



ONTARIO PEDIATRIC COVID-19 UPDATE

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COVID-19 IN ONTARIO'S CHILDREN

- To some extent, we have neglected the children of Ontario in our testing strategies since the beginning of the COVID-19 pandemic compared to other Canadian provinces, focusing on high-risk populations such as Long-Term Care and Health Care Providers.
- Trying to understand the impact of Provincial strategies upon our children is exceptionally important to inform policy makers as we measure the impact of our decisions on the population at large, especially since children may present with severe symptoms several weeks after a relatively mild initial COVID-19 infection.
- As we look to reopen daycares on Jun 12, do we have a good understanding of what is happening in Ontario's children?

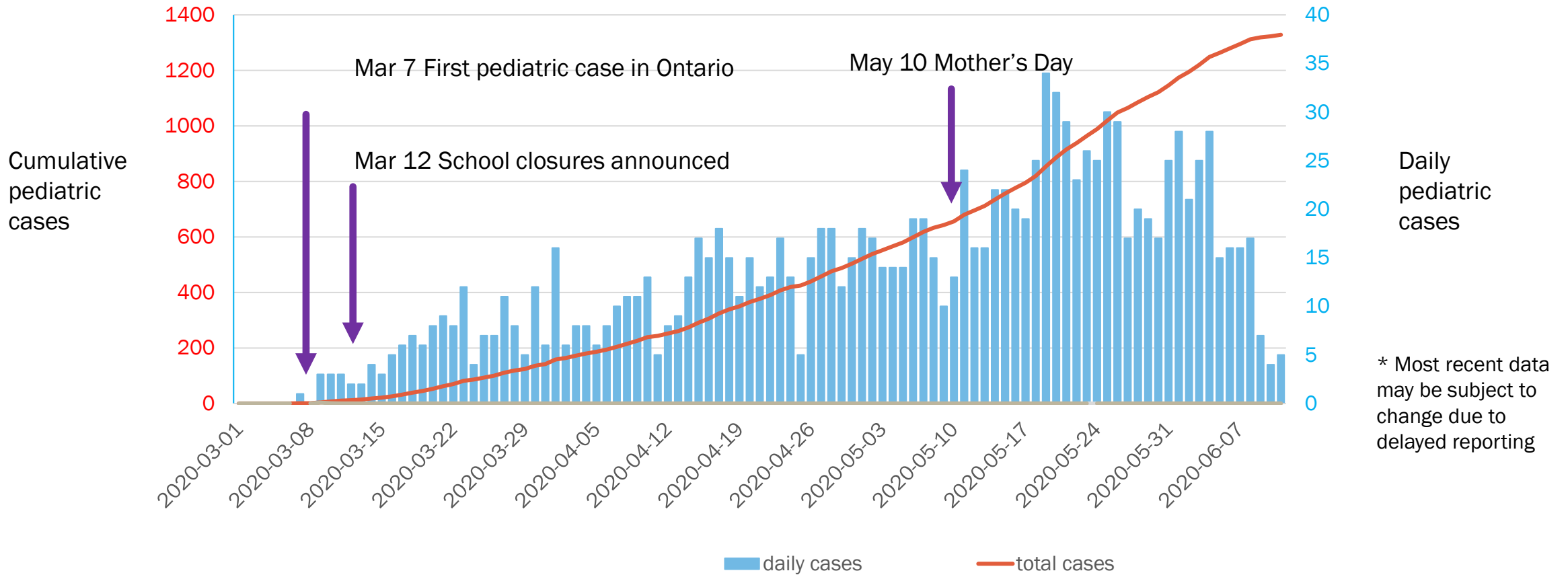


GAPS IN OUR UNDERSTANDING OF COVID-19 IN CHILDREN

- Since the beginning of the pandemic, there has been a relative paucity of data about the full clinical picture of COVID-19 in children. Many countries have been plagued by lack of resources, including PPE, testing kits, swabs, and personnel. This has led to the direction of resources to prevention of mortality in highly vulnerable seniors in LTC.
- As we reopen society, much more attention will need to be focused on less visibly symptomatic individuals, including children, young adults, and those with less severe disease to prevent a large ‘second wave’
- The recognition that children and young adults may have a different overall clinical presentation that manifests as gastrointestinal and vasculitic processes should make us vigilant as we reopen the Province.



ONTARIO PEDIATRIC TRENDS: AS OF JUNE 12, THE **CUMULATIVE TOTAL IS 1328 CASES <20YO FOR ONTARIO**

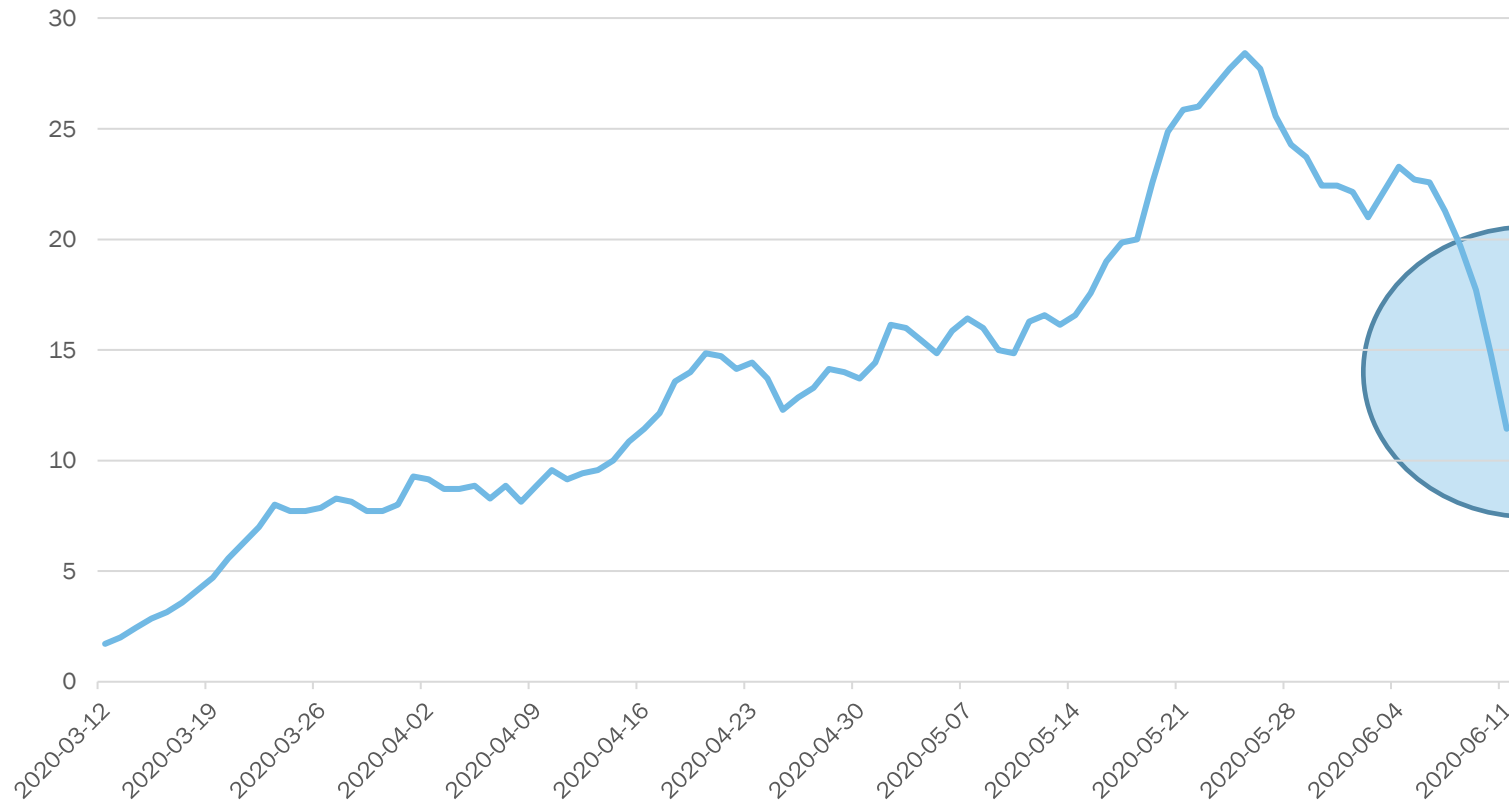


ONTARIO PEDIATRIC TRENDS:

7 DAY ROLLING AVERAGE FOR DAILY PEDIATRIC CASES IN ONTARIO:

WE MAY HAVE CRESTED THE MOTHERS' DAY BUMP BUT HOW WILL WE FARE WITH OPENING DAYCARES ON JUN 12?

