Children’s National and the Pediatric Health Network COVID Update July 21, 2020
Introduction and Welcome

Denice Cora-Bramble, M.D., MBA, Chief Medical Officer Ambulatory and Community Health Services
Welcome

• Children’s National Updates
  – Opening of Prince George’s County
  – Continuing to see patients
  – Future of Pediatrics “virtual” webinars
  – Return to School series
Future of Pediatrics, July 29

Return to School, July 31

Road to Recovery, August 5
Agenda

• Infectious Diseases SARS-CoV-2 Update
  – Bud Wiedermann, M.D., Infectious Disease
• Inpatient Cases at Children’s National
  – Karen Smith, M.D.
• CRISP and HIE
  – Shireen Atabaki, M.D.
• Questions and Answers
  – Ellie Hamburger, M.D., Pediatric Health Network
Infectious Diseases SARS-CoV-2
Update July 21, 2020

Bud Wiedermann, MD, MA
Division of Infectious Diseases, CNH
Professor of Pediatrics, The George Washington
University School of Medicine and Health Sciences
Today’s Topics

• The Numbers
• New HCW Return to Work Guidelines
• Do Children Spread SARS-CoV-2?
• Respiratory Specimen Collection
• Flu Season Planning
Where new cases are increasing

Charts show daily cases per capita and are on the same scale. States are sorted by cases per capita for the most recent day. Tap a state to see detailed state page.

States mostly the same:
AZ, SC, UT, SD, NY, NJ, CT, NH, Guam
States decreasing:
DE, ME
CNH - Decreasing on the Inpatient Side

<table>
<thead>
<tr>
<th></th>
<th>5/22/20</th>
<th>6/8/20</th>
<th>7/6/20</th>
<th>7/19/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative Total PCR+ Patients</td>
<td>343</td>
<td>428</td>
<td>505</td>
<td>528</td>
</tr>
<tr>
<td>Cumulative Total Admitted</td>
<td>89</td>
<td>103</td>
<td>134</td>
<td>133 (?)</td>
</tr>
<tr>
<td>%PICU</td>
<td>30</td>
<td>31</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Current + PICU Census</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Current + Acute Care Census</td>
<td>8</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Current MIS-C PICU</td>
<td>?</td>
<td>2</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Current MIS-C Acute Care</td>
<td>?</td>
<td>6</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Metric</td>
<td>Threshold</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>-----------</td>
<td></td>
<td></td>
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<tr>
<td>Sustained decrease in cases in the community</td>
<td>6 out of 14 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to contact trace new cases</td>
<td>100.0% out of 90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained low positivity rate</td>
<td>Below 10% for over 7 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained low transmission rate</td>
<td>Below 1 for 0 out of 5 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilization of hospital beds</td>
<td>Below 80% over 14 days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to contact trace close contacts</td>
<td>98.6% out of 90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of new cases from quarantined contacts</td>
<td>Coming Soon</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Using the Centers for Disease Control and Prevention (CDC) Guidance for Coronavirus Disease 2019 (COVID-19) Response, Montgomery County developed criteria and conditions to be met or show substantial progress in order to continue the gradual relaxing of restrictions and move towards reopening businesses and public amenities in our communities. The metrics below are best when viewed and considered holistically. They show (1) the current three-day rolling average, and (2) the number of days out of the last 14 days that saw improvement calculated using a modified CDC methodology. These metrics signify the various goals of a decrease in new cases/deaths/hospitalizations/patients, increasing capacity in County hospitals, and increasing testing capacity. Metrics will be updated by 2 p.m. daily.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>Change</th>
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<tbody>
<tr>
<td>Max of Cases</td>
<td>16,372</td>
<td></td>
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<tr>
<td>Deaths</td>
<td>730</td>
<td></td>
</tr>
<tr>
<td>Number of New Confirmed Cases</td>
<td>105</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Number of New COVID-19 Related Deaths</td>
<td>2</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>COVID-19 Related Hospitalizations</td>
<td>91</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Number of COVID-19 Related Emergency Room</td>
<td>6</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>Patients</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>COVID-19 Related ICU Hospitalizations</td>
<td>26</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Acute Care Bed Utilization Rate</td>
<td>&lt;70%</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Intensive Care Unit (ICU) Bed Utilization Rate</td>
<td>&lt;80%</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Percentage of Ventilators in Use</td>
<td>&lt;70%</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Test Positivity</td>
<td>4%</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Tests Administered</td>
<td>3,222</td>
<td>THREE-DAY AVG</td>
</tr>
<tr>
<td>THREE-DAY AVG</td>
<td></td>
<td>/14 Days</td>
</tr>
<tr>
<td>Declining Days</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Testing Capacity in last 30 days</td>
<td>5.9%</td>
<td></td>
</tr>
</tbody>
</table>

