VCHIP CHAMP VDH COVID-19

August 12, 2020 | 12:15-12:45pm Call Questions and Answers*

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VDH Updates – New Improved Contact Tracing

Wendy Davis, MD ,VCHIP: There have been great improvements to the Contact Tracing aspects of the VDH web site. There is a new icon on the main COVID page. The information is shorter and clearer. There will be some new graphics to explain illness timeline. They are also working on a short animated video about contact tracing. They will also add information for individuals about what to expect if you get contact traced.

Breena Holmes, MD, VDH: Schools in particular ask these questions several times a day. Everyone wants to know "what if, what if, what if," so we are trying to answer those questions.

New guidance has been released. As of August 11, 2020, the Safety and Health Guidance for Reopening Schools, Fall 2020 has just been updated and released, co-issued with the Agency of Education. On the same date, the Fall Sports Programs for the 2020-2021 School Year guidance was released and co-issued with the VT Agency of Natural Resources.

Breena Holmes, MD, VDH: As a reminder/clarification, for communications between medical homes and childcare providers, it's probably not appropriate to write a note to childcare providers allowing children with diarrhea or other symptoms to return to care. We are trying to avoid medical clearance. Since the child is symptomatic, they should stay home for infectious disease reasons, not just COVID.

There is a letter that Child Development Division (DCF) wrote to VT Superintendents about where kids are going to go if not in school (since school age children are limited to 4 hours per day at childcare for before and after school time), such as registered family child care homes and provision of care for school-aged children. The new guidance recommends full in-person re-opening for kids' preschool through grad 5 with no reason not to. Superintendents have said that they are still opening hybrid, but plan to shift quickly for full in-person instructions for this age group. The transmission in the littlest kids is considerably less. An occasional kid under age 5 without a mask is not going to be a major source of transmission in the classroom environment.

Publications and Media Articles

New York Times: For Doctors of Color, Microaggressions Are All Too Familiar (Emma Goldberg, 8/11/20) (https://www.nytimes.com/2020/08/11/health/microaggression-medicine-doctors.html).

PBS KIDS for Parents: Using Medica to Talk with Children About Race, including books, podcast, news, TV, and social media (https://www.pbs.org/parents/thrive/using-media-to-talk-with-children-about-race).

The Journal of Adolescent Health published a study about the Association Between Youth Smoking, e-Cigarette Use, & COVID-19

Practice Issues: Severity of COVID-19 Illness in Children, Rebecca Bell, MD, AAP-VT Chapter President and Pediatric Critical Care Physician, UVMCH

COVID-19 Data from North American Pediatric ICUs.

*Note: This is a paraphrased synopsis of the call and is not a word-for-word transcription.

This came up on Monday in the context of more children testing positive for COVID-19. As cases rise, we do expect more children to be testing positive. What does that mean in terms of illness severity? This is accurate as of right now. I looked at a CDC report released over the weekend. COVID-NET is a network of counties within 14 states that the CDC collects pediatric and adult data from and is able to report out. Initially when I looked at the report, I thought the numbers were low, but they only take 99 counties in the 14 states. The raw numbers are not so helpful for us, but the rates are helpful. Over 5 months, there were 576 cases of children who were positive for COVID-19 admitted to hospitals for these 99 counties. Among adults, the rate is 164 per 100,000, and for children it's 8 per 100,000. There is a higher number (25 per 100,000 for children under 2 years of age). 42% of the hospitalized children had underlying health conditions, including 38% with obesity and 13% with asthma.

Many headlines over the weekend were about ICU rates and how children hospitalized have the same need for ICU as the adults. Where did they get those numbers? For the 576 cases in this cohort, the CDC looked through 208 medical charts. 69 pediatric patients were admitted to the PICU, which is where the 1 of 3 number comes from. The rate of hospitalized children being admitted to the PICU is not that interesting to me. I want to know what interventions they required. 5.8% required invasive mechanical ventilation. 3.9% were on BiPAP/CPAP. Thinking back to the rate and what we are used to for the burden of admissions for children with respiratory illness, I tried to look back at RSV. A few key rates emerged. average annual hospitalization rates for RSV were 300 per 100,000 under 5 years of age and 1700 per 100,000 under 6 months of age, according to this 2009 study. We are still comparing apples to oranges because, with COVID-19, childcare and schools were closed.