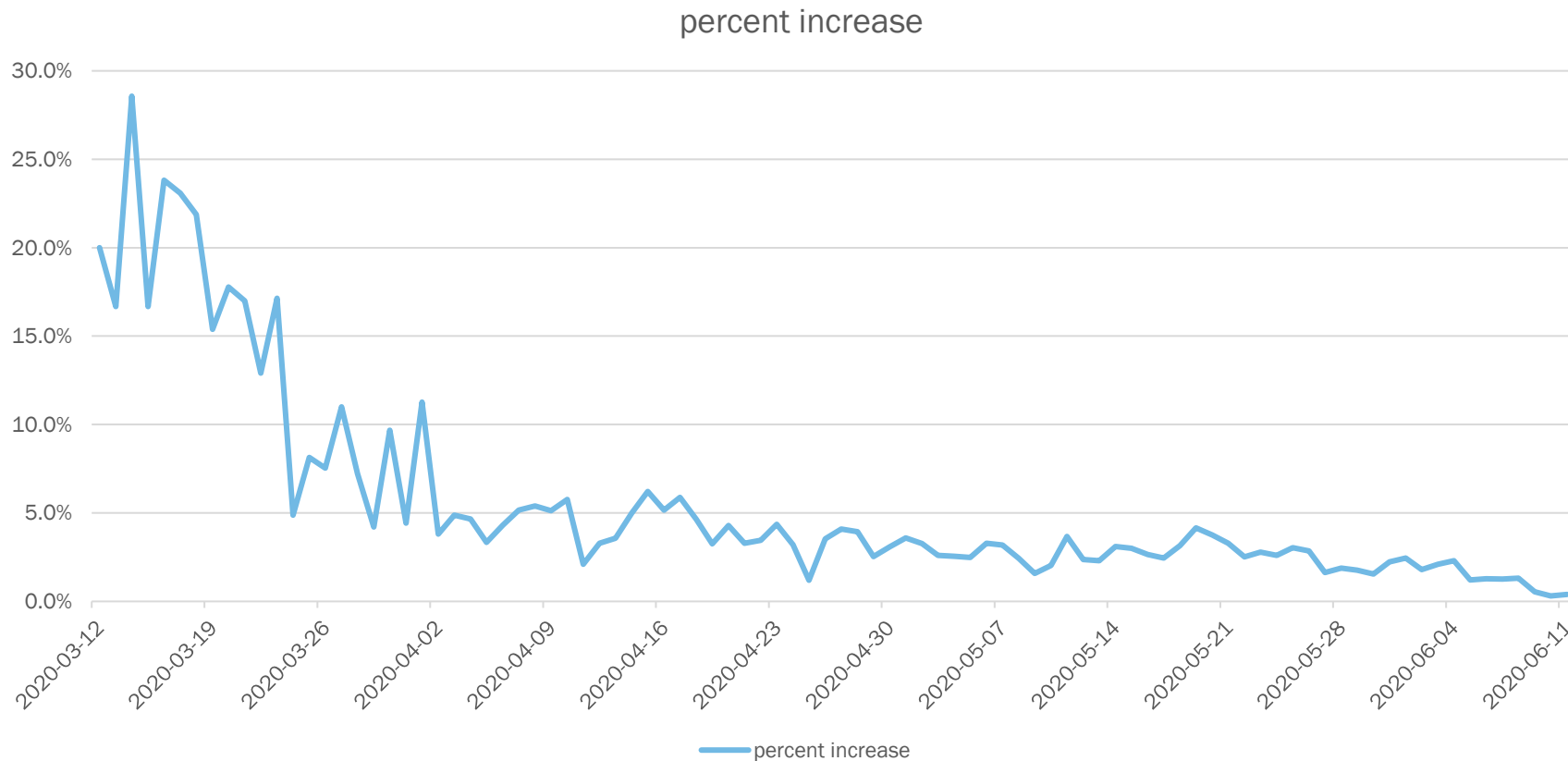
7-day rolling average of pediatric cases per day



Data may be incomplete due to delays in reporting

As of Jun 12, 2020 per Ontario data set

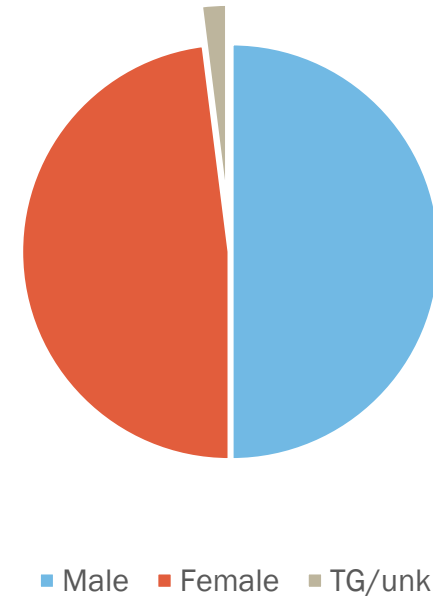
DAILY PERCENTAGE INCREASE IN ONTARIO COVID-19 PEDIATRIC CASES HAS BEEN STEADILY TRENDING DOWNWARD SINCE SCHOOL CLOSURES OCCURRED ON MARCH 12



As of Jun 12, 2020 per Ontario data set

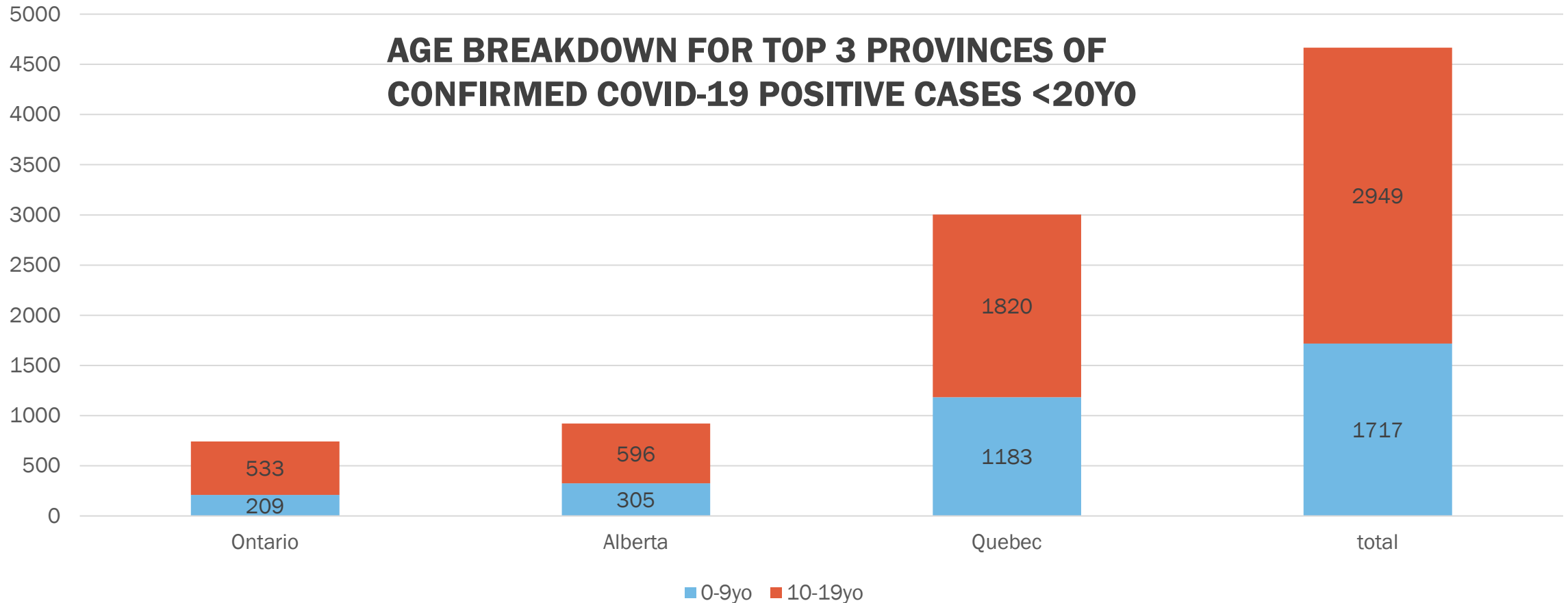
ONTARIO PEDIATRIC TRENDS: NO SIGNIFICANT SEX DIFFERENCES

- 668 male (50%)
- 631 female (48%)
- 29 transgendered/unknown (2%)



As of Jun 12, 2020 per Ontario data set

Across most provinces, 10-19yo make up the majority of cases at an average of 63%

