

## VCHIP CHAMP VDH COVID-19

June 4, 2020 | 12:15-12:45pm Call Questions and Answers\*

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### **Practice Issues: Updates on Transmission, Masking, & Serology**

*Reed Hausser, MD Candidate, LCOM Class of 2021; Benjamin Lee, MD and William Raszka, MD, UVMVC Infectious Disease Specialists*

*Reed Hausser, MD Candidate, LCOM:* Transmission: Children continue to make up a very small percentage of COVID-19 cases. Children 0 to 10 years of age comprise 1% of the cases, and children 11 to 18 years of age make up 2 to 5%. Most children are exposed at home with few community exposures. The CDC reports 91% of children in the U.S. are exposed due to household exposure. Chinese households are as high as 96%, so we do know children are being exposed at home rather than in the community. Children are also less likely to become infected by household contacts than adults who also reside in the home. The secondary attack rates for children are about 4% versus adults in the home where the secondary attack rate is 17.1%. Children are infrequently the cause of transmission to adult household contacts. In one Swiss study, the child was the first to present in the household with symptoms in only 8% of pediatric cases. Something we also know from meta-analysis is incubation periods in children may be shorter than adults with some data suggesting it may be as short as 2 days on average. Comparatively, adults are about 4 to 5 days. In another meta-analysis, they found two studies of 485 households with COVID-19. The first study of 66 households showed 0 children as the index patient. The second study of 419 households failed to identify a pediatric index patient (defined as less than 15 years old).

COVID-19 Transmission in Schools: One study that came out of France followed a symptomatic COVID-19 positive child who attended three different schools over a period of about a week causing 86 school exposures and 112 total exposures. From that, they saw no new cases of COVID-19 after two weeks with close following of the individuals exposed through contact tracing. Of note, the child was also positive for influenza A and a common coronavirus, and those infections were found in high levels at the schools, indicating that viral transmissions were occurring in the schools, but for some reason the children exposed did not get COVID-19, despite being infected with influenza A or other respiratory viruses. Another report coming out of New South Wales (Australia) released by the government showed that 18 COVID-19 positive patients across 10 high schools and 5 primary schools led to a total of 863 contacts over a period of a month. From that entire study and a 14-day follow up of all 863 individuals, only 2 new cases were identified, in spite of widespread PCR testing and follow up antibody testing of individuals. We weren't seeing very high level of transmission there. That included 725 students and 128 staff, so it's not just that other children weren't getting it, but adults exposed also weren't getting it.

International School Experience: Sweden and Taiwan are great examples of countries that never fully closed their primary schools. Taiwan extended their winter break, but they never fully closed. Sweden only closed one high school. In neither of those countries have we seen significant education-based clusters. There is a lot of evidence that it's safe to continue these primary school re-openings. Most countries in Europe have been re-opening schools since April with no nationwide increases in cases. There doesn't really seem to be infected education clusters during these re-openings. It is notable that Israel appears to be having some increased activity associated with schools, but there isn't enough data around that. It's still too early to say exactly what's happening there.

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

Summary: It seems like children are less commonly infected (or diagnosed) with COVID-19. They tend to show fewer symptoms. They are less likely to actually end up with a diagnosis. They are less likely to transmit to children, as well as to adults. It's unlikely that they seem to be playing a key role in pushing this pandemic forward.

*Benjamin Lee, MD, UVMMC:* The WHO mask policy is full of mixed messages. There has been recent confusion regarding statements on masks ("WHO says healthy people should not wear masks" is how it's being misinterpreted). We need to keep in mind the type of mask – medical or homemade – and purpose – to protect the wearer or to protect others? Much of the confusion came out due to a video released by the WHO. The video is specifically about medical masks and with the purpose of protecting the wearer.

What the WHO actually says in their video and in their guidance is "if you do not have any respiratory symptoms, then you do not need to wear a medical mask. Caregivers of those sharing living space with a COVID-19 patient should wear a medical mask when in the same room as the affected person." What the WHO is saying is that the only indication for a member of the community to wear a medical mask is for someone caring for a COVID-19 positive individual in the community setting. The WHO has never come out and said that people in the community should not wear cloth facial coverings. The WHO still has not come out in favor of saying people should wear cloth facial coverings in the community the way the CDC has, but they aren't saying that they shouldn't wear them either. The WHO further stresses that it is critical that medical masks and respirators be prioritized for health care workers.

*William Raszka, MD, UVMMC:* I want to start by addressing a question in the chat box about whether or not there was uniformity to how the schools approached reopening in other countries. There wasn't one certain approach. In Taiwan, everyone wore masks, but that was a nationwide approach. There was also aggressive testing. In Sweden, nobody wore masks, and other countries have taken different approaches. I believe Germany is masking. Germany deliberately opened the high schools first because of examination requirements for advancement in the system. They brought those students back early and did nasal anterior nares testing at many of the schools. I wish I could say there was one certain approach. I believe the schools have all been cautious about physical distancing. There has been tremendous variability, and part of it has to do with the background prevalence rate, national policies, and a host of other things. Some countries opened elementary schools due to perceived lower risk, whereas Germany opened the high schools due to testing requirements. The good news is that, generally speaking, the schools have done well.

