

COVID-19: Modelling Update

Advice from the Science Advisory and Modelling Consensus Tables

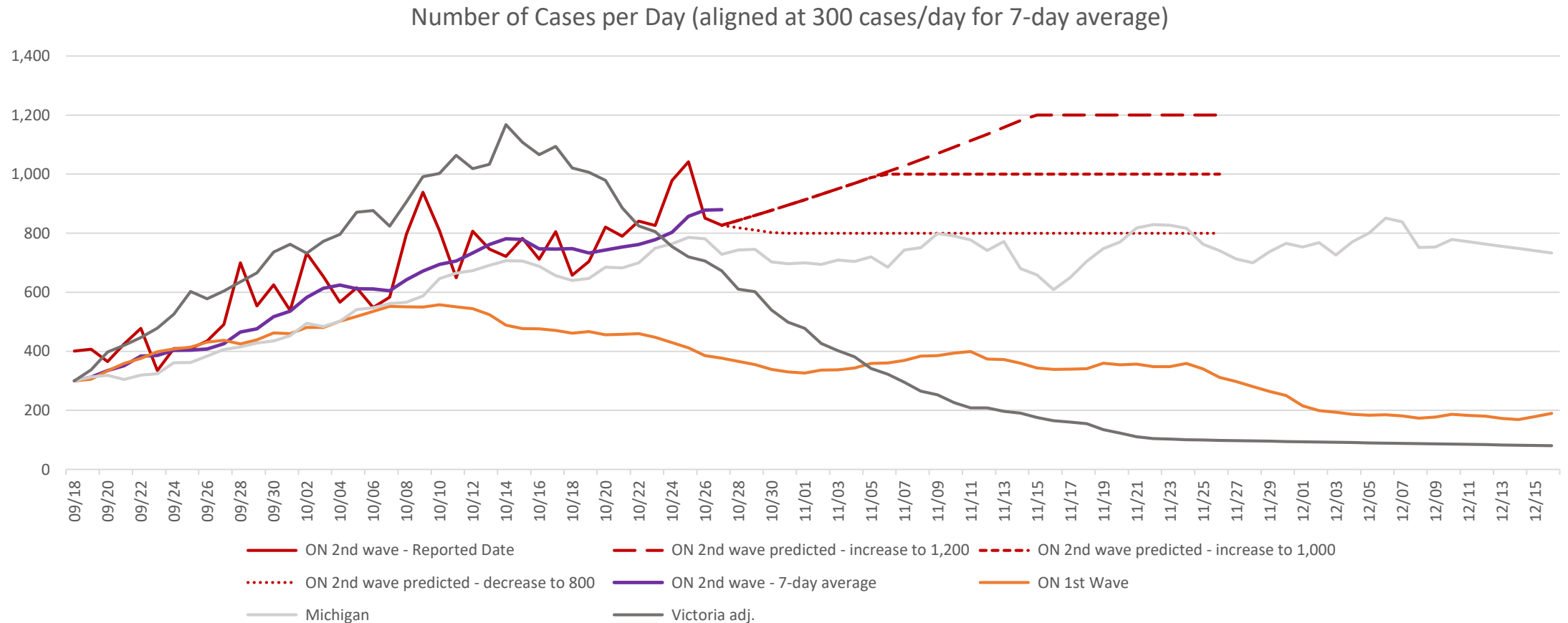
October 29, 2020



Purpose

- Share latest trends in Ontario epidemiology, health system indicators
- Provide an update on progress in controlling pandemic

Current projections show slower growth, similar to Michigan



Positivity rates continue to increase in older age groups with significant health and health system consequences

