199
Long Term Care Facilities	132	1,027	---	122	890	---	254	1,917	---
Offices	6	25	6	9	10	9	15	35	15
Organized Athletics & Camps	9	26	104	33	8	129	42	34	233
Other	4	35	36	7	2	5	11	37	41
Other Food Establishments	1	4	.	6	4	19	7	8	19
Other Healthcare	13	57	14	16	31	9	29	88	23
Other Workplaces	13	56	16	14	38	5	27	94	21
Places of Worship	5	33	6	11	7	34	16	40	40
Recreation/Cultural	1	13	.	4	8	1	5	21	1
Restaurants & Food Courts	24	103	123	55	37	48	79	140	171
Retail & Services	8	25	15	20	14	3	28	39	18
Senior Living	33	181	8	25	133	5	58	314	13
Shelters	3	18	13	3	1	.	6	19	13
Social Gatherings	21	130	54	41	10	46	62	140	100
Travel & Lodging	1	5	4	2	.	.	3	5	4
TOTAL	9,883	26,451	1,007	4,120	4,070	858	14,003	30,521	1,865

New Clusters: Clusters with the first case identified during the four week period above.
Ongoing Clusters: Clusters with the first case identified prior to the four week period above that has not met criteria to be closed. Cases included in ongoing clusters are those whose first positive lab result is within the four-week time period.
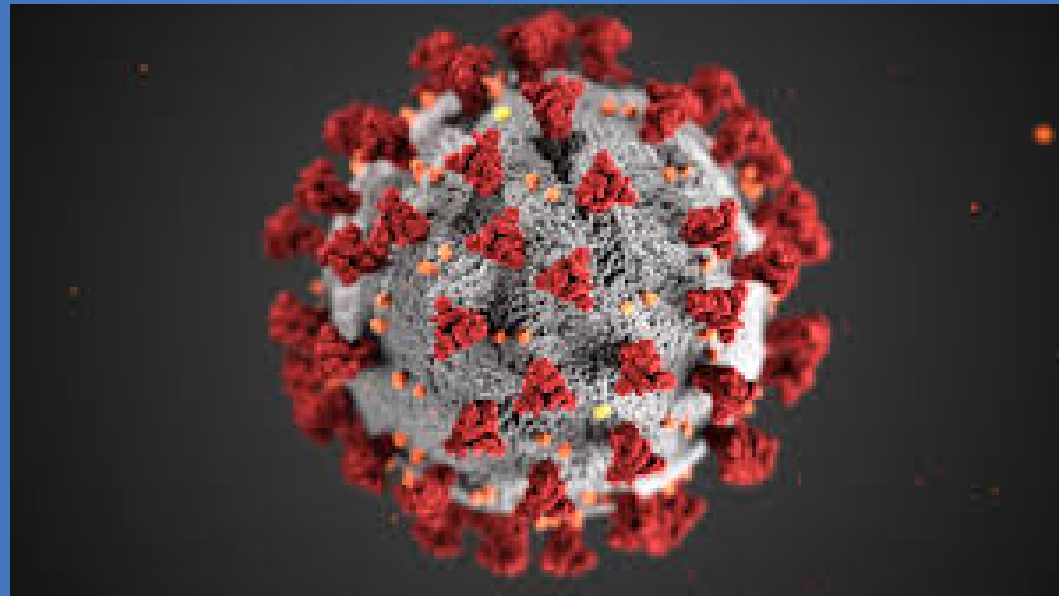
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- Poor memory
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Massachusetts Department of Public Health

Thank You!

Catherine M. Brown

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