The racial disparities are striking and highly concerning for COVID-19 and MIS-C, with much higher rates of hospitalization among Black and Hispanic children. Black children are five times more likely and Hispanic children are 8 times more likely to be hospitalized than white children. I think this is the most striking piece of data in the CDC report.

I looked at just the PICU data, from the virtual PICU systems that we have in the United States and Canada for COVID-19. UVMMC is one of the systems that sends data. This dashboard is publicly available, but look at it with a few caveats because it's a work in progress. During surges, PICUs are taking adult patients. There is adult data in here, but you can also filter by age. 185 sites submitted data. UVMMC is listed as not submitting data because we had no PICU cases for children with COVID-19. 1,087 children under 18 years old were COVID-19 positive and 19,000 PICU patients were tested. There were 46 related deaths, but the ages are unknown. I have more granular data on a subset of this data through the VPS discharge survey. Not all sites that submit data to the primary survey submit to the discharge survey. In that group, 589 patients under 18 years of age with 13 deaths ascribed to COVID-19. Of 95 patients (under 2 years of age), there was 1 death, though not specifically linked to COVID-19. They break the next age group down from 2 to 12 years of age. This included 214 patients with 5 deaths and only 4 attributed to COVID-19 (1 listed as maybe). Hispanic and Black children are overrepresented. For patients ages 12 to 18 years, there were 280 patients and 7 deaths, with 4 due to COVID-19 and 3 listed as maybe. Only 25% of these patients had a normal BMI. Above 30 is considered obese and above 40 is considered severely obese. Over half were obese, not even just overweight. The rate of patients with a history of immunodeficiency was pretty small (7%, 42 of 589 patients).

In summation, it is true children are less likely to be admitted to the hospital than adults (children – 8/100,000, adults – 164/100,000). It is also true that hospitalized children are as likely to be admitted to the

ICU as adults (33%), but this doesn't add much. Children can get severe illness and are not immune. Why would they be? I'm surprised and grateful that this virus is operating differently in children. The fact that we are not seeing death in children at same rates as flu and RSV is good news for COVID-19, but those are silent. Headlines are scaring parents right now. In addition, it is true the rate of invasive mechanical ventilation is lower among pediatric ICU patients than adult ICU patients. ICU mortality rate is also lower among children than adults. For children, it's 1-2%, and for adults, it's 30%. Mechanical ventilation is not a death sentence. The morality rate among hospitalized patients for children is 0.5% (adult rate is 17%). Obesity is a common underlying medical condition among children hospitalized and in the ICU, and racial disparities among hospitalized children are significant, with Hispanic and Black children overrepresented.

Questions/Discussion:

Q: Does this letter address the limitation for school age children to 4-hours per day at childcare (before and after school only)?
A: Wendy Davis, MD, VCHIP: Yes, we will attach the letter to the email tonight.

Q: Any comments on the Duke study about the gaiter style masks being less effective than NO mask?
A: Ashley Miller, MD, South Royalton Health Center: It sounded like fleece was worse.
A: William Raszka, MD, UVMCH & Larner COM Dept. of Pediatrics: The goal is to provide better masking. The single layer thin gator is not helpful, based on this study.
A: Alex Bannach, MD, North Country Pediatrics: Could you theoretically double up gators?
A: William Raszka, MD, UVMCH & Larner COM Dept. of Pediatrics: The study did not specifically look at double layers of "gators", but facial cloth coverings should be two layers. Here are the conclusions from the authors of the Duke study: "In proof-of-principle studies, we compared a variety of commonly available mask types and observed that some mask types approach the performance of standard surgical masks, while some mask alternatives, such as neck fleece or bandanas, offer very little protection." While some jumped on the gator being worse, that is because they were just to the right of no mask on the graph. The numbers are essentially the same. What the study found is that the type of material makes a difference in terms of the type, size, and pattern of respiratory droplets that get emitted. For thin neck gaiters, what they see is that the material actually breaks up large droplets into smaller ones, so a greater number of smaller droplets makes it through the mask, compared to no mask where the larger droplets stay unchanged. I'm not quite sure it's fair to say that the neck gaiters are worse than no mask. The point estimate (the calculated value for the relative number of droplets expelled compared to no mask) is slightly higher, but the confidence interval (an estimate of the precision of the results) is very broad and completely contains the confidence interval for no mask at all. What this means is that we can't say with any certainty that the gaiters are any better or worse than no mask.