Week
ending
Oct 24

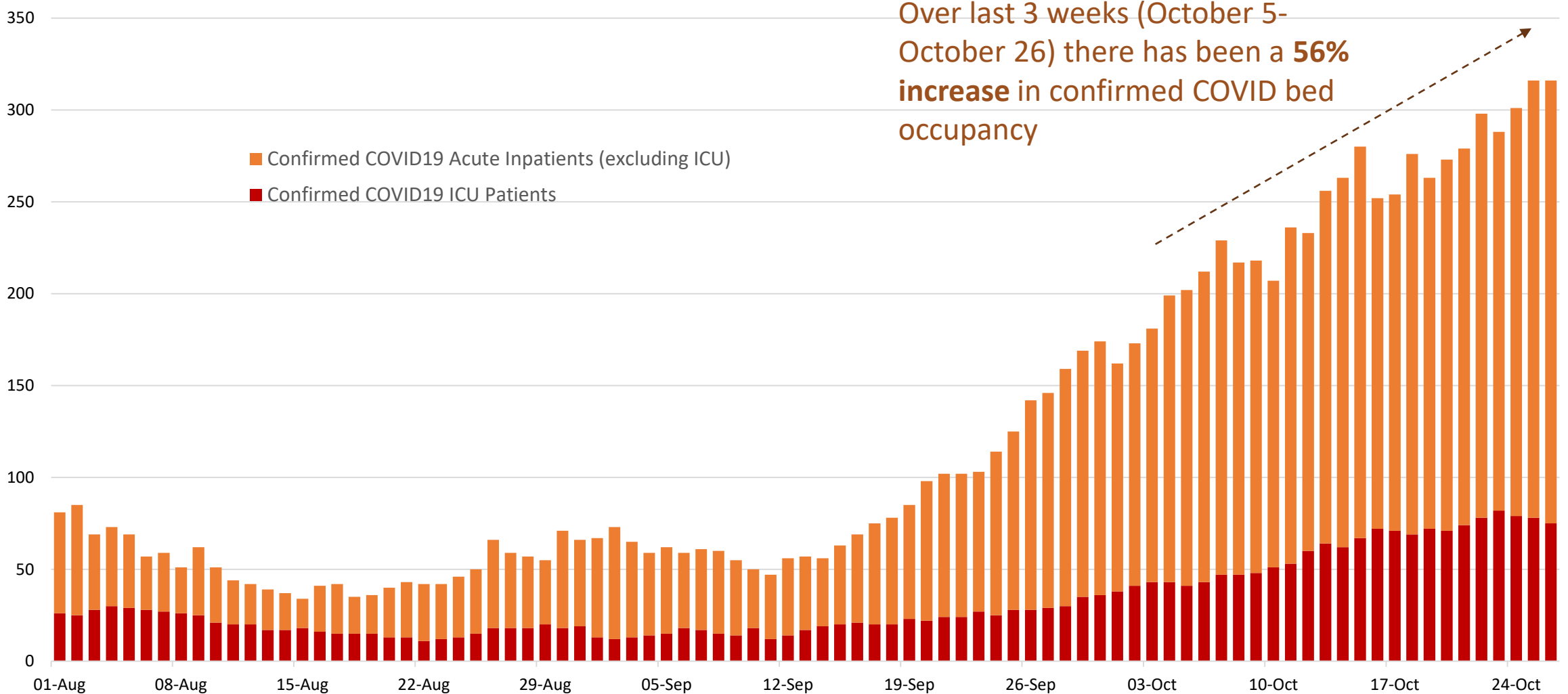
Weekly % positivity by age group																														
Month ▲	Apr2020				May2020					Jun2020				Jul2020				Aug2020					Sep2020				Oct2020			
Week No ▲	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Age Group ▼																														
75+	15.4	16.4	11.0	5.0	4.3	3.4	4.7	5.3	3.2	2.9	1.8	1.0	0.9	0.6	0.6	0.4	0.4	0.3	0.2	0.2	0.3	0.4	0.3	0.5	0.5	1.1	1.3	1.4	1.8	2.3
65to74	12.7	11.4	7.2	5.5	4.4	3.6	4.1	3.8	1.9	1.3	0.9	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.2	0.3	0.3	0.4	0.5	0.5	0.7	1.0	1.2	1.3	1.7	1.8
55to64	12.1	11.4	8.6	6.2	4.8	3.7	4.9	5.7	2.8	2.0	1.0	0.9	0.6	0.6	0.4	0.6	0.5	0.4	0.4	0.3	0.4	0.3	0.5	0.6	0.8	1.1	1.4	1.6	2.3	2.5
45to54	10.5	10.8	8.1	6.2	5.3	4.2	4.6	6.6	3.3	2.2	1.2	1.1	0.7	0.8	0.7	0.7	0.7	0.5	0.5	0.4	0.5	0.5	0.6	0.8	1.0	1.4	1.9	1.9	2.7	2.8
35to44	7.1	8.3	7.1	5.7	4.3	3.3	3.9	5.7	3.4	2.3	1.3	1.4	1.0	0.9	0.8	0.7	0.7	0.5	0.5	0.5	0.4	0.5	0.7	0.7	1.0	1.2	1.5	1.7	2.4	2.6
25to34	7.7	8.7	7.4	6.1	5.2	4.0	4.8	6.3	3.7	2.4	1.4	1.5	1.2	1.0	0.9	1.0	0.9	0.6	0.5	0.6	0.6	0.6	0.9	1.3	1.7	2.0	2.5	2.2	2.9	3.1
18to24	10.6	9.2	7.8	6.5	4.1	3.7	4.3	6.3	3.7	2.5	1.4	1.4	1.2	0.9	0.8	0.9	1.1	0.8	0.7	0.5	0.7	0.9	0.8	1.6	2.4	2.8	3.6	2.6	3.5	3.8
14to17	8.3	5.9	7.1	4.8	3.7	3.4	5.0	6.6	2.2	2.9	1.5	1.6	1.4	1.3	1.1	1.4	1.3	1.4	1.2	1.1	0.8	1.3	1.7	1.8	1.7	1.5	1.9	2.1	2.9	4.3
9to13	7.5	5.7	6.2	4.9	5.8	5.0	5.5	6.5	4.3	3.7	3.4	2.4	1.9	1.0	1.5	1.2	1.7	1.3	0.8	1.4	1.0	1.5	1.4	1.4	0.9	0.8	0.8	1.2	1.8	2.8
4to8	2.7	1.9	4.0	2.3	4.1	2.2	3.0	3.4	3.5	3.4	2.1	2.7	1.7	1.2	0.9	1.1	1.2	1.0	1.0	0.7	0.8	0.5	0.9	0.6	0.5	0.3	0.4	1.0	1.5	2.6
0to3	4.6	1.5	1.6	1.5	1.7	1.6	2.2	2.2	1.4	1.1	1.9	1.4	1.3	0.7	1.0	0.8	1.3	0.4	0.5	0.6	0.3	0.6	0.6	0.3	0.4	0.6	0.8	1.3	2.2	2.3
Total	10.7	11.3	8.5	5.7	4.6	3.6	4.5	5.6	3.1	2.3	1.3	1.1	0.9	0.7	0.7	0.7	0.7	0.5	0.5	0.4	0.5	0.5	0.7	0.9	1.2	1.3	1.6	1.8	2.4	2.8

Data Source: Ontario Laboratory Information System (OLIS), MOH – extracted from SAS VA October 25.