Acute Care Bed Utilization Rate <70%  
Intensive Care Unit (ICU) Bed Utilization Rate <80%  
Percentage of Ventilators in Use <70%  
Test Positivity  
Tests Administered
When Can Infected Adults Stop Quarantine?

- 10 days after symptom onset (or 1st +PCR if never Sx) AND fever resolution at least 24 hrs without meds; improvement of other symptoms
  - Severe illness might be exception
- PCR testing strategy reserved for immunocompromised
- Generally don’t retest or quarantine for exposure within 3 months of Sx onset (evaluate individually)
- Avoid serologic testing for this purpose

Do Children Spread SARS-CoV-2?

• Focus on school settings rather than family settings
• Consider external environment
  – Still need quality studies of school openings when disease activity not low to translate to US population
Emerg Infect Dis 2020;
https://wwwnc.cdc.gov/eid/article/26/10/20-1315_article

- South Korea
- 59,073 contacts of 5706 index patients – 1/20/20 – 3/27/20
- 10,592 household contacts: 11.8% +
- 48,481 nonhousehold contacts: 1.9% +
### Rates of coronavirus disease among household and nonhousehold contacts, South Korea, January 20–March 27, 2020

<table>
<thead>
<tr>
<th>Index patient age, y</th>
<th>Household</th>
<th></th>
<th>Nonhousehold</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. contacts positive/no. contacts traced</td>
<td>% Positive (95% CI)</td>
<td>No. contact positive/no. contacts traced</td>
<td>% Positive (95% CI)</td>
</tr>
<tr>
<td>0–9</td>
<td>3/57</td>
<td>5.3 (1.3–13.7)</td>
<td>2/180</td>
<td>1.1 (0.2–3.6)</td>
</tr>
<tr>
<td>10–19</td>
<td>43/231</td>
<td>18.6 (14.0–24.0)</td>
<td>2/226</td>
<td>0.9 (0.1–2.9)</td>
</tr>
<tr>
<td>20–29</td>
<td>240/3,417</td>
<td>7.0 (6.2–7.9)</td>
<td>138/12,393</td>
<td>1.1 (0.9–1.3)</td>
</tr>
<tr>
<td>30–39</td>
<td>143/1,229</td>
<td>11.6 (9.9–13.5)</td>
<td>70/7,407</td>
<td>0.9 (0.7–1.2)</td>
</tr>
<tr>
<td>40–49</td>
<td>206/1,749</td>
<td>11.8 (10.3–13.4)</td>
<td>161/7,960</td>
<td>2.0 (1.7–2.3)</td>
</tr>
<tr>
<td>50–59</td>
<td>300/2,045</td>
<td>14.7 (13.2–16.3)</td>
<td>166/9,308</td>
<td>1.8 (1.5–2.1)</td>
</tr>
<tr>
<td>60–69</td>
<td>177/1,039</td>
<td>17.0 (14.8–19.4)</td>
<td>215/7,451</td>
<td>2.9 (2.5–3.3)</td>
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<tr>
<td>70–79</td>
<td>86/477</td>
<td>18.0 (14.8–21.7)</td>
<td>92/1,912</td>
<td>4.8 (3.9–5.8)</td>
</tr>
<tr>
<td>≥80</td>
<td>50/348</td>
<td>14.4 (11.0–18.4)</td>
<td>75/1,644</td>
<td>4.6 (3.6–5.7)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,248/10,592</td>
<td>11.8 (11.2–12.4)</td>
<td>921/48,481</td>
<td>1.9 (1.8–2.0)</td>
</tr>
</tbody>
</table>
Patient-collected Swabs

Figure 1. Cycle Threshold (Ct) Values from Tongue, Nasal, and Mid-Turbinate Swabs Collected by Patients Relative to Those from Nasopharyngeal Swabs Collected by Health Care Workers.

