Assessing COVID-19 Risks for Haverhill Schools

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8/26/2020

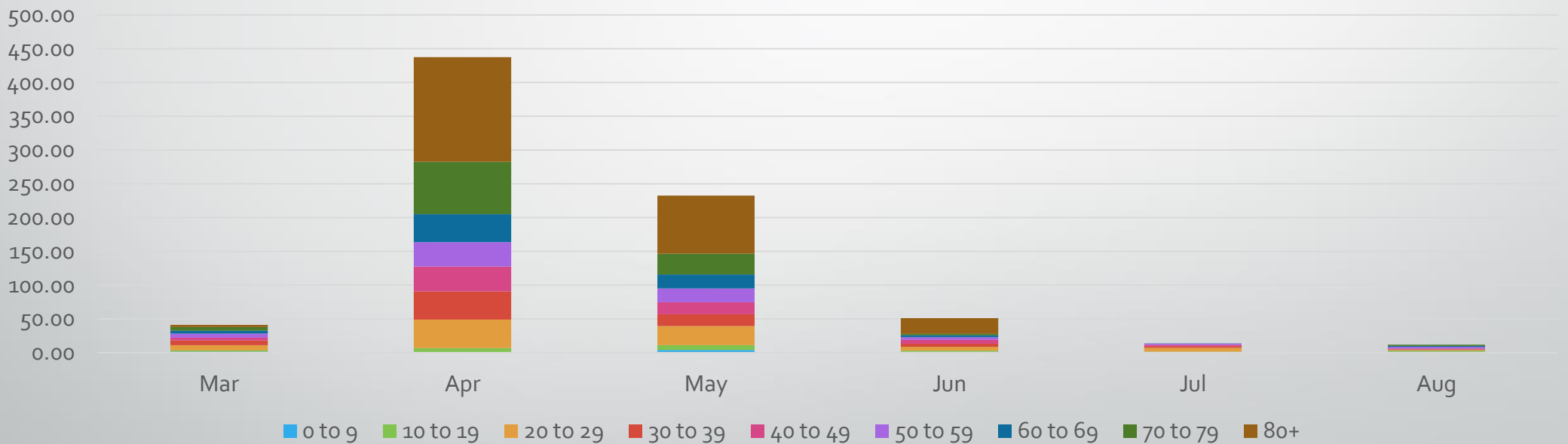# Reopening schools presents both risks and uncertainties

- Known risks can be estimated based on evidence from past experience
  - Observed COVID rates in locality
  - Effectiveness of masks and social distancing
- Uncertainties come from unknowns for which we do not have prior experience, or may depend on behavior we cannot control
  - Chance of transmission from other states or risky behavior in community
  - How COVID will spread in schools with prevention methods in place

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Things we know about risks

- COVID-19 rates in Massachusetts are higher than in some European countries, lower than in many other states.

- Reported COVID-19 rates are lower in the school age population

- COVID-19 rates in Haverhill have declined since the spring

- Haverhill is currently coded green by the Massachusetts DPH, yellow by the Harvard Global Health Institute.

Haverhill COVID-19 Cases Peaked in April

Haverhill Confirmed and Probable COVID-19 Cases by Month, by age group,
to August 21 , 2020

Legend: 0 to 9 | 10 to 19 | 20 to 29 | 30 to 39 | 40 to 49 | 50 to 59 | 60 to 69 | 70 to 79 | 80+

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Daily COVID-19 cases here are somewhat greater than in countries known for successful school reopening