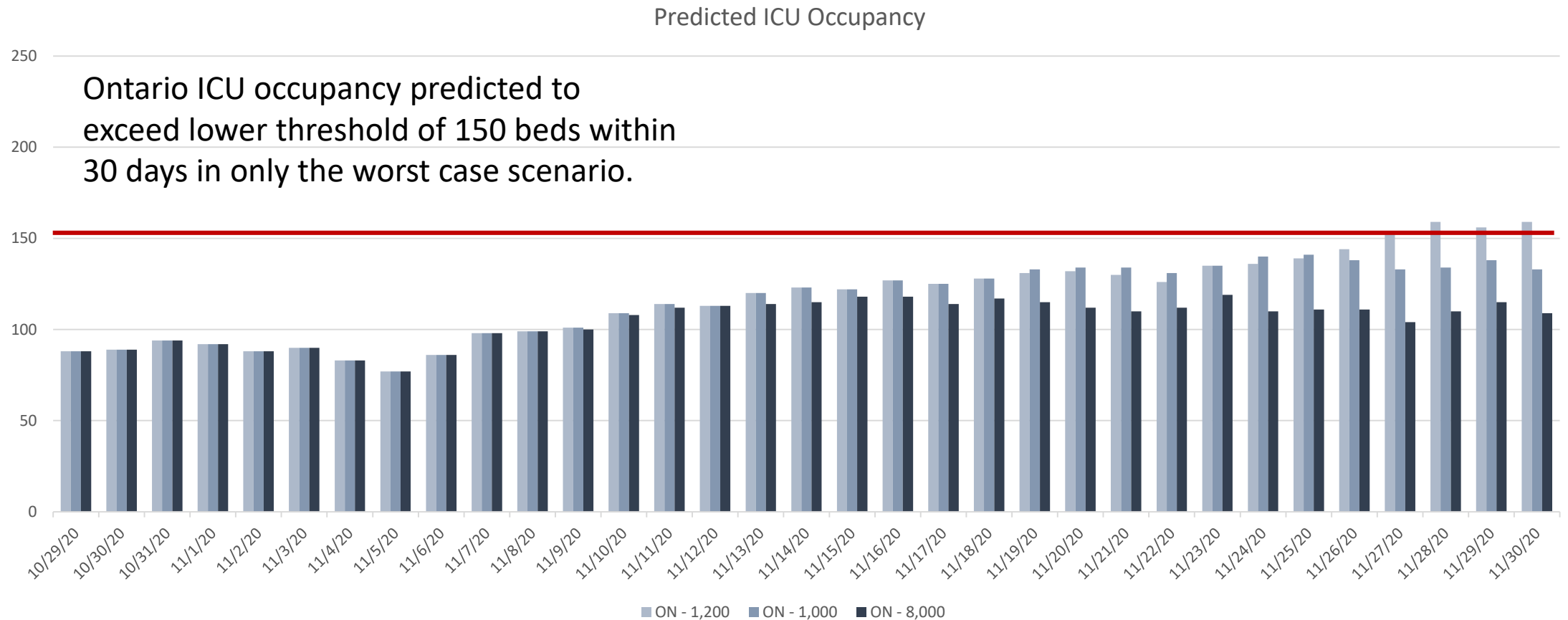
Note: Includes all data submitted to OLIS up to October 24, 2020. The last six days are considered interim data (week 42) and subject to change

Weekly % positivity = total number of positive tests within the week (based on reported date)/COVID tests within the week

Growth in hospitalizations is slowing, but spillover risk persists



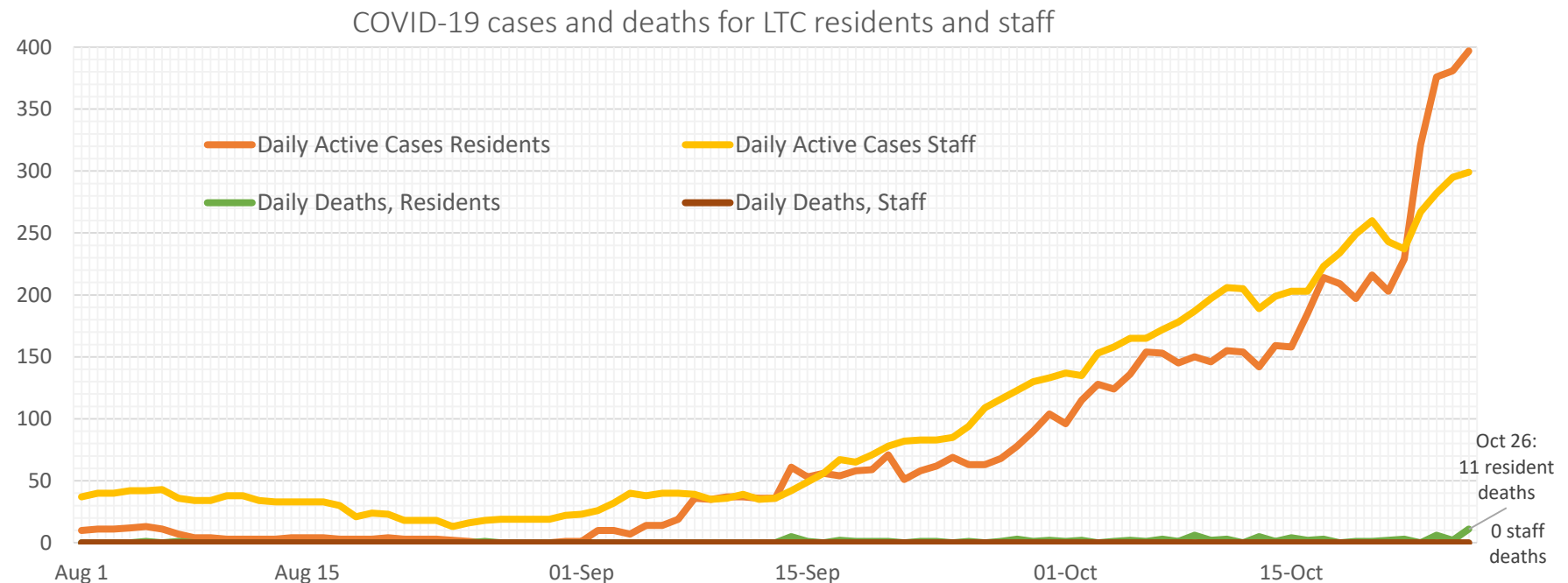
Slower growth means that risk to ICUs is lower



Cases in LTC continue to increase with cumulative mortality up substantially (85 deaths since August 15)