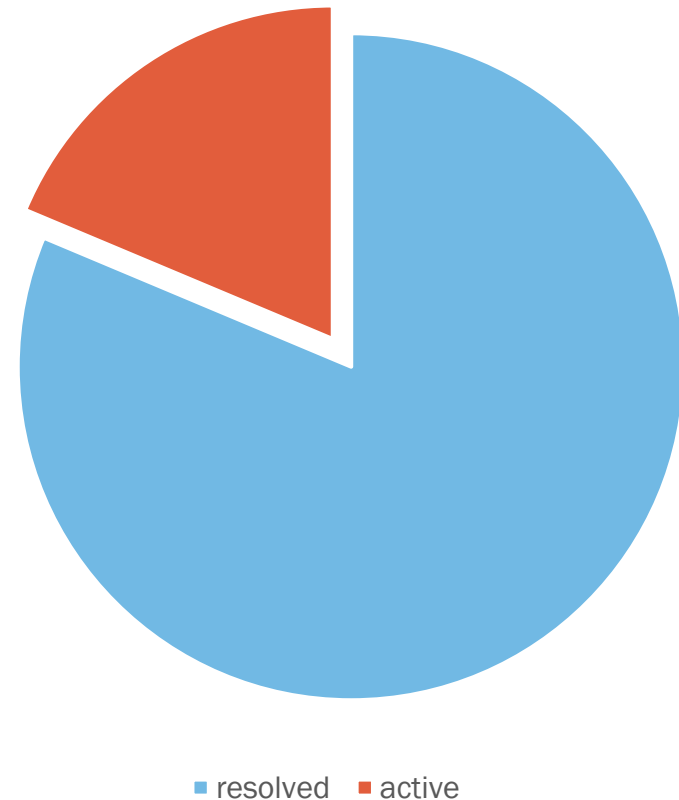


Good News!
Active Pediatric cases have fallen 5% in the last 2 weeks in Ontario

AS OF JUN 12 2020, THERE HAVE BEEN NO PEDIATRIC DEATHS IN ONTARIO

1080 (82%) OF CASES HAVE RESOLVED

261 (18%) OF CASES ARE ACTIVE

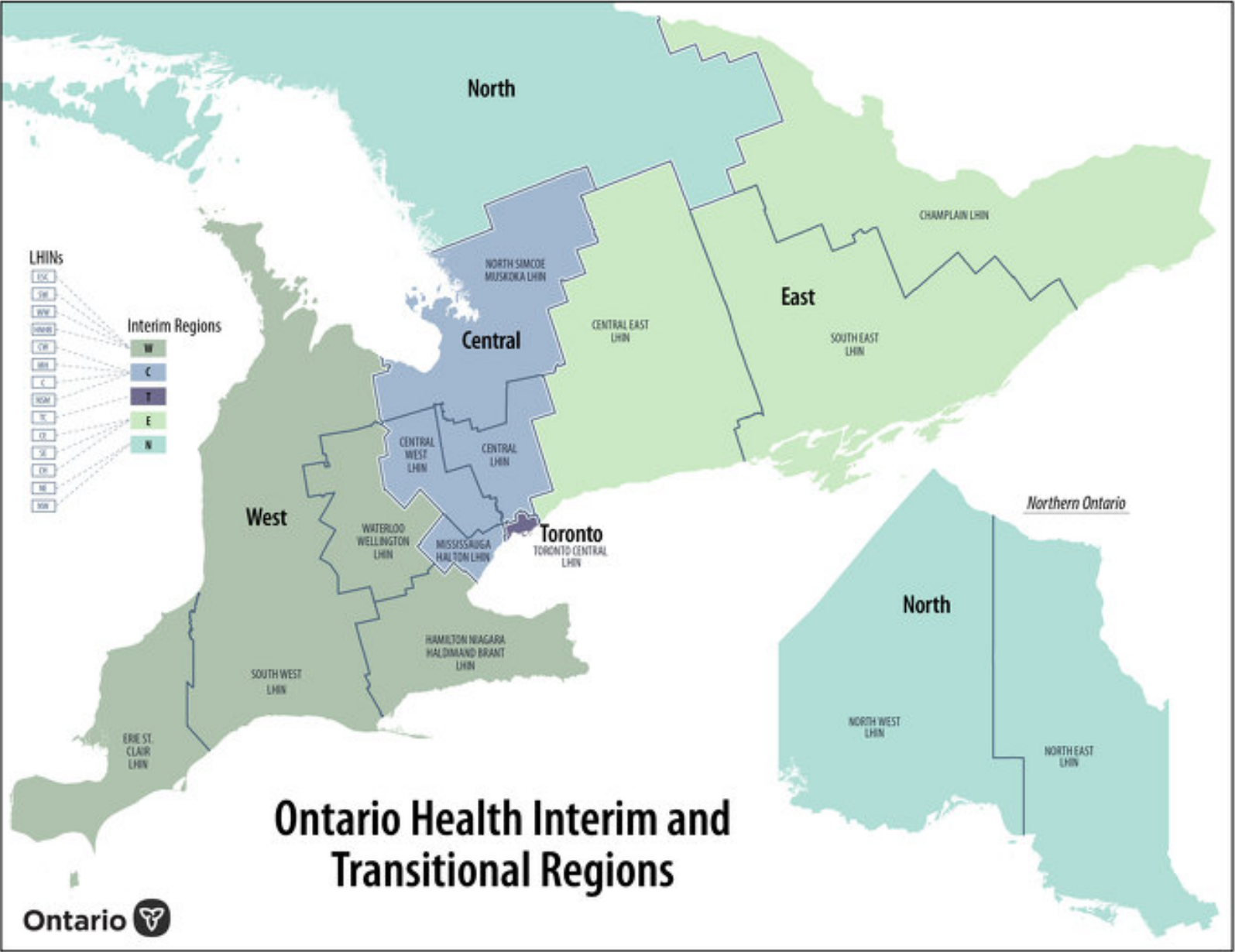


As of Jun 12, 2020 per Ontario data set

CONFIRMED COVID POSITIVE CASES <20 YEARS-OLD BY REGION:

