ROCHESTER’S QUEST TO BEAT COVID-19

Thursday, January 28
12–1 p.m. (ET)
COVID-19 AND CHILDREN

COVID-19 TESTING
6.0-18% of total tests done in children
7.2-27.6% of tests in children were positive

HOSPITALIZATIONS
1.3-2.9% of hospitalizations in children
0.2-2.6% of all child COVID-19 cases resulted in hospitalization

MORTALITY
0.0-0.06% of childhood COVID cases resulted in death

<table>
<thead>
<tr>
<th>Data</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Population (2019)</td>
<td>75,266,842</td>
</tr>
<tr>
<td>Cumulative Total Cases (All Ages)</td>
<td>21,036,194</td>
</tr>
<tr>
<td>Cumulative Child Cases</td>
<td>2,676,612</td>
</tr>
<tr>
<td>Cumulative Percent Children of Total Cases</td>
<td>12.7%</td>
</tr>
<tr>
<td>Cases Per 100,000 Children</td>
<td>3556.2</td>
</tr>
</tbody>
</table>

AAP and Children Hospital Assoc, Jan 21, 2021
Fig 2. Cumulative Number of Child COVID-19 Cases: 1/21/21

- 2,676,612 total child COVID-19 cases (cumulative)
- Six states reported 100,000+ child cases
- Eight states reported fewer than 10,000 child cases
MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)

✓ A newly described condition where different body parts become inflamed including the heart, lungs, kidneys, brain, skin, eyes or gastrointestinal organs

✓ The cause of MIS-C is currently unknown

✓ Appears to be related to current or prior COVID-19 infection
MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)

TOTAL MIS-C CASES MEETING CASE DEFINITION* 
1,659

TOTAL MIS-C DEATHS MEETING CASE DEFINITION 
26

Reported MIS-C Cases

No cases reported
1-10
11-30
31-50
51+

CDC.gov- accessed Jan 26, 2021
EMERGING SARS-CoV-2 VARIANTS

Data from US Centers for Disease Control

David Topham, PhD
Marie Curran Wilson and Joseph Chamberlain Wilson Professor
Department of Microbiology and Immunology at the Center for Vaccine Biology and Immunology

University of Rochester Medical Center
SARS-CoV-2 VARIANTS

Multiple SARS-CoV-2 variants are circulating globally. Several new variants emerged in the fall of 2020, most notably:

• In the **United Kingdom** (UK), a new variant of SARS-CoV-2 (known as **B.1.1.7**) emerged with an unusually large number of mutations. This variant has since been detected in numerous countries around the world, including the United States (US) and Canada.

• In **South Africa**, another variant of SARS-CoV-2 (known as **B.1.351**) emerged independently of B.1.1.7. This variant shares some mutations with B.1.1.7. Cases attributed to this variant have been detected outside of South Africa.

• In **Brazil**, a variant of SARS-CoV-2 (known as **P.1**) emerged and was identified in four travelers from Brazil, who were tested during routine screening at Haneda airport outside Tokyo, Japan. This variant has 17 unique mutations, including three in the receptor binding domain of the spike protein.
B.1.1.7 Lineage Cases in the United States*† Total Cases: 195
NEW VARIANTS IMPACT ON VACCINES

Ann Falsey, MD
Professor in the Department of Medicine (Infectious Diseases)
University of Rochester Medical Center
rate estimate: 26.013 subs per year
PRELIMINARY GENOMIC CHARACTERISATION OF AN EMERGENT SARS-CoV-2 LINEAGE IN THE UK DEFINED BY A NOVEL SET OF SPIKE MUTATIONS

Report written by: Andrew Rambaut, Nick Loman, Oliver Pybus, Wendy Barclay, Jeff Barrett, Alesandro Carabelli, Tom Connor, Tom Peacock, David L. Robertson, Erik Volz, on behalf of COVID-19 Genomics Consortium UK (CoG-UK)

Table 1 | Non-synonymous mutations and deletions inferred to occur on the branch leading to lineage B.1.1.7 lineage.