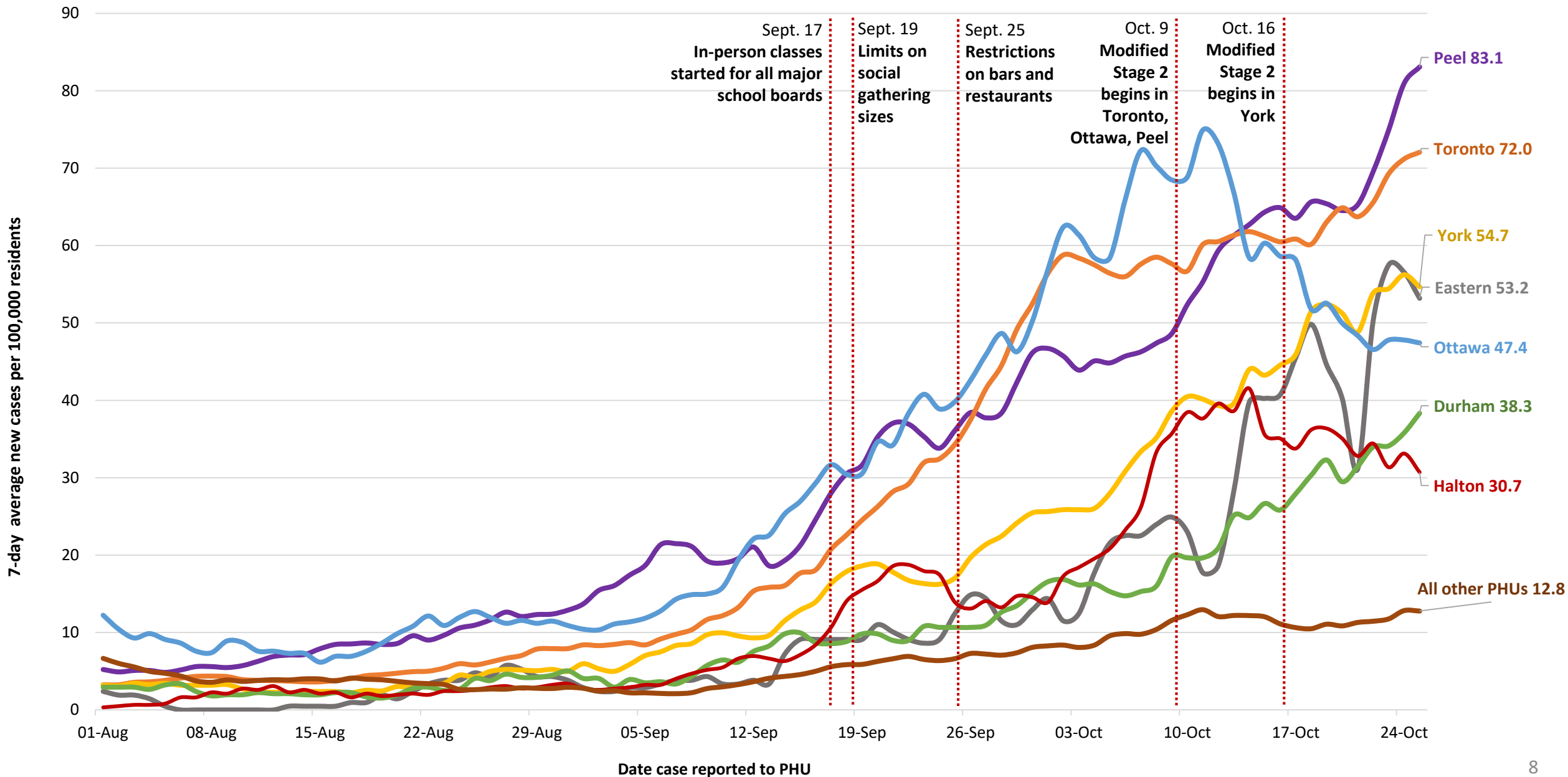
Current status (Oct 27)

- **87 homes currently in outbreak, 677 active confirmed cases in these homes**
- **396 residents, 281 staff active cases**
- **1,934 cumulative resident deaths, 8 cumulative staff deaths**
- **21 of the 87 homes in outbreak are based on 1 staff case**
- **Oct 26 showed the highest daily count of deaths since Aug 1 (11 deaths), with 27 deaths in the past 7 days.**



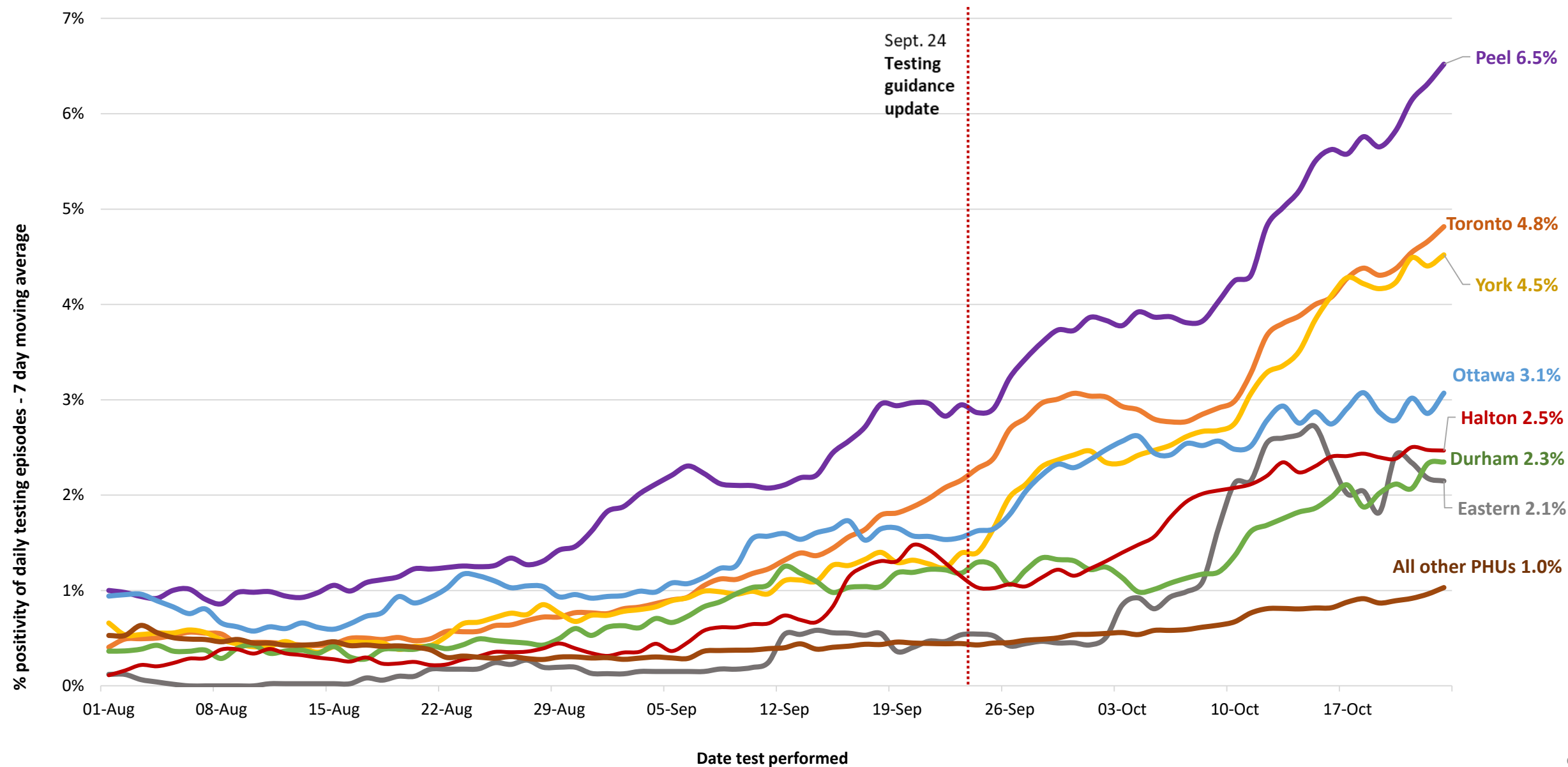
Active cases are the number of people who have tested positive for COVID-19. This number **does not** include cases that have been changed to resolved or deaths.