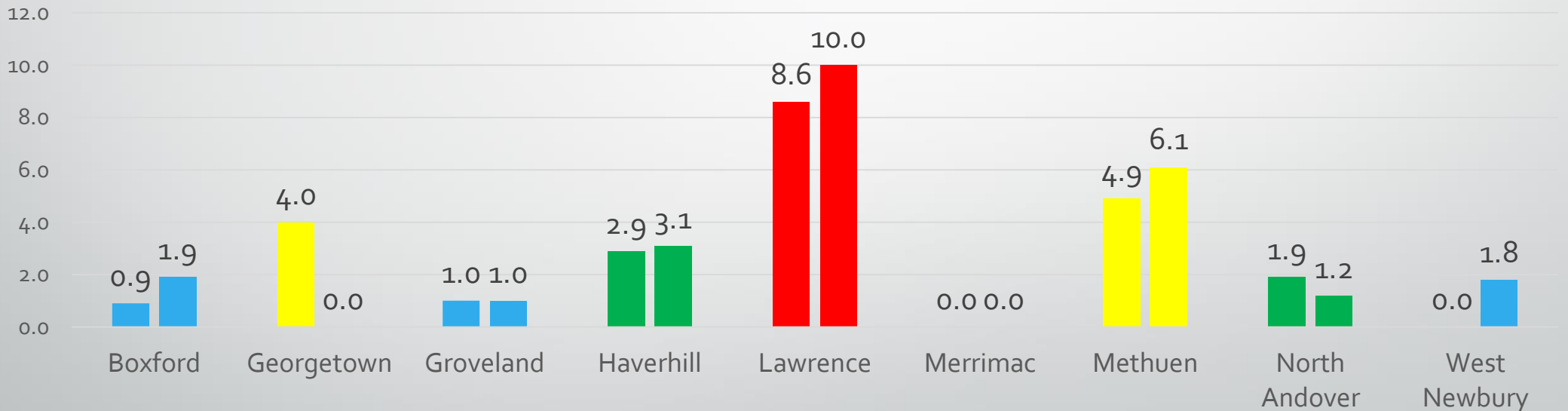Confirmed New Covid-19 Cases Per 100,000 Population, Per Day
August 13-26, 2020

Bar chart data:
- South Korea: 0.6
- Denmark: 1.7
- Germany: 1.6
- USA: 13.0
- Massachusetts: 4.0
- Haverhill: 3.1
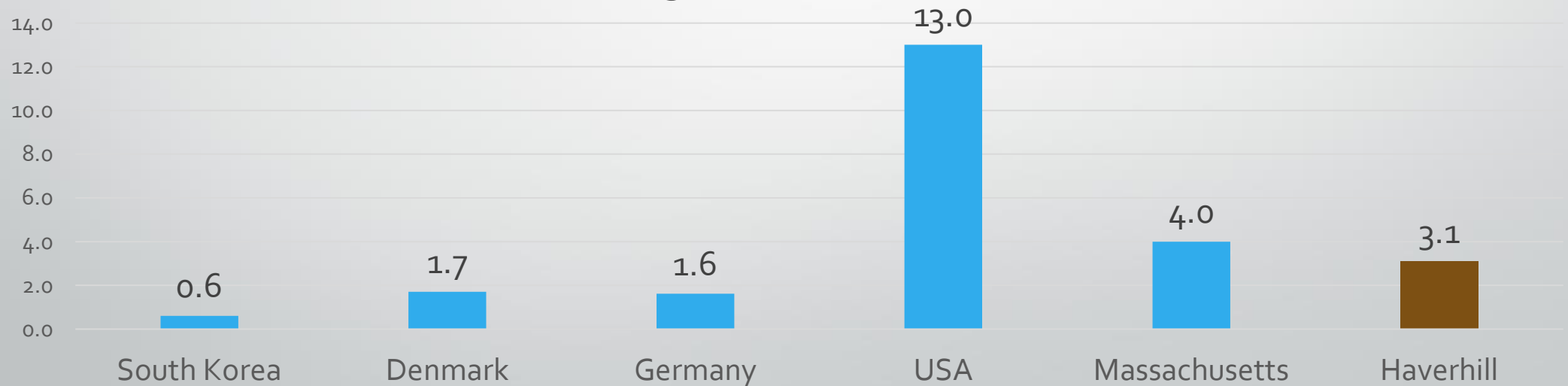
COVID-19 rates vary among Haverhill's surrounding communities

Average Daily COVID-19 Incidence Rate per 100,000
(Last 14 days to Aug 19, & Aug 26, 2020, Mass DPH)
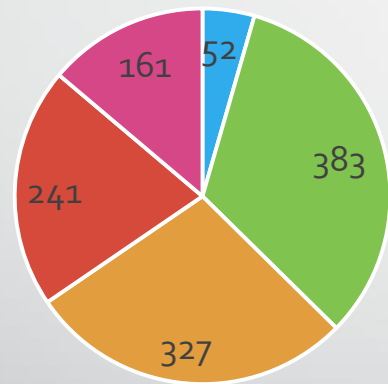

