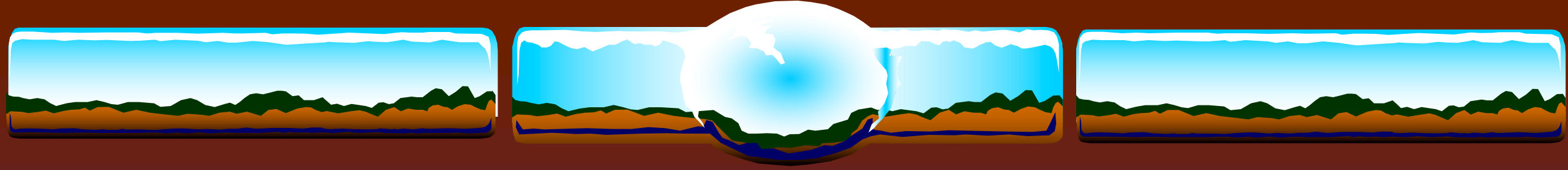
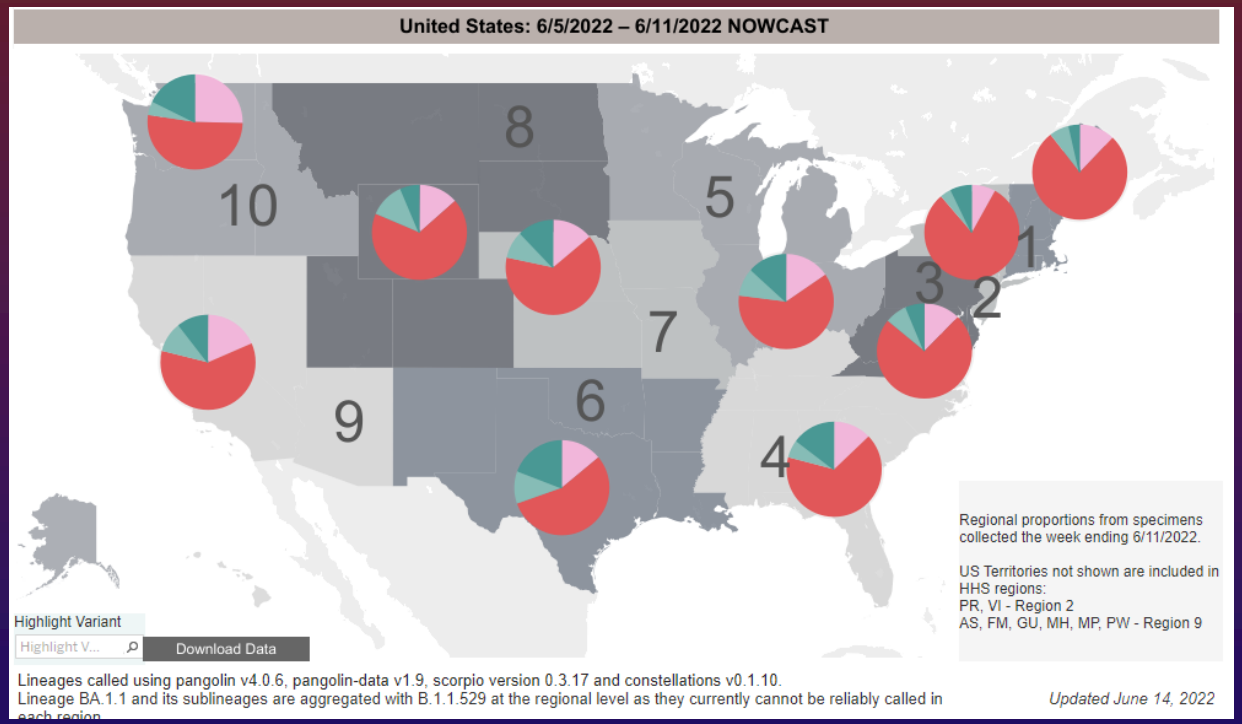
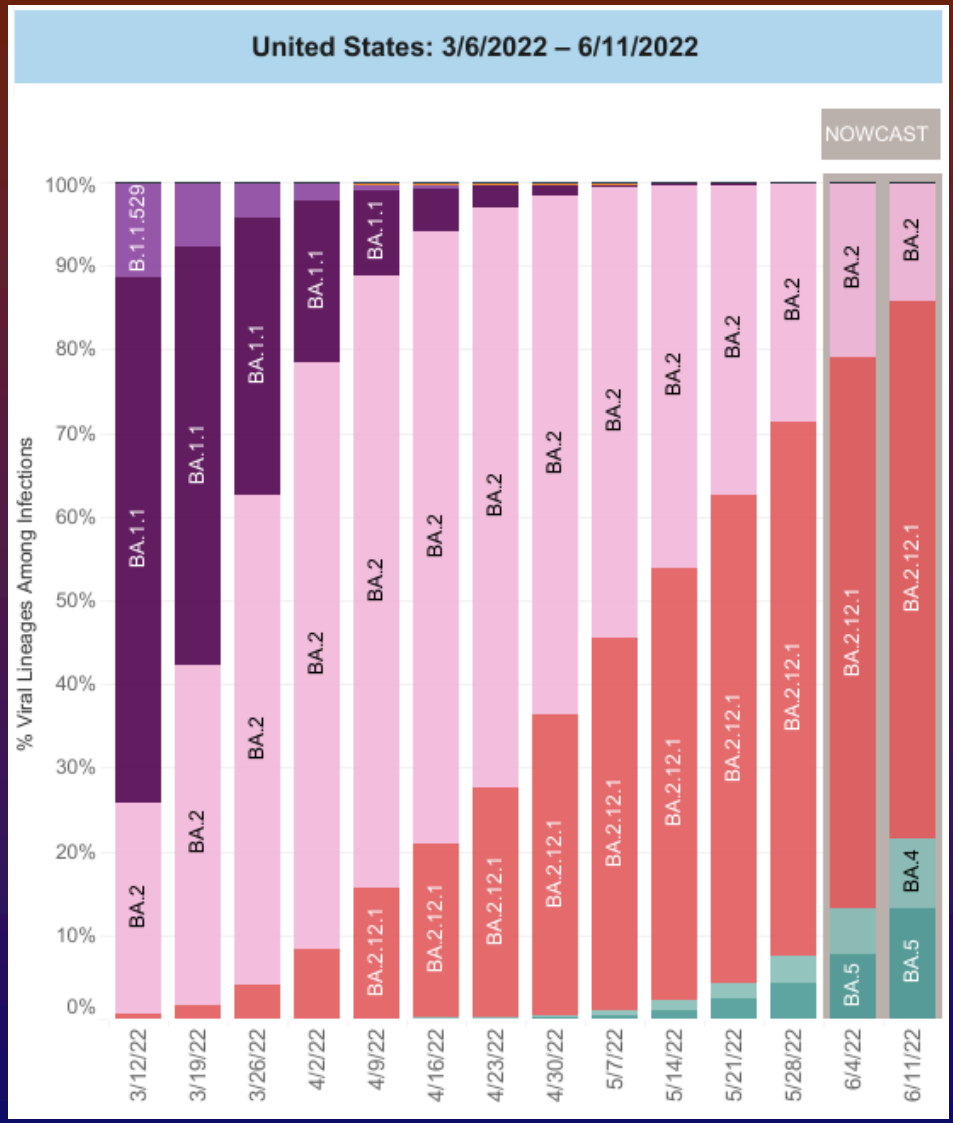