Substantial variation in new cases per 100,000 population by PHU



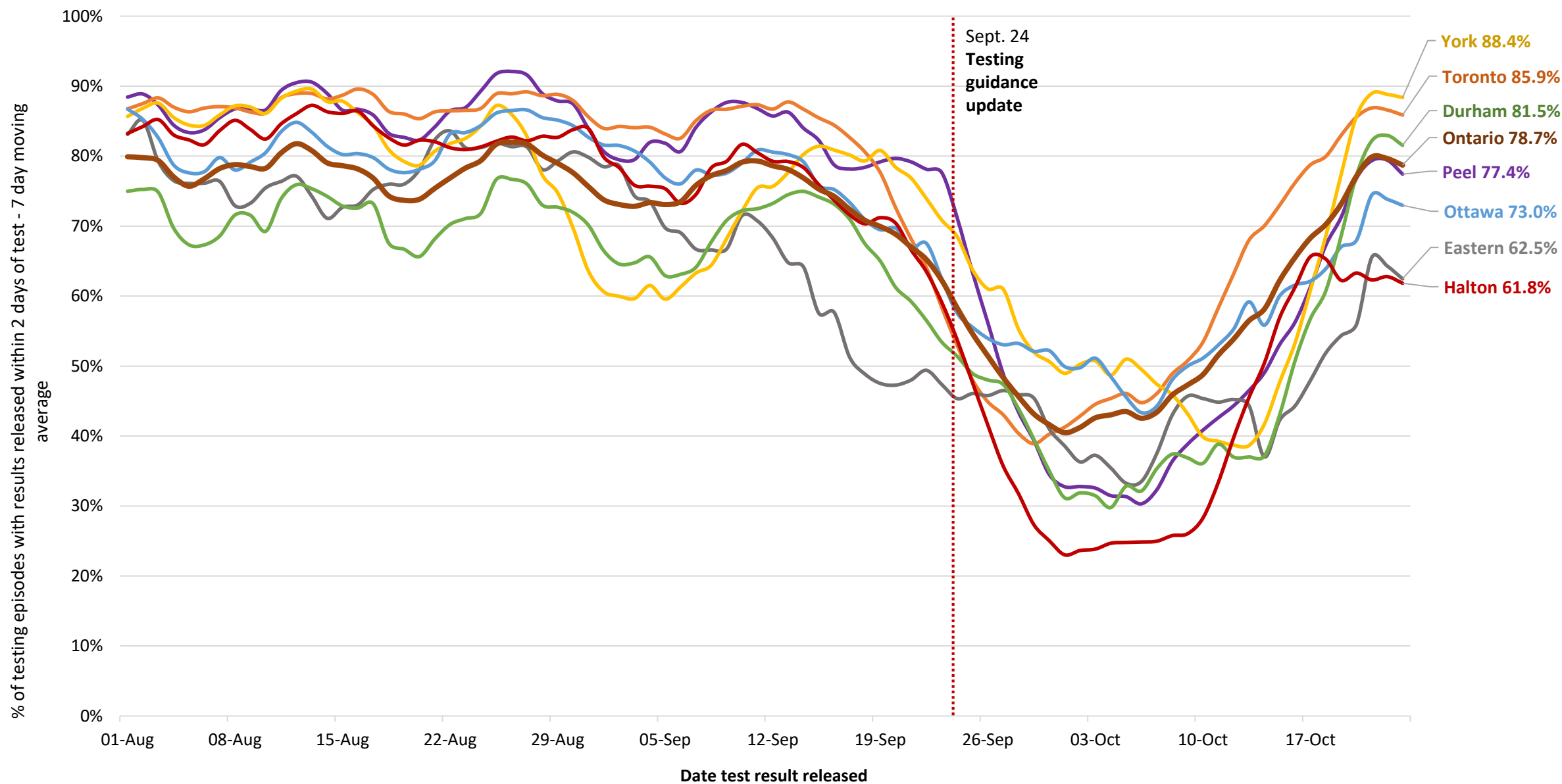
Data Source: Case and Contact Management System (CCM), extracted Oct 27