<table>
<thead>
<tr>
<th>gene</th>
<th>nucleotide</th>
<th>amino acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORF1ab</td>
<td>C3267T</td>
<td>T1001I</td>
</tr>
<tr>
<td></td>
<td>C5388A</td>
<td>A1708D</td>
</tr>
<tr>
<td></td>
<td>T6954C</td>
<td>I2230T</td>
</tr>
<tr>
<td></td>
<td>11288-11296 deletions</td>
<td>SGF 367S-3677 deletion</td>
</tr>
<tr>
<td>spike</td>
<td>21765-21770 deletion</td>
<td>HV 69-70 deletion</td>
</tr>
<tr>
<td></td>
<td>21991-21993 deletion</td>
<td>Y144 deletion</td>
</tr>
<tr>
<td></td>
<td>A23083T</td>
<td>N501Y</td>
</tr>
<tr>
<td></td>
<td>C23271A</td>
<td>A570D</td>
</tr>
<tr>
<td></td>
<td>C23094A</td>
<td>P681H</td>
</tr>
<tr>
<td></td>
<td>C23706T</td>
<td>T716I</td>
</tr>
<tr>
<td></td>
<td>T24506G</td>
<td>S982A</td>
</tr>
<tr>
<td></td>
<td>G24914C</td>
<td>D1118H</td>
</tr>
<tr>
<td>OrfR</td>
<td>C27927T</td>
<td>Q27stop</td>
</tr>
<tr>
<td></td>
<td>G28048T</td>
<td>R22I</td>
</tr>
<tr>
<td></td>
<td>A28111G</td>
<td>Y73F</td>
</tr>
<tr>
<td>N</td>
<td>28280 GAT-&gt;CTA</td>
<td>D3L</td>
</tr>
<tr>
<td></td>
<td>C28977T</td>
<td>S235F</td>
</tr>
</tbody>
</table>

Figure 2 | Regression of root-to-tip genetic distances against sampling dates, for sequences belonging to lineage B.1.1.7 (blue) and those in its immediate outgroup in the global phylogenetic tree (brown). The regression lines are fitted to the two sets independently. The regression gradient is an estimate of the rate of sequence evolution. These rates are 5.0E-4 and 5.3E-4 nucleotide changes/site/year for the B.1.1.7 and outgroup data sets, respectively.
MORE DEADLY?

• "If you took...a man in their 60s, the average risk is that for 1,000 people who got infected, roughly 10 would be expected to unfortunately die with the virus. With the new variant, for 1,000 people infected, roughly 13 or 14 people might be expected to die."

  – UK's chief science adviser, Patrick Vallance

• Michael Osterholm, epidemiologist and director of the Center for Infectious Disease Research and Policy at the University of Minnesota, said he has reviewed the UK report as well as other data that has not been publicly released, and he is "convinced" that the new variant is deadlier.

  "The data is mounting—and some of it I can't share—that clearly supports that B.1.1.7 is causing more severe illness and increased death."
WILL THE CURRENT VACCINES WORK?

• Serum from 20 people immunized with Pfizer neutralized the B.1.1.7 strain just as well as prior strains

• Convalescent plasma failed to neutralize the N501Y South African variant—Pre-print BioRx

• Resistance to certain anti-spike Mab have been demonstrated

Vaccination with current vaccines should produce a polyclonal antibody response to the S protein so complete lack of efficacy would be unlikely but reduced efficacy is a concern.
FINGER LAKES COVID-19 VACCINE HUB

Nancy Bennett, MD
Professor of Medicine and Public Health Sciences

University of Rochester Medical Center
FINGER LAKES COVID-19 VACCINE HUB

ROLE
Plan, facilitate, and execute the Finger Lakes Vaccine Administration Plan.

MISSION
Ensure the **equitable, transparent, and efficient** immunization of at least 70% of the adult residents of the Finger Lakes Region.

PURPOSE
Coordinate efforts of all agencies involved in vaccination delivery, ensuring equitable, transparent, and efficient immunization, to protect residents in the Finger Lakes region from transmission, morbidity, and mortality associated with COVID-19 infection.
SCOPE

FINGER LAKES COUNTIES:
Genesee, Livingston, Monroe, Orleans, Ontario, Seneca, Wayne, Wyoming, and Yates
FL Vaccination Hub, Regional Planning Implementation of DOH Prioritization, POD Training/Operations, Resource Request Management, Local Coordination of Vaccine Distribution

**Community and Faith Based Organizations**
- Places of Worship
- Deaf / HOH
- Disability
- Race/Ethnicity
- LGBTQ
- IDD
- Migrant Workers
- Refugee
- Shelters/Housing
- Schools
- Older Adults
- Tribal Leaders