Serologic/antibody testing for COVID-19: There is wide variability in platforms, types of antibodies tested, and characteristics of the test, sensitivity and specificity. As a result, when I see news articles about serology tests, I'm just not sure what they mean by it. The CDC and the FDA were stringent on NP testing and were slow on letting others do PCR testing. Due to pressure, they let everyone do these antibody tests, as long as they had some internal validation, and then they had to pull back that approval due to lots of bad tests and needing to put criteria around it. If the antibody test is a good test, then it indicates past infection with COVID-19. That's a good test, a good specific test. Really mission-essential, and this is so critical, the positive antibody test for COVID-19 has not been correlated with immunity and has absolutely not been correlated with duration of immunity. That is really essential. Anthony Fauci has made this statement as well, that even if a vaccine is effective in creating antibodies, will it create immunity long-term? That's a really big issue that needs to be worked out.

Here is our UVMMC approach to antibody testing for COVID-19. We think that it's most appropriate for learning how many people in the population have been infected. The NIH has embarked on some really large sero-prevalence studies in California and other places. Its purpose is for epidemiology, not clinical

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application, not point of care. It's not for making decisions about individual patients. The exception to that is identifying children with MIS-C associated with COVID-19. Part of the definition of this diagnosis is that the child has to have been exposed to COVID or have a positive antigen or PCR test or a positive antibody test for COVID. It can also assess COVID-19 positive convalescent plasma donors. We do not think it should be used to diagnose acute COVID-19 infection. We do not think it should be used to determine immunity to COVID-19. Particularly, we don't think they should be used at all for return to work decisions, use of masks or other PPE, or any risk stratification decisions, like loosening up restrictions for those over 65. It also needs to be interpreted in the context of local prevalence.

The FDA recently said that if you are going to market an antibody test, then it needs to have 95% specificity. I would say that a test with 95% specificity is a worthless test in the United States right now. If you look at how much you can trust a positive test to reflect past infection, a test with 99% specificity in a place like Vermont where prevalence is around 1%, a positive antibody test is still a coin flip as to whether it's accurate or not. As a result, our Serologic Task Force for the Governor is only looking at tests with a specificity of 99.9% that has been validated on a large population. Be careful interpreting what you hear about antibody tests and their uses.

*Breena Holmes, MD:* Drs. Lee, Raszka, Miller and Davis are on the commission for re-opening schools. It's clear that we need pediatric partnerships in every town. Even if you called a school nurse after this call and say "I'm here to help with re-opening schools. Please reach out to me with what you need." Everyone needs messaging that schools are being re-opened in a thoughtful safe way. There are also medically complex kids who may need care coordination teams to determine if they can return to school or not. School nurses are finding local parents to review documents for return to school guidance, as well as teachers and pediatricians. Let me know if you want to review early, as it's 14 to 15 pages long. We do have an AAP policy statement on the notion of attaching a physician to each school, but it felt aspirational at the time, as it's a lot of work.

### Questions/Discussion

**Q: Do we know symptoms in the kids that recently tested positive?**

*A: Breena Holmes, MD, VDH: Contact tracers are working on this right now.*

*A: Ashley Miller, MD, South Royalton Health Center: I would love to know when we have that information. It will help me with trying to convince parents to get kids tested.*

*A: Wendy Davis, MD, VCHIP: The Commissioner noted yesterday that there was very active contact tracing & follow-up happening and that he would share additional information when able.*

**Q: Do we know what social distancing/masking was occurring in these schools? Or were they operations as normal?**

*A: William Raszka, MD, UVM MC Children's Hospital & Lerner COM Department of Pediatrics: Schools have had widely variable approaches to distancing and masking (or face cloth covering). There is no single approach.*

*A: Ashley Miller, MD, South Royalton Health Center: It would be great to even have an idea of what percent are doing what where there has been no spread. I know that data might be hard to find, but if it's out there, it will help us.*

**C: In Germany, every school and every state handle it differently (my sister is a High School teacher in Germany), very confusing.**

**C: Sweden now has 41,900 confirmed and 4500+deaths. I heard on BBC they regret not recommending more preventative practices.**

*A: William Raszka, MD, UVM MC Children's Hospital & Larner COM Department of Pediatrics: It turns out that despite their efforts in Sweden, they have had a lot of deaths in the elderly. Sweden did no distancing and no masking.*

*A: Benjamin Lee, MD, UVM Children's Hospital & Larner COM Dept. of Pediatrics: Sweden is a very unique scenario. Lost amidst a lot of the reporting that they were able to keep everything open is that their case fatality rate is off the charts relative to neighboring countries. I have also heard media reports stating that the director of their COVID response has acknowledged they might have taken a slightly more aggressive approach if they could start over again.*