Substantial variation in percent positivity by PHU

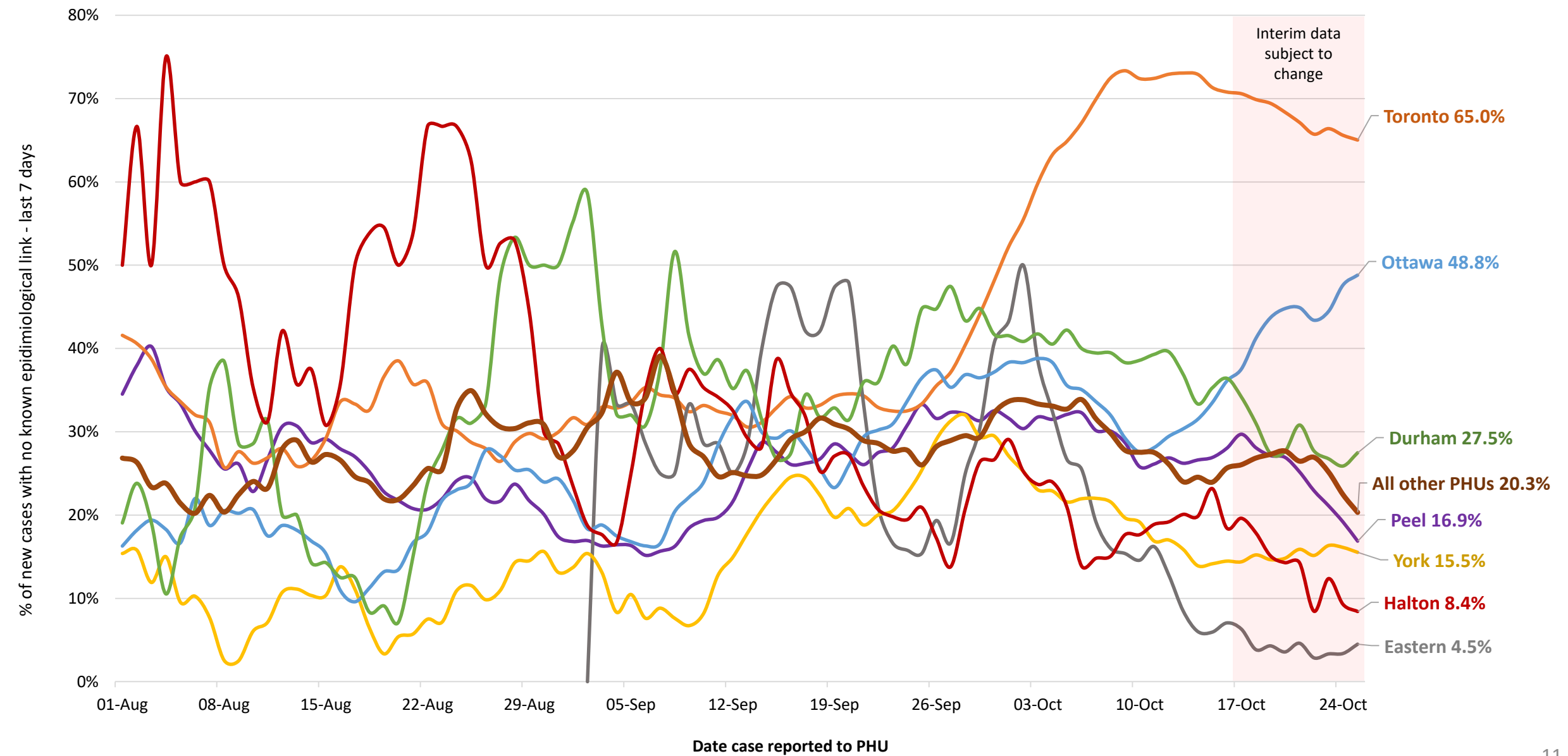


Data Source: Ontario Laboratory Information System (OLIS), extracted via MOH SAS VA Oct 27

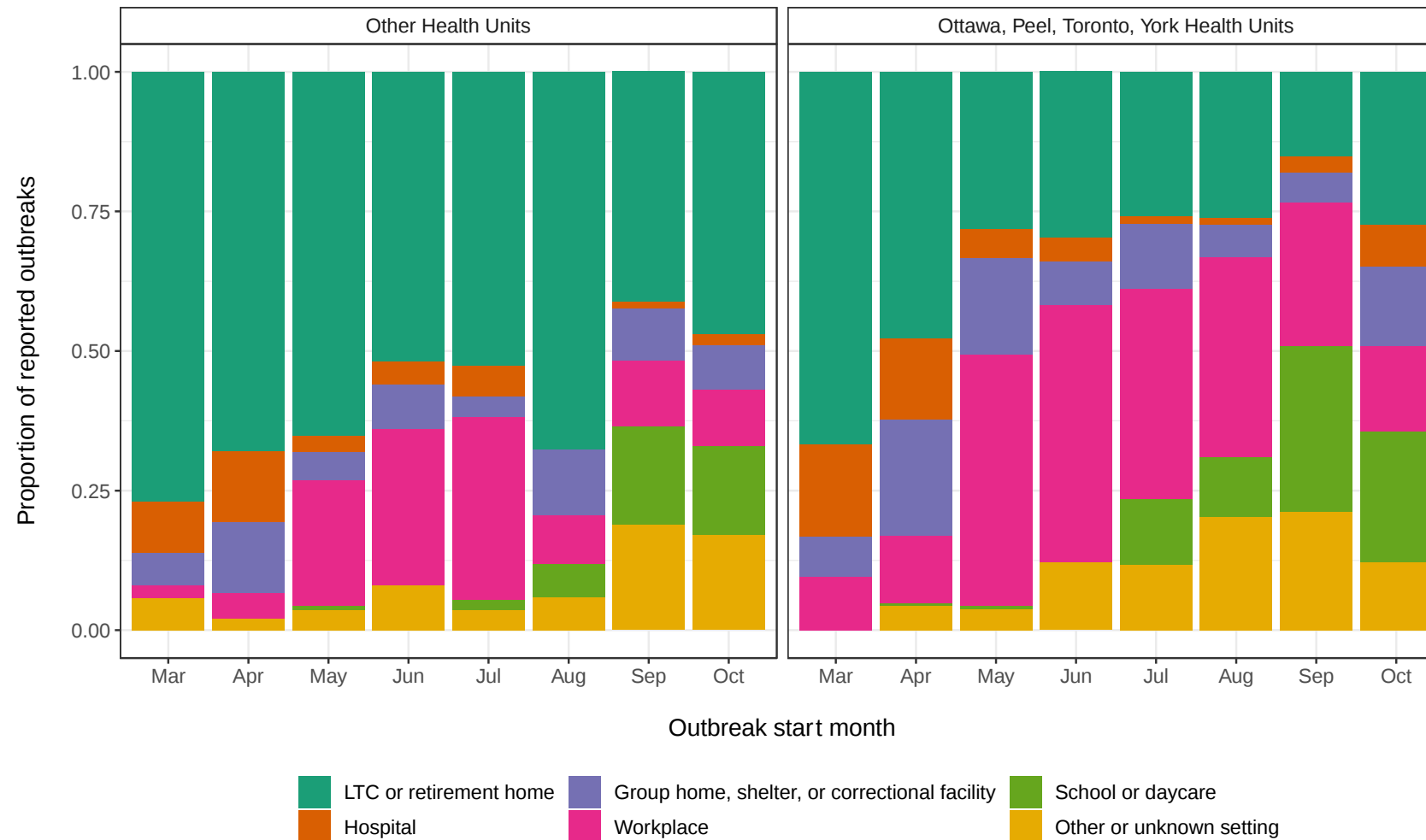
Substantial variation in % 2-day test turnaround by PHU