NORTH	23 CASES
EAST	172 CASES
CENTRAL	491 CASES
TORONTO	450 CASES
WEST	192 CASES

As of Jun 12, 2020
per Ontario data set

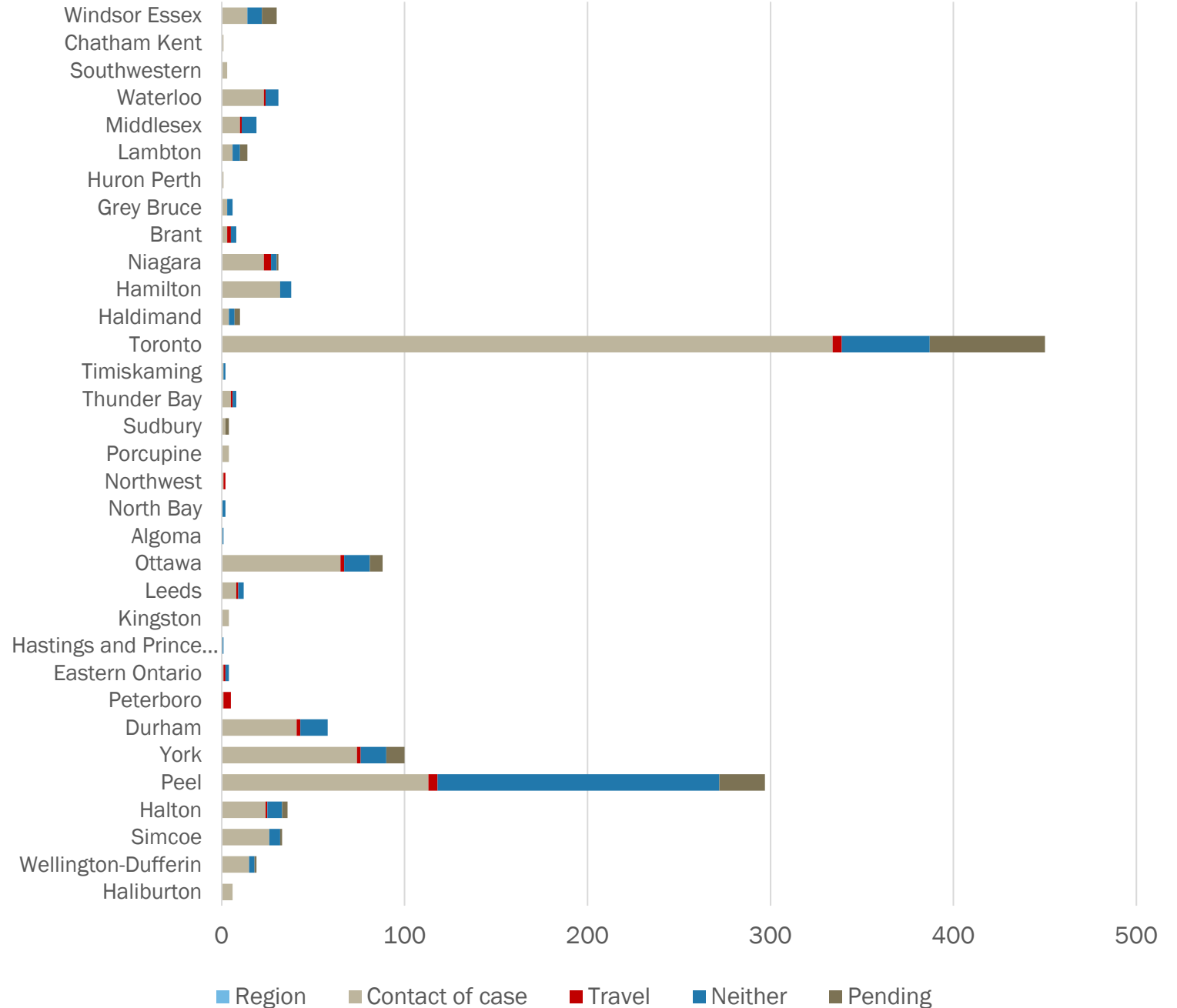


**33 DIFFERENT
HEALTH UNITS HAVE
REPORTED
PEDIATRIC CASES**

**THE GTA AND
OTTAWA MAKE UP
THE MAJORITY OF
CASES**

As of Jun 12, 2020 per Ontario data set

Cases per Health Unit

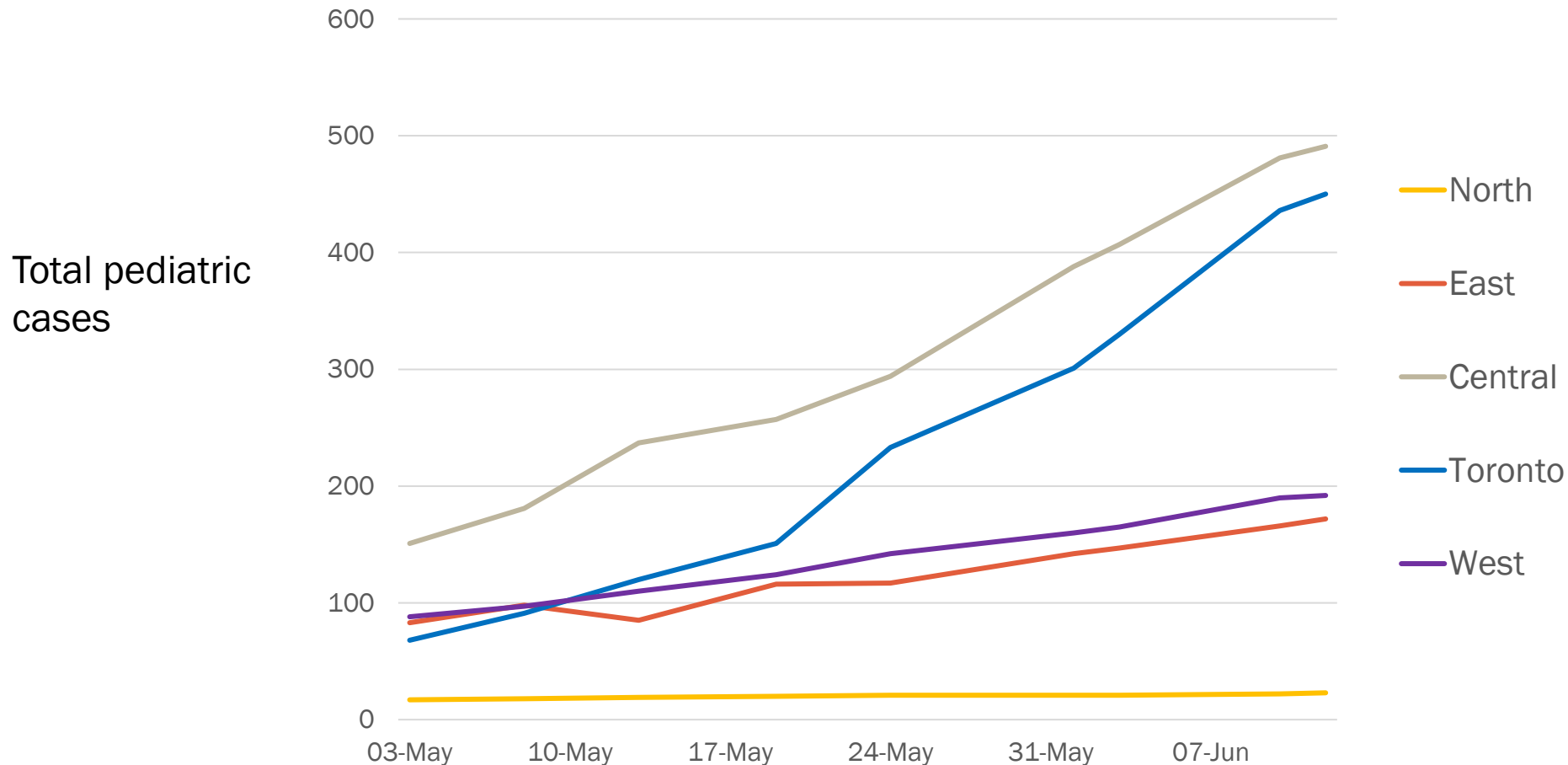


MORE THAN HALF OF CONFIRMED COVID-19 PEDIATRIC PATIENTS IN ONTARIO ARE CLOSE CONTACTS OF KNOWN CASES

- 848 (64%) are close contacts of cases
- 33 (2%) are travel-related
- 319 (24%) are neither close contacts nor travellers
- 128 (10%) have information pending

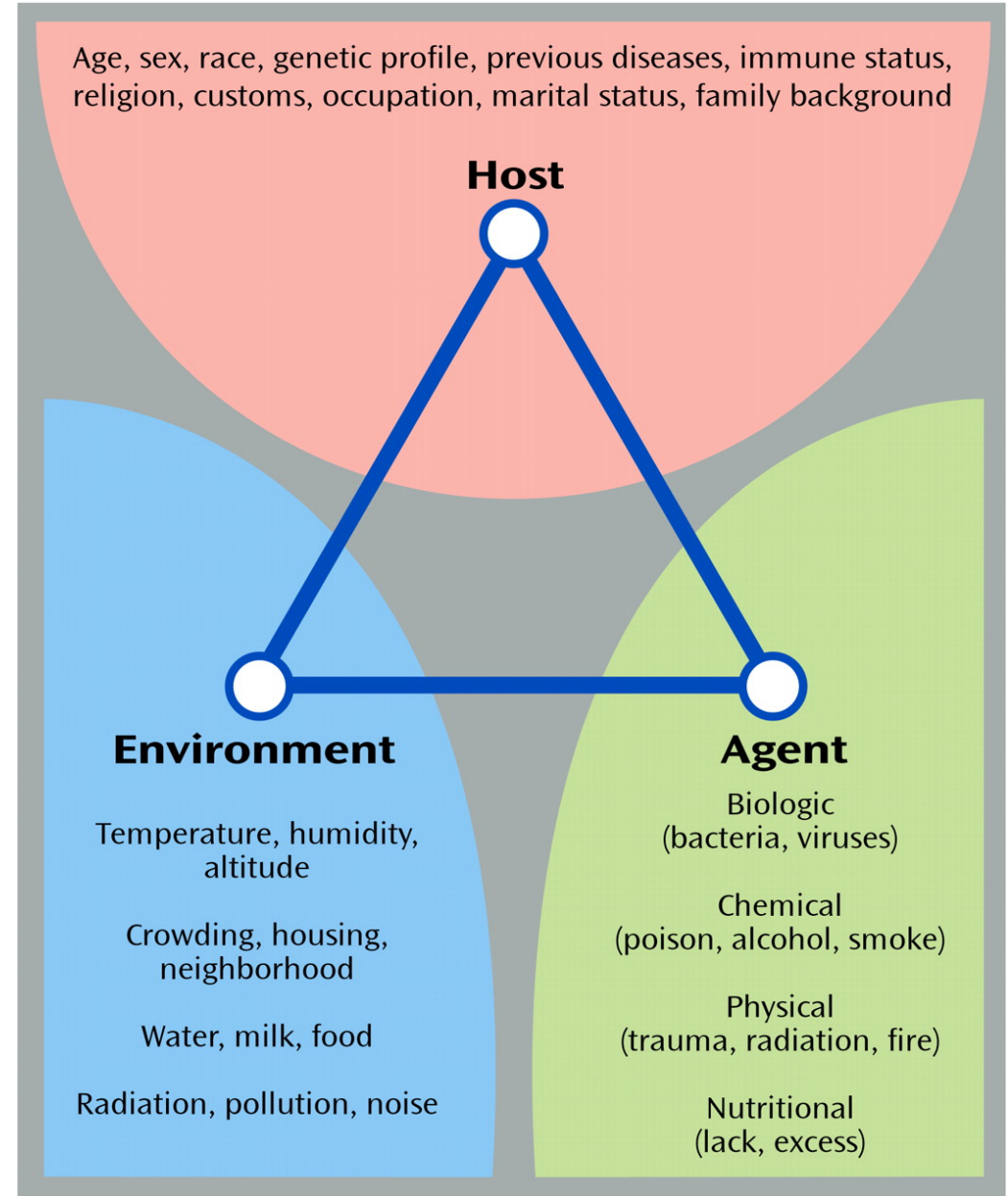
As of Jun 12, 2020 per Ontario data set

TORONTO AND CENTRAL REGIONS HAVE BEEN INCREASING <20YO COVID-19 CONFIRMED CASES MORE RAPIDLY THAN OTHER REGIONS OVER THE LAST 4 WEEKS