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Cumulative Haverhill COVID-19 rates
are lowest below age 19, highest above age 80

Haverhill Cumulative COVID Confirmed/Probable Cases per 100,000 Population
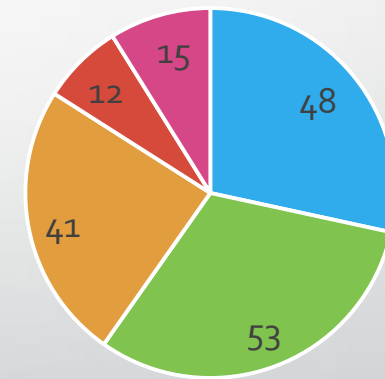by Age Group, March 15 to August 21, 2020
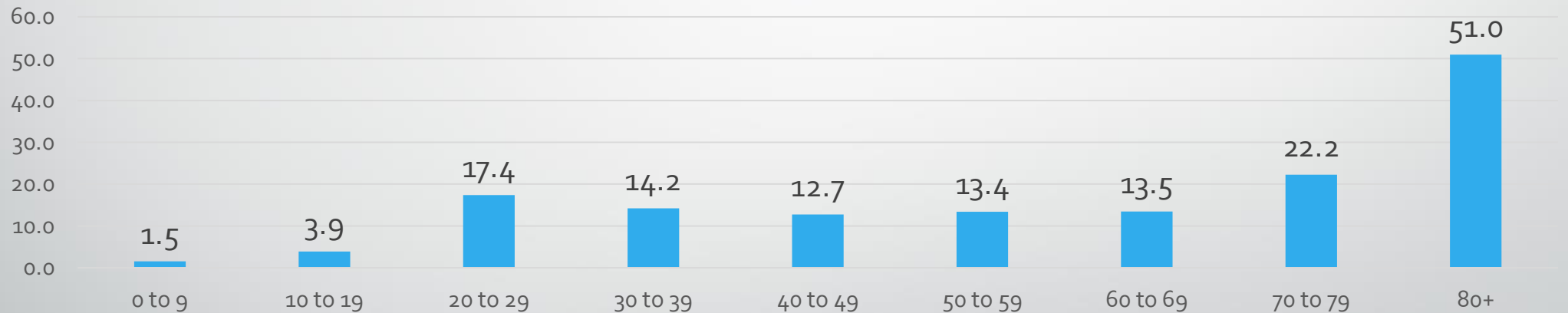
Changing mix of COVID cases in Haverhill; more than half of new cases are now under 40

COVID-19 Cases Mar, Apr, May

- under 20
- 20 to 39
- 40 to 59
- 60 to 79
- over 80

COVID-19 Cases Jun, Jul, Aug

- under 20
- 20 to 39
- 40 to 59
- 60 to 79
- over 80

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More COVID cases have been reported for high-school-age students

Confirmed and Probable COVID-19 Cases, Haverhill School-age Children
March 15 to August 21, 2020