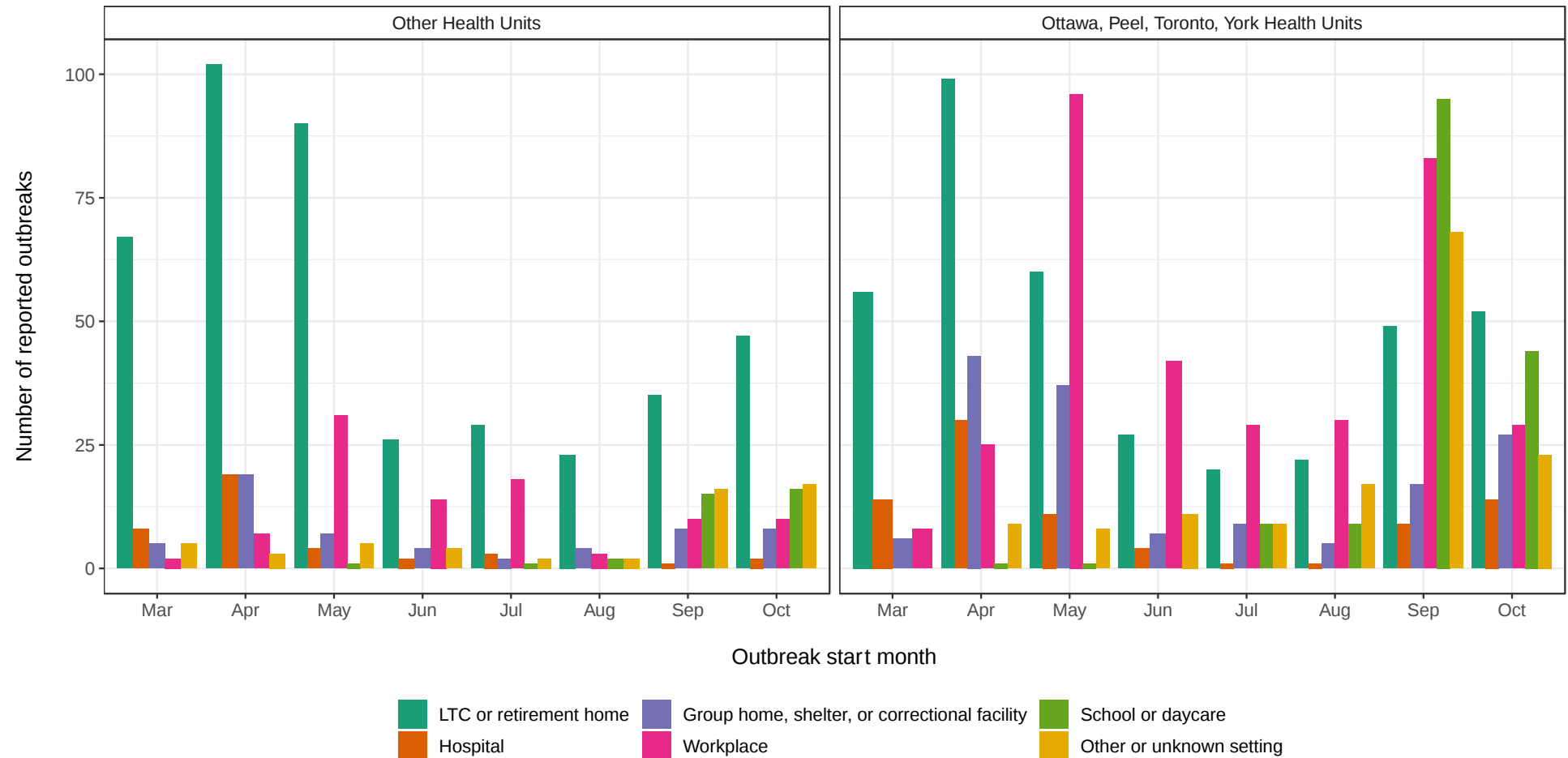
Substantial variation in % of cases with no epidemiological link by PHU



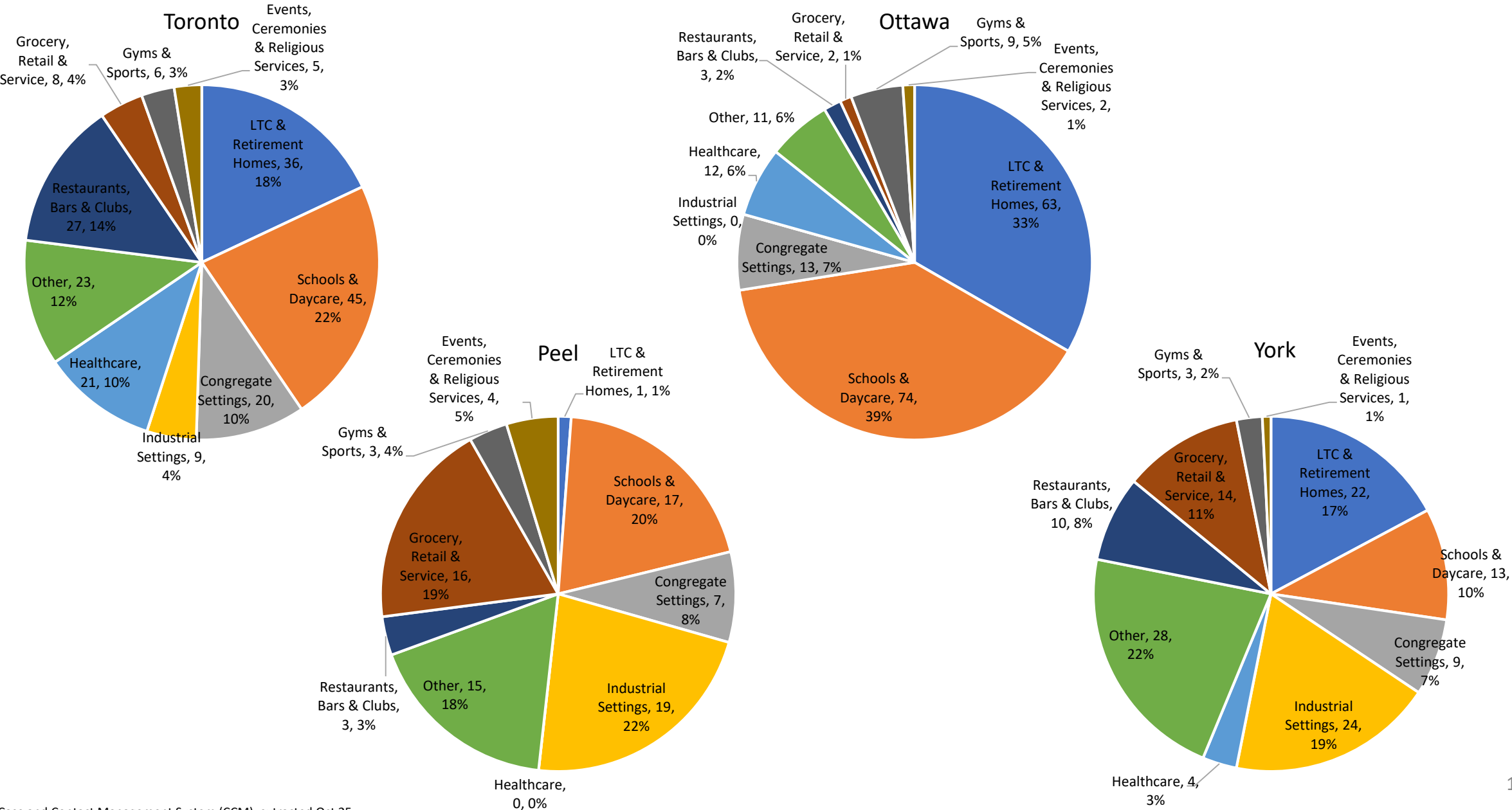
Changes in outbreak location suggest impact from shifts to modified Stage 2 (1 of 2)