NEJM DOI: 10.1056/NEJMc2016321
CDC Advice for PPE in Self-Collection

For providers who are handling specimens, but are not directly involved in collection (e.g. self-collection) and not working within 6 feet of the patient, follow Standard Precautions. Healthcare personnel are recommended to wear a form of source control (facemask or cloth face covering) at all times while in the healthcare facility.

Influenza Vaccine 2020-21 (ACIP 6/24/20)

• Official statement not yet released
• Many vaccines available
  – Quadrivalent to include A H1N1 pdm09, A H3N2, B Washington (Victoria), B Phuket (Yamagata)
  – 2 new quadrivalent for ≥ 65 yo
• New contraindications for LAIV4: asplenia, cochlear implants, active CSF leaks

https://www.youtube.com/watch?v=W1SV2DSJsaQ&list=PLvrvp9iOILTQb6D9e1YZWpbUvzfptNMX2&index=8&t=0s
Flu Vaccination Programs – Start Planning Now!

• Social distancing/masks
• Individual appointments vs. large gatherings
  – In parking lot for latter?
• Ability to respond to reactions
  – Observe preteens and teens 15 minutes for fainting
There are lives that can be protected by each of us taking care of ourselves. #Cough etiquette. #Two meters apart. #Wash your hands repeatedly. Your patience will save the world! Take action to keep it from transferring to others.

Amabié

JAMA online 7/17/20
Multisystem Inflammatory Syndrome in Children (MIS-C)

Karen Smith, MD, MEd
Pediatric Hospitalist Medicine
Medical Director for School Telehealth
MIS-C Taskforce

Led by Dr. Roberta DeBiasi (Infectious Disease)

Members from multiple departments:

- Rheumatology
- Hematology
- Cardiology
- Infectious Disease
- Immunology
- Gastroenterology
- Critical Care
- Hospital Medicine
- Emergency Medicine
- Neurology
- Pharmacy
### MIS-C in the Washington, DC Region

<table>
<thead>
<tr>
<th>102 Children Evaluated at CNH</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Met Criteria</td>
</tr>
<tr>
<td>23 (46%) admitted to Critical Care</td>
</tr>
<tr>
<td>27 (54%) admitted to Acute Care</td>
</tr>
</tbody>
</table>

Pediatric Health Network

Children's National
Work up in Primary Care

Evaluate child for MIS-C criteria

Screening Lab work: CBC, ESR, CRP

CRP ≥ 3mg/dL OR ESR ≥ 40

Yes: Contact ID/COVID-19 Provider on Call; Send to ED

No: Consider other etiologies, Follow up in 24 hours
MIS-C Case

Teenager presents with 6 days of fever

- Confusion, neck pain
- Bilateral conjunctivitis, red lips
- Abd pain, nausea, vomiting
- Hypotensive and tachycardic
MIS-C Case

Labs and Work Up

• ESR 40’s, CRP 30
• Elevated Fibrinogen, D Dimer, Ferritin
• Elevated Troponin and BNP (> 10,000)
• SARS Cov2 – PCR negative, Antibody Positive
• Echo – Decreased LV function, borderline ectasia
MIS-C Case

Hospital Course

- Admitted to the PICU for mixed Hypovolemic and Cardiogenic Shock
- Treated with IVIG, then Anakinra
- Received ASA, Lovenox
- Transferred to Acute Care after 5 days
- Discharged after 2 week hospital stay
MIS-C Case

Discharge Plan

• Discharge Meds: ASA, Xarelto, and Famotidine

• Follow up:
  – Hematology and Rheumatology via Telehealth within 2 weeks
  – Cardiology in clinic within 4 weeks
Treatment Points

• IVIG alone works for many

• Anakinra is our second drug of choice
  – IL-1 Receptor Antagonist
  – Other centers have used Tocilizumab (IL-6 receptor antagonist) and/or steroids

• COVID-19 risk for thrombosis
  – Use ASA for coronary protection
  – Lovenox/Xarelto for risk of thrombosis
Outcomes and Ongoing Investigation

• One third of children have cardiac involvement on admission
  – Coronary artery ectasia
  – Cardiac dysfunction
• Improve with treatment
• Crossover with Kawasaki Disease and Hemophagocytic lymphohistiocytosis (HLH)?
• Ongoing research by CNH to better understand the etiology and determine who is at risk
Questions?