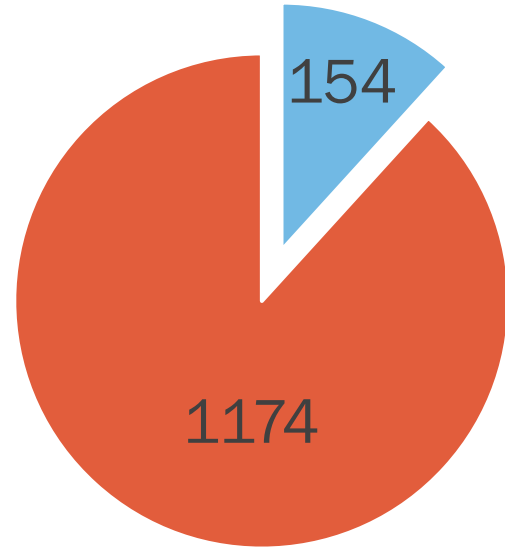


THE EPIDEMIOLOGIC TRIAD

- Mother's Day influence? (Customs)
- Heat wave driving people outside? (Environment)
- Toronto/Peel have much higher population density than London or Sarnia? (Environment)



RECENT TRENDS: RELATION OF <20YO CASES TO OUTBREAKS



■ Outbreak ■ Non-outbreak

As of Jun 12, outbreaks accounted for 11.7% of all pediatric cases in Ontario

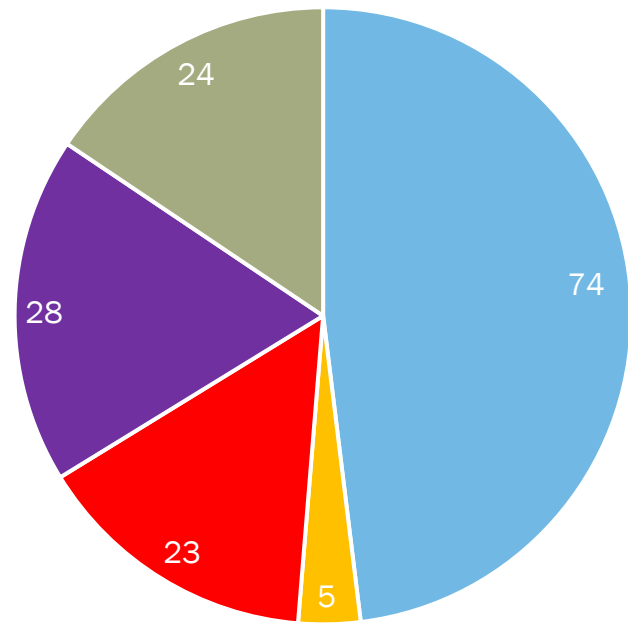


PEDIATRIC OUTBREAK CASES

- Trending upwards
- May increase as daycares reopen
- Little known about these outbreaks by community pediatricians
- Anecdotally, some are related to parental workplace outbreaks rather than childcare settings
- Would more information help parents feel safer sending their children back to daycare/school?

RECENT TRENDS: RELATION OF <20YO CASES TO OUTBREAKS

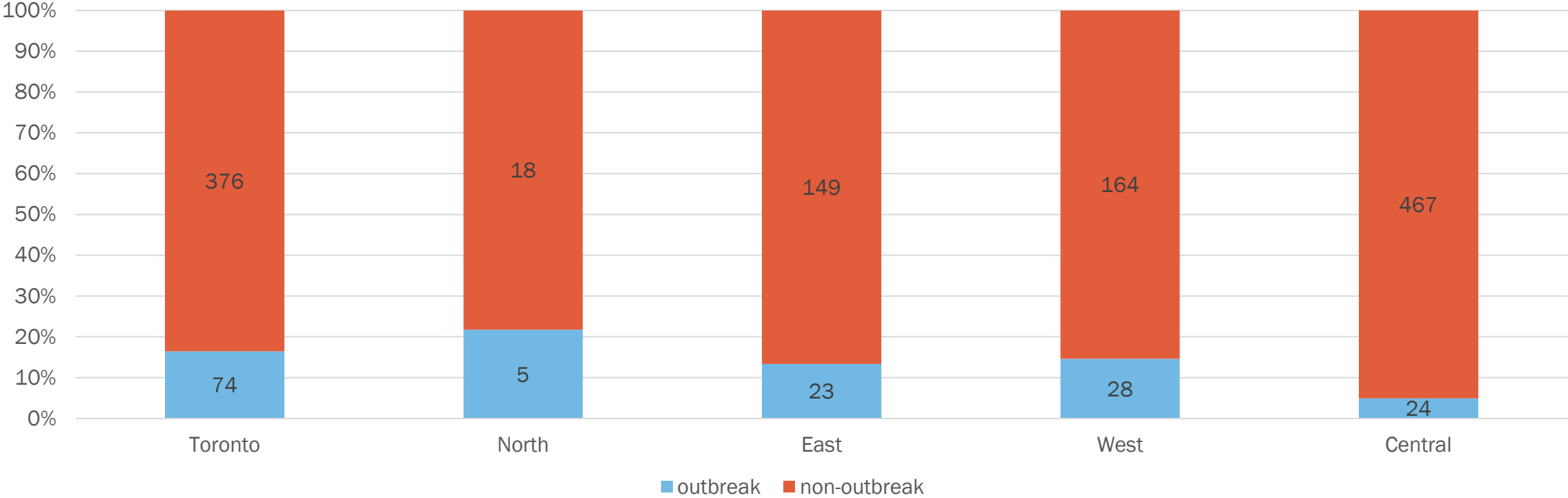
Outbreak cases



■ Toronto ■ North ■ East ■ West ■ Central

As of Jun 12, Toronto Public Health has reported 74 of 154 (48%) of all pediatric outbreak cases while they only had 34% of all provincial pediatric cases