Indian Country Infectious Disease ECHO
COVID-19 Update

Jonathan Vilasier Iralu, MD, FACP, FIDSA
Indian Health Service Chief Clinical Consultant
for Infectious Diseases

Virology





https://covid.cdc.gov/covid-data-tracker/#variant-proportions

Virology: What's new with the Variants

- BA.1 variant identified November 2021 in South Africa
- BA.2
  - Enhanced viral fitness due to 53 mutations, 29 in the spike protein
  - Reproduction number is 1.4 X higher than BA.1
  - Symptoms
    - Mild URI symptoms: sore throat and pharyngitis
    - GI symptoms: diarrhea, nausea, vomiting
    - Nonspecific: muscle ache, headache, nasal congestion, fatigue

Del Rio and. Malani,JAMA, May 27,2022 https://jamanetwork.com/journals/jama/fullarticle/2793011

Virology: What's new with the Variants

- BA.2.12.1 Variant
  - First identified in New York, and now dominates in the USA
  - Contains additional spike mutations S704L and L452Q
  - L452Q allows for tighter binding to ACE2 receptor increasing transmission
  - Prior infection with BA.1 does not protect against BA.2.12.1
- BA.4 and BA.5
  - Emerging in South Africa and Europe as Variants of Concern, now in the USA
  - More transmissible than pre-Omicron variants
  - Immune evasion and intrinsic transmissibility are contributors

Del Rio and. Malani,JAMA, May 27,2022 https://jamanetwork.com/journals/jama/fullarticle/2793011