Contact MIS-C taskforce at MISC@childrensnational.org
DC Health Information Exchange (HIE) Program Overview

Shireen Atabaki, M.D., MPH
What is the HIE Connectivity Program?

The DC Department of Health Care Finance has enlisted Children's National Hospital to help connect Providers Organizations to a health information exchange (HIE) network in the DC, MD and VA area.

This program will be at **no cost**, provide education, training, and enrollment into CRISP, a regional HIE network.
Role of Children’s National Hospital in CRISP

Children’s National is here to enable and support the pediatric healthcare community in the DMV region to securely share data along the care continuum in order to facilitate care, reduce costs, and improve provider access to pediatric patient information.
Benefits of Health Information Exchange (HIE) Participation

COVID-19 Response

• Alerts providers of COVID-19 positive patients at point of care
• Allows providers to track impacted patients
• Utilizes data to identify underlying medical conditions
• Allows for sharing of patient visit and health information that is essential during this COVID-19 Response:
  – Hospitalizations, telemedicine, EMS, ED, pharmacy, specialty consults.
Benefits of Health Information Exchange

COVID-19 Response

- CRISP offers multiple methods of viewing your patients' lab results through the CRISP Unified Landing Page (ULP) and CRISP InContext from within the EMR
  - **Encounter Notification Service (ENS) Prompt**
    - Real-time notifications
  - **Health Records**
    - All laboratory results and longitudinal medical record
  - **Patient Snapshot**
    - High level patient profile
<table>
<thead>
<tr>
<th>Date</th>
<th>Source</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>2019-06-11</td>
<td>AAMC</td>
<td>Radiology</td>
</tr>
<tr>
<td>2019-05-14</td>
<td>JHHREL</td>
<td>Laboratory</td>
</tr>
<tr>
<td>2019-05-08</td>
<td>JHHREL</td>
<td>Laboratory</td>
</tr>
</tbody>
</table>

Pediatric Health Network

Children's National
**Abnormal Labs Flagged**

<table>
<thead>
<tr>
<th>HEALTH RECORDS</th>
<th>ENCOUNTERS</th>
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<tbody>
<tr>
<td>2018-08-02</td>
<td>CVMH</td>
</tr>
<tr>
<td>2018-08-02</td>
<td>Urinalysis</td>
</tr>
<tr>
<td>2018-08-02</td>
<td>Rapid Strep A Test, Throat</td>
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<tr>
<td>2018-08-02</td>
<td>Path Review</td>
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<tr>
<td>2018-08-02</td>
<td>CBC WDIFF</td>
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<tr>
<td>2018-08-02</td>
<td>CRP, High Sensitivity</td>
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<tr>
<td>2018-08-02</td>
<td>LDH</td>
</tr>
<tr>
<td>2018-08-02</td>
<td>Magnesium</td>
</tr>
</tbody>
</table>
Infection Control Alerts

Infection Control Alerts

Care Team

Source

Kaiser Permanente

AAMC (2019-11-17)

SMIRN:AAMC:992115208

UMMS_UMMC (2019-06-25)

This patient has a positive C. diff test at X hospital within the last 8 weeks. Please follow your facilities policies

UMMS_UMMC (2019-06-26)

Possible Zika Infection. Please call MDH 410-767-6700 for baby specimen collection guidance on delivery

CLOSE
Training and Onboarding

We are here to help with the transition and process of accessing CRISP and essential health information for your patient’s care.

CONTACT:  Shireen Atabaki, MD,
            Sonya Burroughs, MD,
            Bobbe Thomas

DC HIE Program Leadership
C: 202.476.4293
E: DCHIE@childrensnational.org
Questions

Moderated by Ellie Hamburger, M.D.
Pediatric Health Network
Please send topics, suggestions, or questions for future Town Hall sessions to

phn@childrensnational.org