THE NORTH HAS THE LARGEST PROPORTION OF OUTBREAK CASES AT 21% AND THE CENTRAL REGION HAS THE LOWEST AT 4%



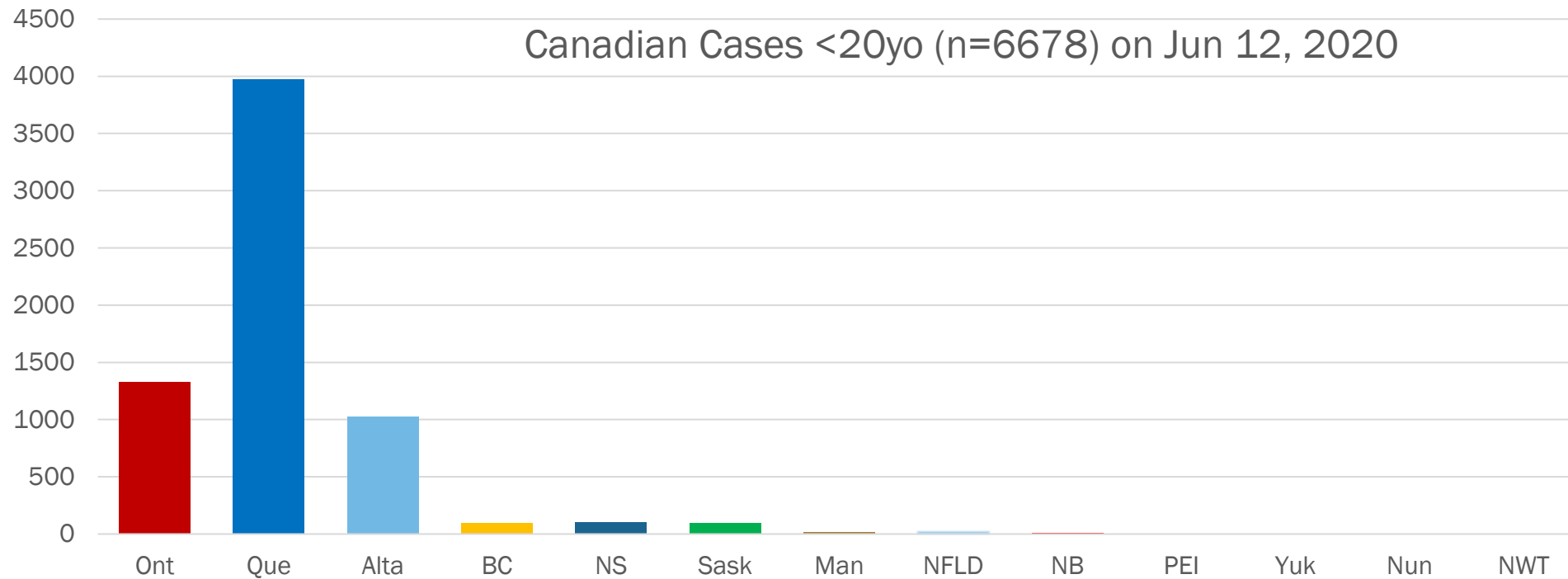
LARGEST SINGLE DAY OUTBREAK CLUSTERS

- May 19, 17 outbreak cases (Toronto Public Health)
- June 4, 6 outbreak cases (Toronto Public Health)
- June 8, 5 outbreak cases (Toronto Public Health)

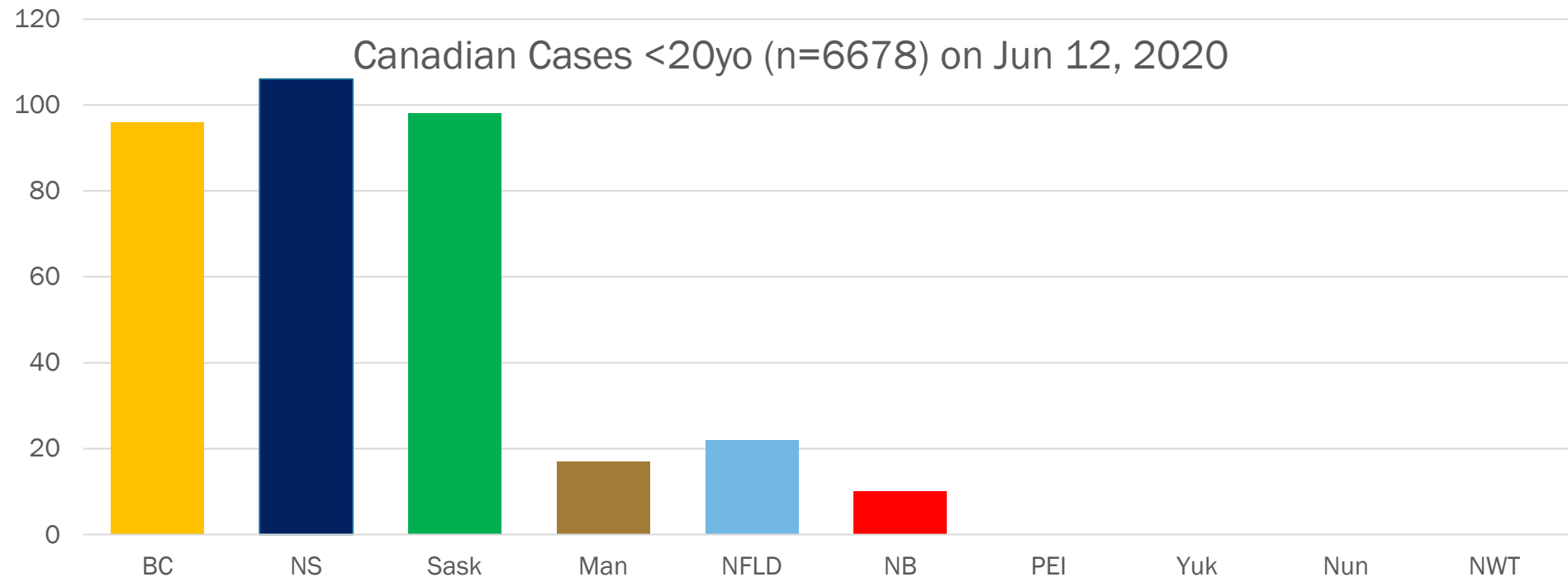
<20YO CASES MAKE UP BETWEEN 0-14.8% OF ALL REPORTED CASES BY CANADIAN PROVINCE

	Cases <20yo	Proportion of total cases <20yo (%)	Total cases	Tests per thousand	Population	Cases <20yo per million	Total cases per million
Alta	1027	14.0%	7316	71.9	4413146	234	1658
Que	3974	7.4%	53485	60.4	8537674	467	6286
NS	106	10.0%	1061	49.9	977457	108	1084
Sask	98	14.8%	660	45.6	1181666	83	559
NFLD	22	8.4%	261	27.3	521365	42	501
Ont	1328	4.2%	31544	64.8	14711827	91	2156
BC	96	3.6%	2694	32.0	5110917	19	527
Man	17	5.6%	301	37.4	1377517	12	218
NB	10	6.5%	153	46.3	779993	13	196
PEI	0	0.0%	27	53.5	158158	0	171
Nun	0	0.0%	0	30.6	39097	0	0
Yuk	Not reported	Not reported	11	30.0	41078	Unknown	268
NWT	Not reported	Not reported	5	53.6	44904	Unknown	111
Canada	6678	6.8%	97530	57.2	37894799	177	2583

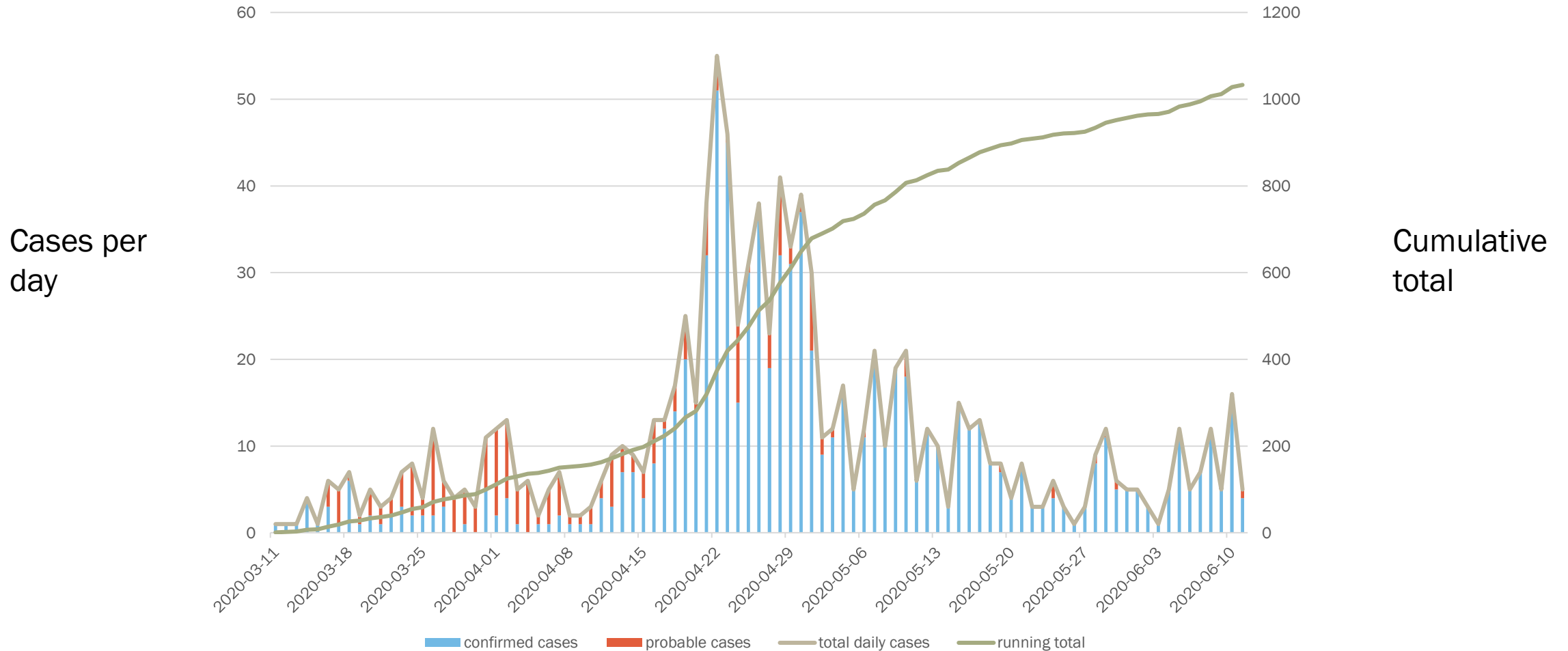
ALBERTA HAS A LARGE NUMBER OF <20YO CASES. WHAT ARE THEY DOING DIFFERENTLY THAN ONTARIO?