**Q: I haven't been hearing/seeing as much about MIS-C the last several days, have others?**

*A: Breena Holmes, MD, VDH: <https://www.healthvermont.gov/sites/default/files/documents/pdf/MIS-C-Fact-Sheet.pdf>. Fact sheet for parents on MIS-C, which I think Dr. Davis has included in evening emails.*

**Q: Any update on testing asymptomatic HCW in the community practices? Does the VDH want us to test staff and will they supply the needed swabs and kits? I also heard it's getting harder to get gloves and medical masks through our supplier McKesson and we may need help from the VDH again to get needed PPE.**

*A: Breena Holmes, MD, VDH: I don't have this week's update on asymptomatic testing of healthcare workers. Plans are being solicited. In terms of operationalizing that, I don't have an update this week. You are able to order what you need from VDH. It's intended for ante-nares, but is also the same place where you can order NP swabs. Due to short supply chain for ante-nares, we are asking you to still do NP for yourselves and prioritize the ante-nares for vulnerable population. If you go to the HAN that was shared on Tuesday and order the test kits for your practice, tell me what happens.*

**Q: I'm starting to get questions about summer travel out of state to see family. And the question if 14-day quarantine is needed on return. I have said as of today, yes! Any anticipated changes?**

*A: William Raszka, MD, UVM MC Children's Hospital & Larner COM Department of Pediatrics: Alas, the 14-day quarantine or 7 days plus testing, seems here. The medical center is enforcing it.*

*A: Benjamin Lee, MD, UVM Children's Hospital & Larner COM Dept. of Pediatrics: The answer is yes.*

**Q: It's leaving the state for more than 24 hours, right?**

*A: Breena Holmes, MD, VDH: I don't have an answer. I believe it's the radius in a single day that matters more than the time, but let me look that up. I can't answer quarantine questions on the fly.*

*A: William Raszka, MD, UVM MC Children's Hospital & Larner COM Department of Pediatrics: If you are visiting or returning to Vermont – or you live in Vermont but have spent more than one-day traveling for non-essential purposes – you must quarantine for 14 days once you arrive in Vermont.*

*A: William Raszka, MD, UVM MC Children's Hospital & Larner COM Department of Pediatrics: That is what is posted on the VDH site as of 10 minutes ago.*

*A: Barbara Kennedy, MD, Timber Lane Pediatrics: Quarantine update is on VDH website as of 6/3/20.*

**Q: We've been addressing this with very vulnerable kids, for whom adapting their IEP to keep them medically safe is more restrictive than providing school from home. Please include me in planning.**

*A: Breena Holmes, MD, VDH: I have a meeting next week with a subgroup of people that I would love to add you to. If you can make it work, I would love to get your input on the kids you care for. This decision can't be made at the higher level. It has to be based on a case-by-case basis for each child. The guidance will talk about consideration of the type of disease and health states.*

**Q: Is there a way to more systematically make these partnerships happen? Like in Chittenden County, for instance, there are lots of schools and lots of practices. Does AOE or VDH keep track of these relationships?**

*A: Breena Holmes, MD, VDH: District offices are busy with testing regionally, but let me reach out to some of my MCH coordinators to see if they have bandwidth for that.*

*A: Elizabeth Hunt, MD, Timber Lane Pediatrics: I am the volunteer "school MD" for my kids' school. I think there are partnerships out there. The school nurse really seems to like to have a provider to run things by.*

*A: The Agency of Education (AOE) highly recommends that all schools have a "School Provider". This person may be required to order EpiPens for the school to keep on site. This person may need to sign off on emergency plans.*

**Q: These are 504 plans the school nurse should be involved in, however, lots of schools do not want the nurse to attend these meetings or allow them too.**

*A: Breena Holmes, MD, VDH: I would love to know more. Why would a school nurse not be included?*

*A: Great question. I can tell you from my work at the schools/and with school nurses, many are not invited, or included even if asked. I can give you the name of the Mt. Abraham nurse to discuss this with. I know it is an issue.*

*A: Jill Rinehart, MD, UVM MC Pediatric Primary Care (Williston): If the family wants a school nurse there, then the nurse can be there!*

*A: Ashley Miller, MD, South Royalton Health Center: Yes, school nurse and PCP are often left out. The family has to know to ask and to tell us.*

*A: Jill Rinehart, MD, UVM MC Pediatric Primary Care (Williston): The family needs to be empowered to ask that we be there.*

*A: This seems to be a district thing and a superintendent issue.*

*A: Wendy Davis, MD, VCHIP: VSA & VSBA are part of the group discussing school guidance.*

**Q: So, on the order site, it only says test kits. It doesn't say anterior nares or pharyngeal.**

*A: Wendy Davis, MD, VCHIP: We'll try to clarify. It may be because the supply chain is fluid.*