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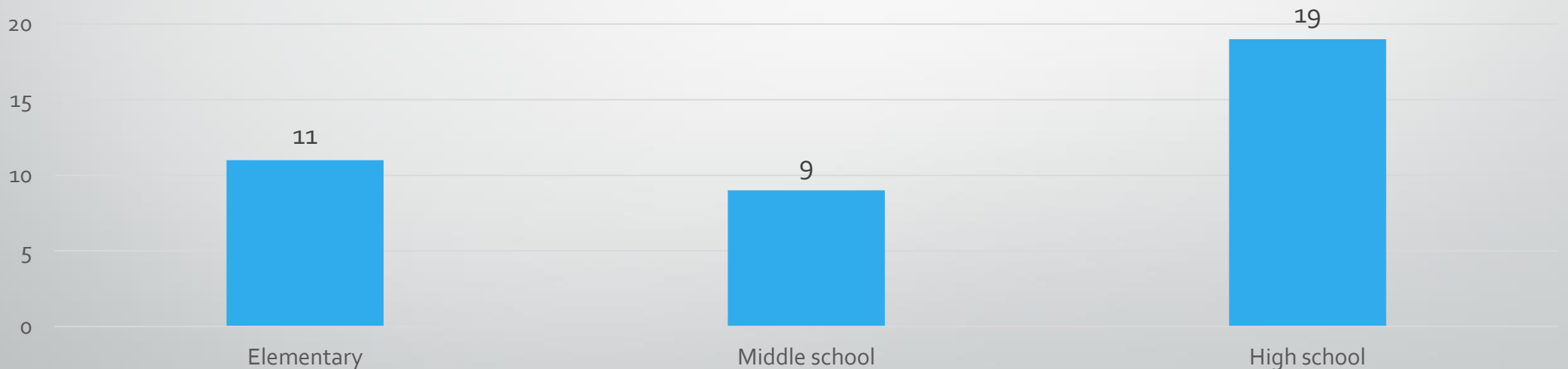
School-age COVID-19 cases have declined but are still occurring

Confirmed COVID-19 Cases, Haverhill School-age Children
March 15 to August 21, 2020

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Legend: ■ Mar 15 -Apr 30 ■ May 1-Jun 30 ■ Jul 1-Aug 21

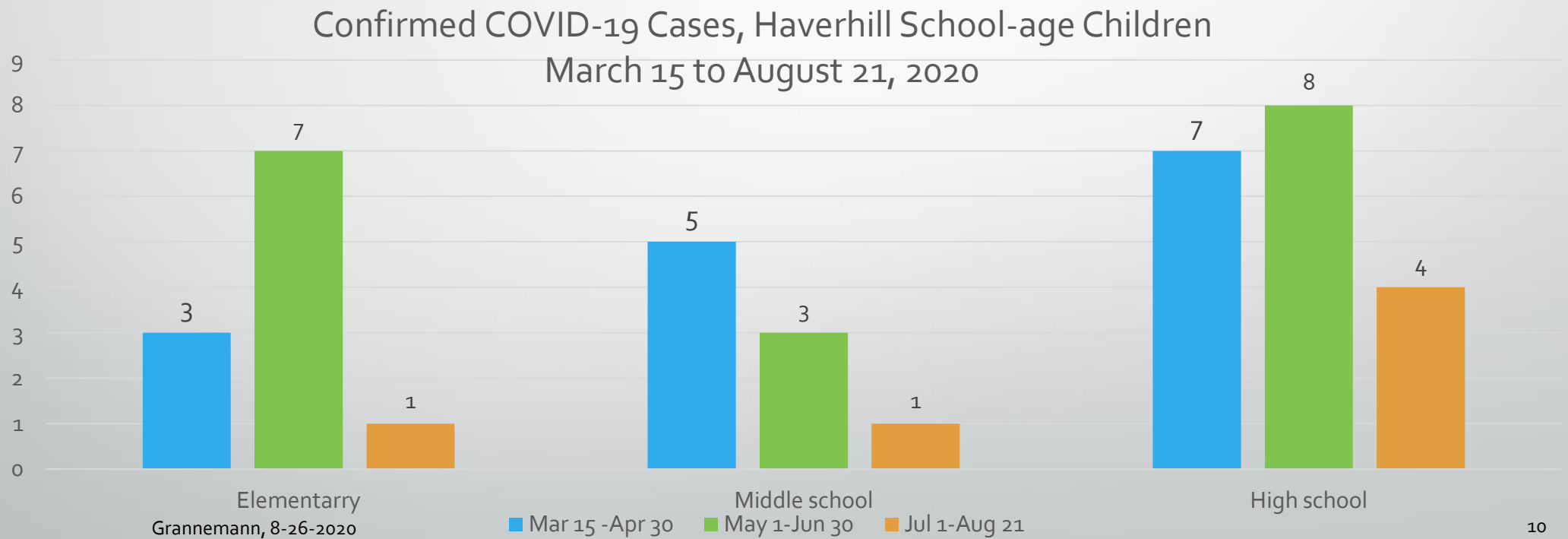# Unresolved Uncertainties

- How does COVID spread in schools?