EXCLUDING QUEBEC, ALBERTA, AND ONTARIO

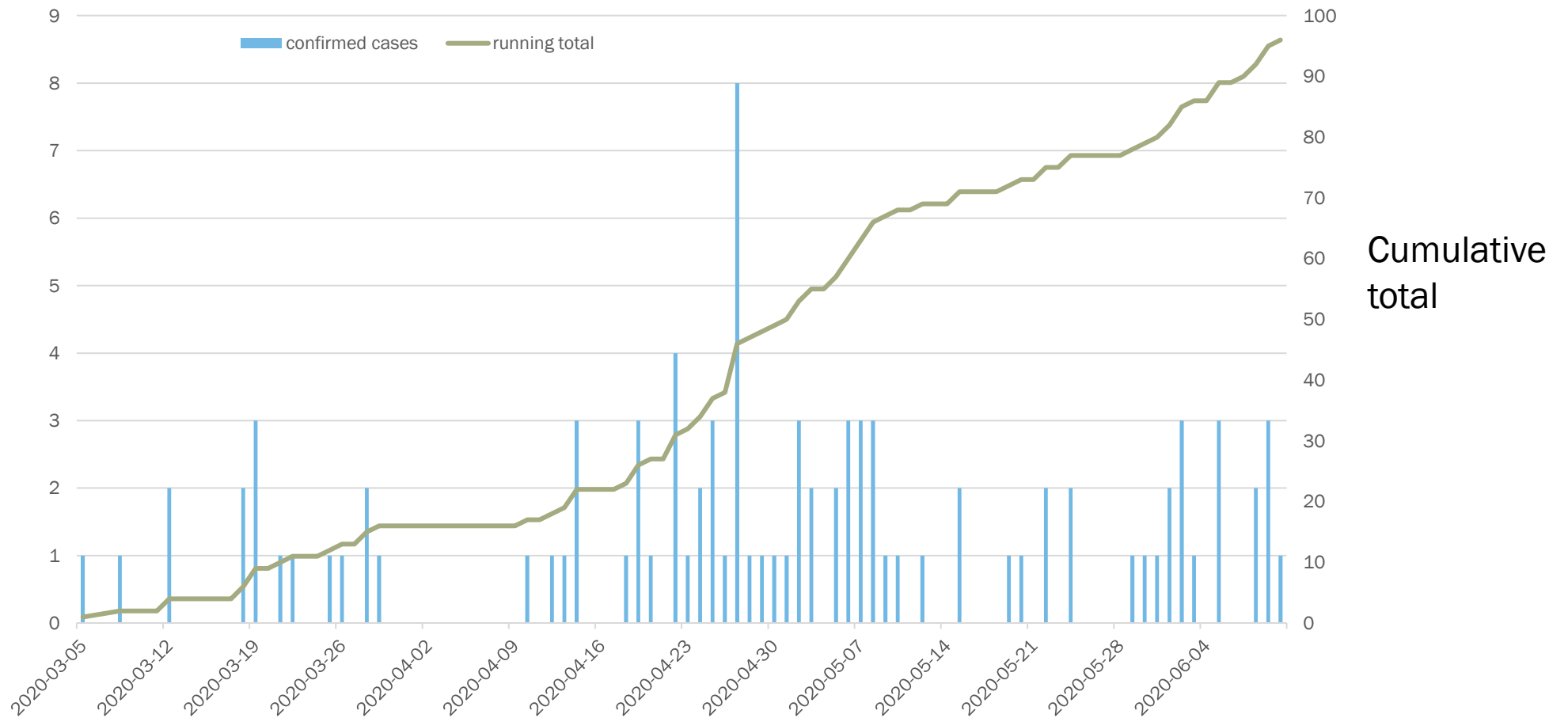


ALBERTA HAS 1027 CASES <20YO.



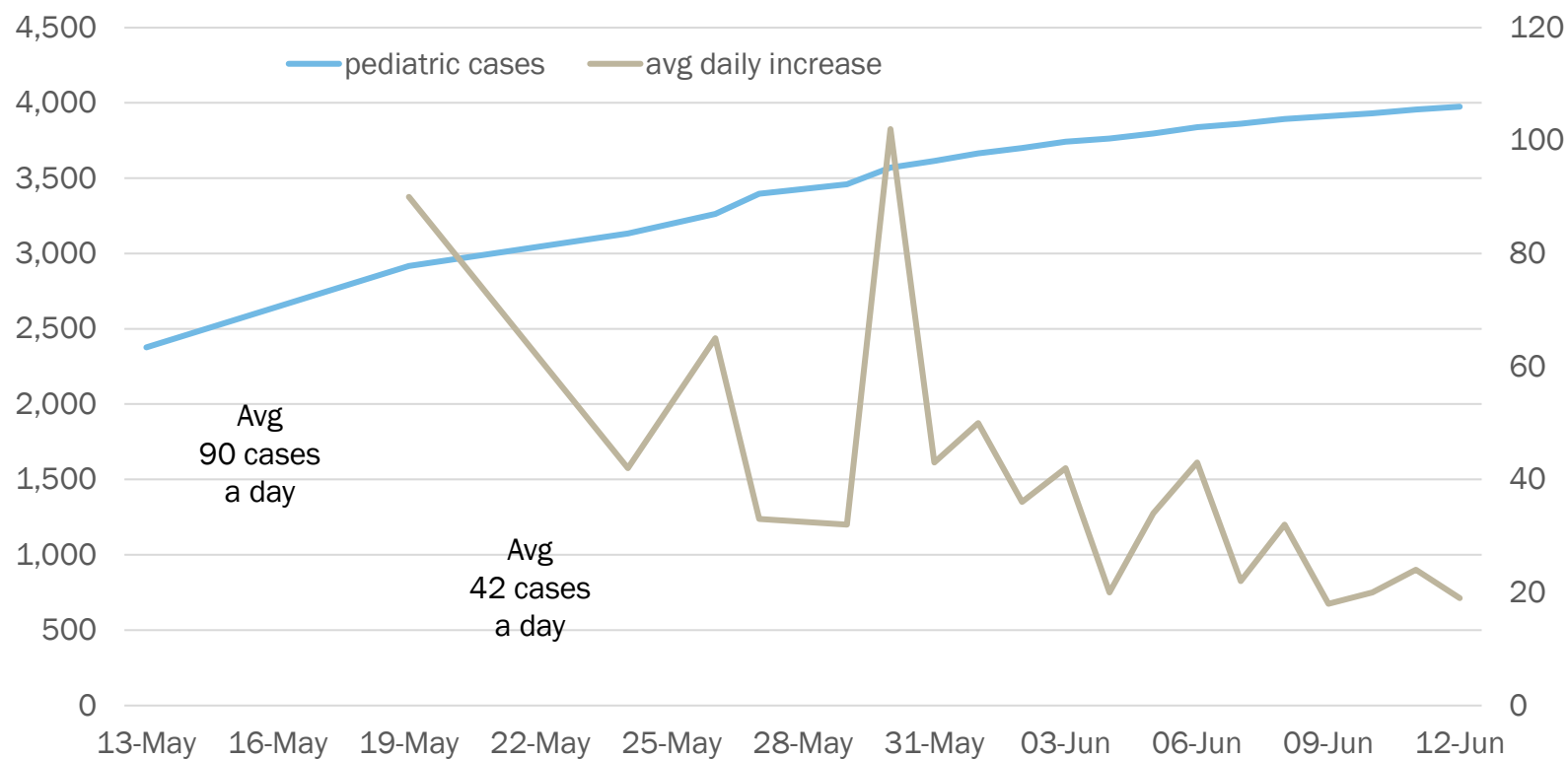
BRITISH COLUMBIA HAS REPORTED 96 CASES IN PEOPLE <20YO