Changes in outbreak location suggest impact from shifts to modified Stage 2 (2 of 2)

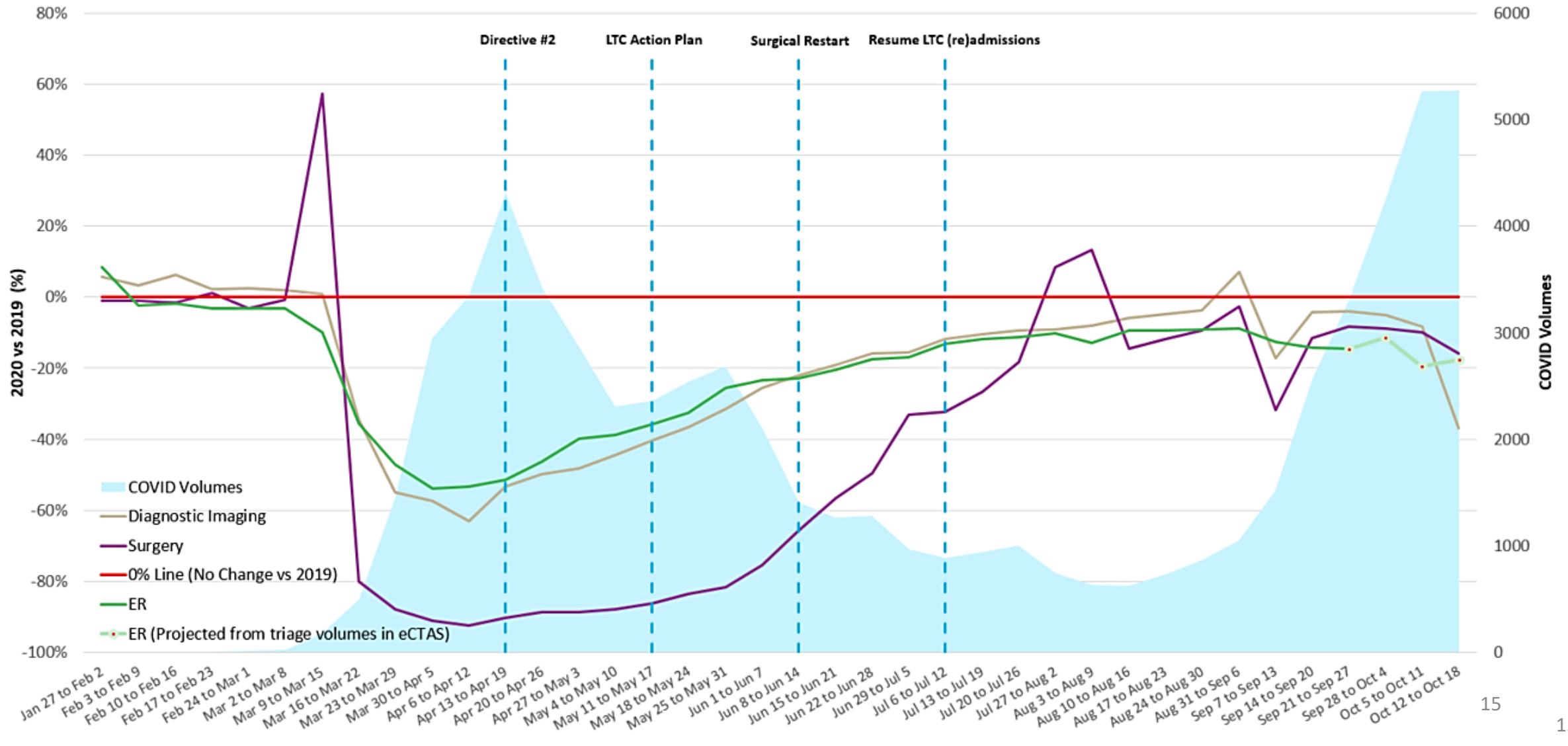


Substantial variation in source of outbreak by PHU since August 1, reported October 24



Access to care continues well below 2019 volumes

Weekly Volume Comparison - % Change 2020 vs 2019



Key Findings: pandemic spread continues according to several indicators but is slowing

- Most indicators show slowing growth in COVID-19 cases, trajectory appears to be moving away from worst case but cases are continuing to climb
- Levelling up public health capacity to respond to the disease is necessary to respond to and control disease spread
- Continuing to respond on a PHU by PHU basis to account for regional variations will be important
- Health system able to respond to pandemic at current levels of growth but pandemic trajectory can change quickly
- Long-term consequences of COVID-19 pandemic continue:
 - Case growth and spillover into older age groups will increase mortality due to COVID-19
 - Potential for long-term health system burden from COVID-19 “long-haulers”
 - Access to necessary care continues below 2019 levels
 - Mental health and long-term consequences of economic impacts deserve further study