Q: What is the influenza hospitalization rate?
A: Wendy Davis, MD, VCHIP: I'm seeing a flu hospital rate of ~94/100K for 0-4 & ~24/100K for 5-17yo, if I'm reading CDC 2019-2020 stats correctly.

Q: For sports indoors, have we discussed no spectators and just the players?
A: Liz Hamilton, RN, Christ the King School: I was pretty disappointed to see that athletes would have to wear masks while playing sports outside and on the sidelines, especially considering kids have been playing sports all summer without any big outbreaks. Concerns about dehydration and putting a mask on with a mouth guard.

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A: William Raszka, MD, UVMCH & Larner COM Dept. of Pediatrics: Dr. Lee and I are against spectators for indoor sports. I think that the most recent guidelines tried to merge the Commerce Guidelines that address total numbers of people that can be indoors in any one space.
A: Breena Holmes, MD, VDH: Any allowance for spectators at indoor events must be consistent with the most current health guidance published by the Agency of Education related to school visitors. At no time shall the total number of spectators exceed 50 percent of the fire safety occupancy limit of a venue or one (1) person per 100 square feet, to a maximum of 75 people indoors. That is directly from the guidance.

Q: So, obesity is a greater marker for illness severity than chronic condition? Not seeming that kids with medical complexity, compared to another child with obesity and no other chronic condition, are more represented in the pediatric deaths? Too big of a leap?
A: Becca Bell, MD, UVMCH PICU: Neither the CDC nor the VPS data get into the granularity around deaths. In terms of hospitalization and needing the ICU, they'll list the comorbidities, and obesity is always by far the most common. My general take is that obesity is playing a bigger role here than initially guessed. I think those with underlying medical conditions are at higher risk, but I don't have a solid answer for you as they don't get into the details. Moderate/severe comorbidities are not classified. Obesity is probably not in the moderate-severe category. Some people don't even think about obesity as a comorbidity.
A: L.E. Faricy, MD, UVMCH Pediatric Pulmonology: I agree that few people would consider obesity a comorbidity and that's why it's super interesting. I especially think of this with obese asthmatics, since this new data has come up. Obesity is associated with a pro-inflammatory milieu for many disease processes including asthma. In the JAMA pediatrics article from May 2020, 40% of the kids admitted to PICU were classified as "medically complex". I'm not sure where this fits into the data presented. And 15% in that study were classified as obese. But again, may look at fewer or less representative cases than this more recent data.

Q: Could obesity be a marker for overall lower SE status/nutrition/access to medical care rather than a RF by itself?
A: Becca Bell, MD, UVMCH PICU: I think there have been studies that have been trying to parse out, social economic status, race and obesity because there are a lot of connections there. In this data I can't figure this out. Another study I read was about children, not hospitalized, with mild symptoms being tested and the racial disparities, in one site in D.C., where they did control for social economic status and race and found both independent risk factors for being positive and having a higher rate than what would be expected compared to white children. I think there's more to be parsed out there.
A: William Raszka, MD, UVMCH & Larner COM Dept. of Pediatrics: Obesity is a major risk factor in adults, so I am not sure about that.
A: Alex Bannach, MD, North Country Pediatrics: Sounds like we will learn a lot more about obesity in the near future!

Q: Parents are saying that the rates and hospitalizations are because the kids aren't in school, and once they go to school, all these numbers will go up, rate/hospitalization/mortality etc. What should we be saying?
A: William Raszka, MD, UVMCH & Larner COM Dept. of Pediatrics: Rates are different from absolute numbers, but we wouldn't expect them to change.
A: Becca Bell, MD, UVMCH PICU: I would say that, yes, I would expect it to go up. Right now, the rates are very low compared to other respiratory viral admissions in kids. Even if the rates of hospitalizations doubled, it's still a lower burden than RSV admissions, for instance. There will be headlines that say, "rates of children hospitalized for covid-19 doubled over the last month" and I don't want people to over read

that. Yes, if there's a lot of virus in the community, and more children are getting it, there will be more hospitalizations. I think we need to anticipate these headlines.

Q: Does anyone know if kids attending after school need a health screening prior to entering the program if they have been at school all day and had a health screening in the morning?
A: Wendy Davis, MD, VCHIP: We'll get that answer for you.

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