Cases per day



Cumulative total

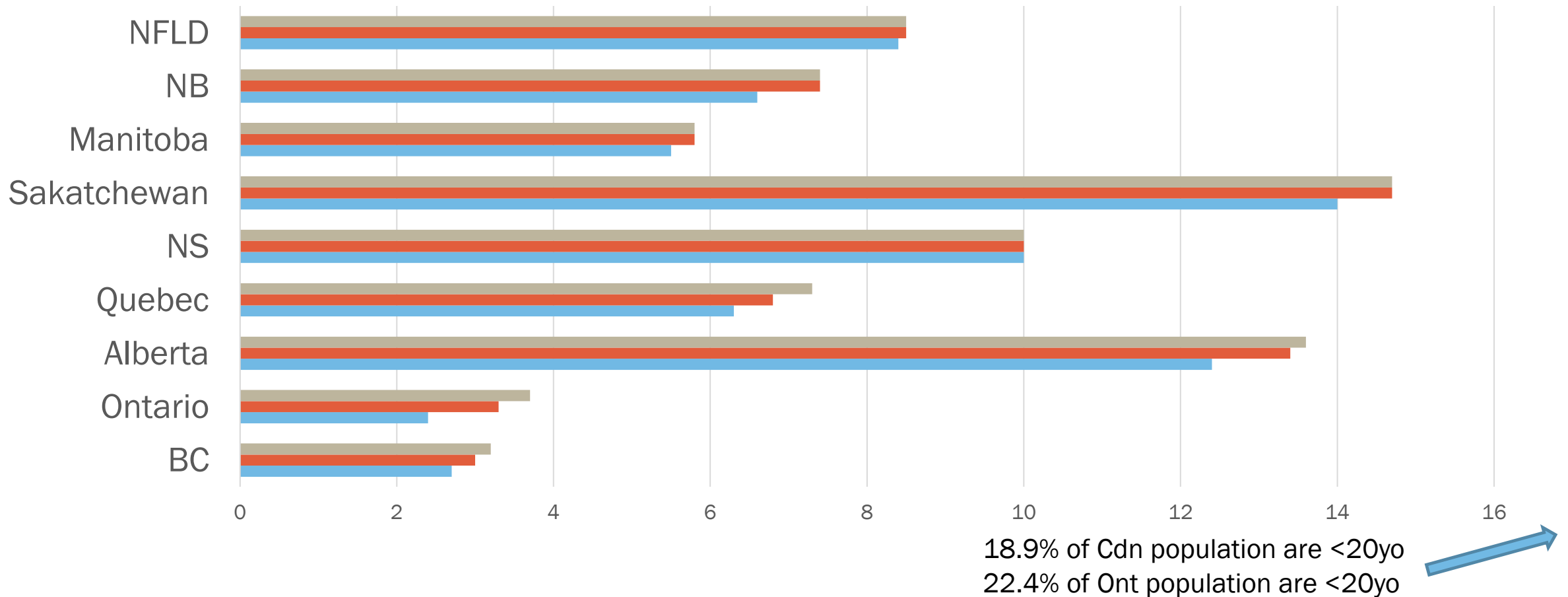
DESPITE REOPENING SCHOOLS AND DAYCARES 3 WEEKS AGO, QUEBEC'S DAILY PEDIATRIC CASES ARE STEADILY FALLING, FROM APPROXIMATELY 90 CASES A DAY TO APPROXIMATELY 20 CASES A DAY. THIS IS GREAT NEWS FOR PARENTS!



OVER THE LAST 2 WEEKS, ALL PROVINCES HAVE SEEN INCREASES IN THE PROPORTION OF CASES THAT ARE <20YO

% of cases <20yo

03-Jun



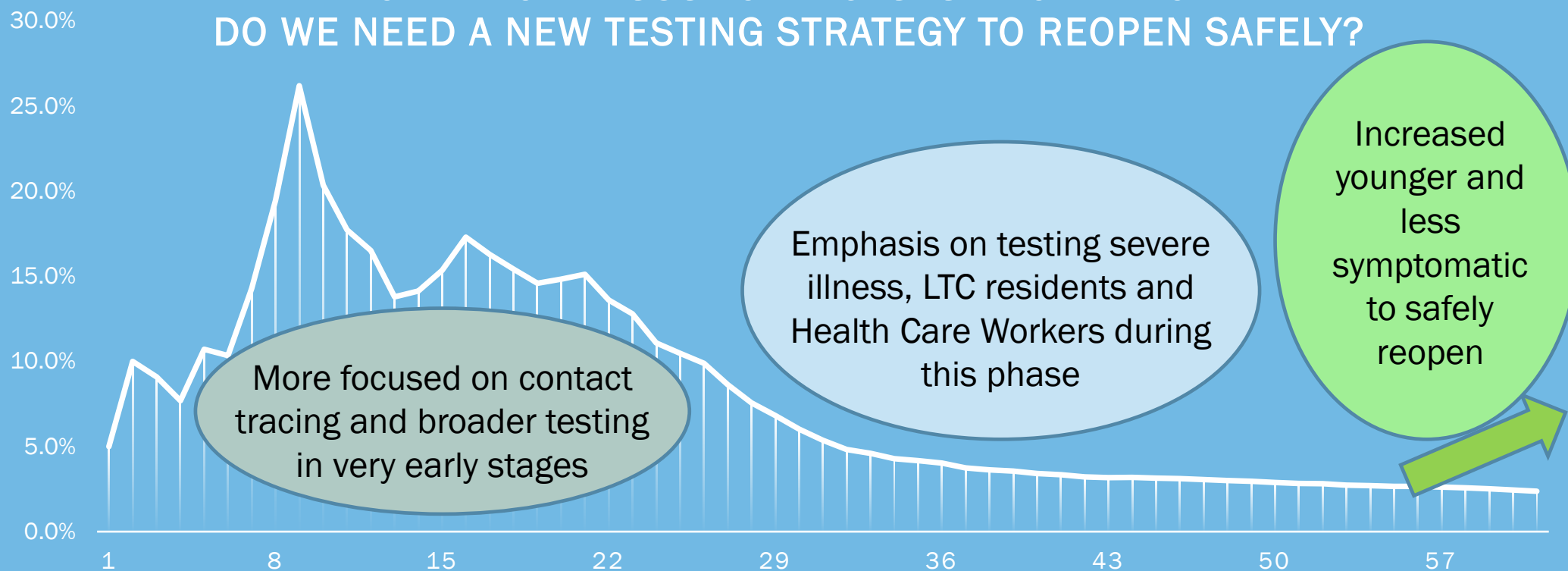
TESTING STRATEGY IS PROBABLY MORE IMPORTANT THAN NUMBER OF TESTS

Country	Proportion of confirmed pediatric COVID-19 cases	Tests performed per million
Iceland*	9.9%	172 410
Canada	6.8%	53 530
Germany	6.8%	56 454
US~	2.6%	65 403
UK	0.1%	95 265
Italy	2.3%	73 623
Spain	1.1%	86 959

*<18yo

~<17yo

PROPORTION OF CONFIRMED COVID-19 PEDIATRIC PATIENTS IN ONTARIO VERSUS TOTAL CASES IN ONTARIO: DO WE NEED A NEW TESTING STRATEGY TO REOPEN SAFELY?



SAMPLE CASES

- 3mo child with stuffy nose, slight lethargy and poor feeding
- 11yo contact of a case, developed appendicitis 7 days after being diagnosed with COVID-19
- 14yo contact of a case with fever, malaise, and deep cough

AS WE HAVE STARTED TO RE-OPEN ONTARIO, DOES ONE SIZE FIT ALL?....

- There has been an acceleration in COVID-19 cases in the <20yo population
- Cases have increased by 162 (22%) in the 10 days between May 17 (n=727) and May 27 (n=889)
- 86% of this increase has come from Central and Toronto regions (n=140)

THE FUTURE OF PEDIATRIC CASES

- We may see an emergence of more atypical presentations as testing becomes more widely available to children who have tended to present in a less severe fashion
- At this time, health care workers and LTC residents may be over-represented since they have been tested more often in the early phases of the illness
- New symptoms are emerging in children:
 - ? Increased GI symptoms with association of appendicitis
 - ? COVID toes: a pernio-like condition
 - ? Placental pathologic changes
 - ? Multisystem Inflammatory Syndrome of Children associated with COVID-19



TAKE-AWAY MESSAGES

- Test, test, test
- Test a wider sample
- We will continue to see younger cases grow
- We need to monitor these patients for delayed sequelae
- We can use our data to inform strategic policy

<https://data.ontario.ca/dataset/confirmed-positive-cases-of-covid-19-in-ontario/resource/455fd63b-603d-4608-8216-7d8647f43350>

<https://www.covid.is/data> accessed Jun 12 2020

https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Situationsberichte/Gesamt.html accessed Jun 12 2020

<https://cnecovid.isciii.es/covid19/#grupos-de-poblaci%C3%B3n> accessed May 26 2020

https://www.epicentro.iss.it/en/coronavirus/bollettino/Infografica_18maggio%20ENG.pdf accessed May 26 2020

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/886864/Weekly_National_COVID19_Surveillance_w21_FINAL.pdf accessed May 26 2020

www.cdc.gov accessed May 26 2020