**Health Care Providers**
- Hospitals
- Community Physicians
- FQHCs
- Free clinics
- LTCFs
- ACOs
- First Responders
- Pharmacies
- Congregate Care
- Allied Health Providers
- Professional Associations

**Government Agencies**
- Public Health Directors
- County Executives
- Medicaid/Medicare
- Mental Health

**Business Community**
- Chamber of Commerce
- Grocery Stores
- Outside Markets
- Small Business
- Labor
CURRENT ELIGIBILITY

- Phase 1A – Still prioritized.
  - Health care workers – patient-facing
  - Long term care – staff and patients

- Phase 1B
  - All 65yo and over
  - First responders (fire and police), public safety, teachers, public transit, grocery store workers
## WHO VACCINATES WHO?

<table>
<thead>
<tr>
<th>VACCINE PROVIDER GENERAL TYPE</th>
<th>ELIGIBLE POPULATION FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals/Health Care Systems &amp; Federally Qualified Health Centers</td>
<td>Their own health care workers &amp; patients 65yo and over</td>
</tr>
<tr>
<td>Pharmacies</td>
<td>Patients 65yo and over</td>
</tr>
<tr>
<td>County Health Departments</td>
<td>First responders, law enforcement, teachers and front-line workers as defined by NYS</td>
</tr>
</tbody>
</table>

*Vaccine supply very limited. Eligibility does not equal availability*
VACCINE HESITANCY

Angela Branche, MD
Assistant professor in the Department of Medicine
(Infectious Diseases)
University of Rochester Medical Center
Majority of Americans now say they would get a vaccine for the coronavirus

% of U.S. adults who say if a vaccine to prevent COVID-19 were available today, they ...

<table>
<thead>
<tr>
<th></th>
<th>May '20</th>
<th>Sept '20</th>
<th>Nov '20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely</td>
<td>42</td>
<td>21</td>
<td>29</td>
</tr>
<tr>
<td>Probably</td>
<td>30</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>Probably</td>
<td>16</td>
<td>25</td>
<td>21</td>
</tr>
<tr>
<td>Definitely</td>
<td>11</td>
<td>24</td>
<td>18</td>
</tr>
</tbody>
</table>

Would get the vaccine

Would NOT get the vaccine

% among this group who say once others start getting a coronavirus vaccine and there is more information ...

Pretty certain would not get vaccine: 53%
Possible would get vaccine: 46%
No answer <1%
Growing share intend to get a COVID-19 vaccine, though fewer than half of Black adults say they would

% of U.S. adults who say they would definitely/probably get a vaccine for COVID-19 if one were available today

GENDER

- Men: 76 in May '20, 67 in Nov '20
- Women: 65 in May '20, 54 in Nov '20

RACE/ETHNICITY

- Asian*: 91 in May '20, 74 in Nov '20
- Hispanic: 83 in May '20, 63 in Nov '20
- White: 72 in May '20, 61 in Nov '20
- Black: 42 in May '20, 54 in Nov '20
- 18-29: 53 in May '20, 30-49: 55 in Nov '20, 50-64: 60 in Nov '20

AGE

- 18-29: 53 in May '20, 65+: 75 in Nov '20
- 30-49: 55 in May '20, 67 in Nov '20
- 50-64: 55 in May '20, 61 in Nov '20
- 65+: 72 in May '20, 70 in Nov '20

EDUCATION

- College graduate: 69 in May '20, 68 in Nov '20
- H.S. or less: 77 in May '20, 70 in Nov '20
- Some college: 66 in May '20, 65 in Nov '20
- Postgraduate: 84 in May '20, 75 in Nov '20

PARTY

- Dem/lean Dem: 79 in May '20, 69 in Nov '20
- Rep/lean Rep: 69 in May '20, 50 in Nov '20

FAMILY INCOME

- Lower income: 55 in May '20, 71 in Nov '20
- Middle income: 69 in May '20, 71 in Nov '20
- Upper income: 80 in May '20, 72 in Nov '20
COMMUNITY ENGAGEMENT TO ADDRESS VACCINE HESITANCY

1. CCHP COVID-19 Vaccine Advisory Committee
2. Finger Lakes COVID-19 Vaccine Task Force (CCG, Wade Norwood)
3. Researchers Engaged
Thank you to all.
We are in this together.