- How effective will desk spacing, masks, hand washing, ventilation be in reducing risks, etc.?

- How quickly will schools identify cases in children that may be asymptomatic for many days?

Haverhill's Model 2 Hybrid Reduces Risk

- Option for remote learning

- Fewer students in school room and on buses

- Smaller classes

- Distancing, masks, hygiene, scheduling

- Facility cleaning, air ventilation/filtration, signs for distancing

Estimated COVID-19 risk of school-related contact with cases from outside (excludes in-school spread)

See summary on next slide

Expected instances of exposure to COVID-19 from outside in 18-week semester – Preliminary model results (not for use)					
		Cohort A	Cohort B	Cohort C High Needs Students	Cohort D Remote learning Academy
Model 2: Hybrid Model Elementary Grades K-4					
Student in classroom of 15 taking bus with 23 passengers		0.24	0.24	0.48	0.00
Student in classroom of 15 walking alone or driven by family		0.11	0.11	0.21	0.00
Model 2: Hybrid Model Middle School Grades 5-8					
Student in classroom of 15 taking bus with 23 passengers		0.18	0.18	0.36	0.00
Student in classroom of 15 walking alone or driven by family		0.08	0.08	0.17	0.00
Model 2: Hybrid Model High School Grades 9-12					
Student in classroom of 15 taking bus with 23 passengers		1.52	1.52	3.04	0.00
Student in classroom of 15 walking alone or driven by self or family		1.24	1.24	2.47	0.00

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Summary of estimated risks to students under Haverhill's Hybrid Model 2

- Expected number of encounters (sharing a class or bus) with a person with COVID from outside the school (excludes any within school spread) in a semester (1/2 school year)

  - Grades K to 8: less than one (about 1/10 of one encounter if not taking bus)

  - Grades 9-12: one to three (about 1.25 encounters if not taking bus)

- Spread within school depends on Model 2 preventions compliance (distance, masks, ventilation, hygiene behavior).

- Risk may be less if COVID rates continue to decline.

Two key factors to control spread in school

- Pandemic resilient learning spaces
  - The district has been working hard to prepare facilities and procedures, requires status documentation for the public, teachers union has yet to sign off.
- Robust case tracking and tracing
  - Haverhill schools and city public health have tracking and tracing system and resources in place are creating new data system tools.
  - Schools are working on adopting detailed testing protocols that depend on each individual situation.

Options for parents

- It may make sense to choose remote learning for your child if:
  - Student is doing well with remote learning and safe and supported at home during day.
  - There are persons over age 65 or with COVID-sensitive health conditions in the household.
- It may make sense to choose in-person hybrid model if :
  - Student is high needs e.g. ELL.
  - You assess student will benefit greatly from in-person program.
  - Student may not be safe or adequately supported in non-school setting during day.

Parents can help schools succeed for students and our community

- Keeping your kids home on remote learning days will help keep classes small.

- Driving kids to school will reduce the chance of COVID-19 transmission on buses.

- Training kids to follow hygiene and safety protection procedures will reduce spread.

- Avoiding unnecessary contacts, wearing masks, and keeping social distance will help keep Haverhill COVID rates low.

Options for teachers

- It may make sense to teach in the remote learning academy if:
  - You or a household member are over 60 or have a COVID-related health condition
  - You are comfortable and effective with the remote learning model
- In-person teaching may make sense if:
  - You or a household member are under 60 without any COVID-related health conditions.
  - You believe you can be most effective teaching in person.
  - You can follow and enforce all COVID safety procedures.

Conclusion

- What Haverhill is doing – hybrid reopening with fewer students and fewer days in person – is a reasonable approach in the current COVID-19 environment.

- The district is working hard to reduce the risk of in-school spread, but risks will not be zero. Risks may be lower in elementary schools and higher for those taking buses and in high school.

- Parents and teachers will need to assess risks based on their individual situations.

- Cooperation from all to comply with safety protocols and attention to school and community testing, tracking, and tracing will be needed to make Haverhill's reopening a success.