NIH Treatment Updates

- Antithrombotic therapy:
  - Give therapeutic dose heparin for non-critically ill patients with
    - High D Dimer
    - Low flow O2
    - Low bleeding risk
    - Contraindications: Platelets < 50 K Hgb < 8%, bleeding within 30 days
  - Give prophylactic dose heparin for the critically ill

https://www.covid19treatmentguidelines.nih.gov/about-the-guidelines/whats-new/

NIH Treatment Updates

- Antithrombotic therapy
  - Avoid antiplatelet therapy in non-critically patients
  - No recommendation for or against antiplatelet therapy for the critically ill
  - Stop VTE prophylaxis at discharge

https://www.covid19treatmentguidelines.nih.gov/about-the-guidelines/whats-new/

COVID-19 Rebound after Paxlovid Rx
HAN alert 5/24/2022

- COVID-19 rebound reported to occur between day 2 and 8 after recovery
  - Recurrence of symptoms or a new positive viral test after testing negative
- A brief return of symptoms may be part of the natural history in some persons
- Recommend:
  - Resume isolation precautions if COVID-19 rebound occurs
  - Stop isolation at five days if no fever for 24 hours and symptoms improved

https://emergency.cdc.gov/han/2022/pdf/CDC_HAN_467.pdf

Vaccine Update

- Everyone age 5 and up is eligible for COVID-19 vaccination
- A second booster is recommended for
  - Age 12 and up who are moderately to severely immuncompromised
  - Age 50 and up
- Coming soon! → vaccines for age less than 5

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

What is Monkeypox?

- Zoonotic infection
  - First isolated in 1958 from macaques
  - Orthopox genus
    - Smallpox (Variola)
    - Vaccinia (smallpox vaccine source, related to horsepox
    - Monkeypox
    - Cowpox
  - Large enveloped linear DS DNA genome

- Endemic to tropical forests in West and Central Africa (Congo Basin)
- Outbreak in USA in 2003 from rodents

Clinical Findings

- Incubation Period: 7-14 days on average [5-21 max range]

- Prodrome:
  - Fever, malaise, headache, sore throat, cough, adenopathy
  - Lymphadenopathy is the distinguishing feature
    - Starts 1-2 days before rash onset
    - Submandibular/cervical, axillary, inguinal

Clinical Findings:
The Rash:

- Enanthem: first lesions are on the tongue and mouth
- Macules for 1-2 days starting on face, spreading to arms and leg then hands and feet (palms and soles): flat
- Papules by day 3: raised
- Vesicles by day 4-5: raised and filled with fluid
- Pustules by day 6-7: pus filled with sharply raised round borders
- Scabs by end of second week, fall off one week later

→ Current outbreak: genital and perianal lesions

Skin manifestations of Monkeypox

https://www.cdc.gov/poxvirus/monkeypox/clinicians/clinical-recognition.html

Monkeypox Specimen Collection

- Collect at least two dry nylon, polyester, or Dacron swabs from the same lesion.
- Swab or brush lesion vigorously with two separate sterile dry swabs.
- Place swabs in individual sterile containers. **Do not add any transport media.**
- Refrigerate (2–8°C) or freeze (-20°C or lower) specimens within an hour after collection. Store refrigerated specimens for up to 7 days and frozen specimens for up to 60 days.
- Send refrigerated specimens within 7 days of collection; ship frozen specimens within 60 days of collection. **Specimens that are greater than 8°C upon receipt will be rejected. Ship on dry ice as category B.**
- Send both swabs to the state or territorial public health laboratory.
- A state public health laboratory may test one of the paired dry swabs for presumptive results. CDC can provide monkeypox virus-specific testing on the second dry swab specimen if the first dry swab is non-variola orthopoxvirus positive at the state or territorial public health laboratory.

https://www.cdc.gov/csels/dls/locs/2022/05-16-2022-lab-advisory-CDC_Specimen_Collection_Guidelines_Monkeypox_Virus.html?

Monkeypox treatment

- Tecovirimat (TPOXX) is FDA approved via CDC expanded access program (PO or IUV): Envelope wrapping protein inhibitor
- Cidofovir (Vistide) is an IV CMV drug via expanded access
- Vaccinia Immune Globulin via expanded access for complications of vaccinia like eczema vaccinatum, progressive/severe generalized vaccinia and for patient with skin conditions.
- Brincidofovir in development

https://www.cdc.gov/poxvirus/monkeypox/treatment.html#:~:text=Currently%20there%20is%20no%20specific,with%20smallpox%20may%20prove%20beneficial.

Monkeypox Infection Prevention

- Single Room with droplet precautions unless intubating/extubating or doing procedure that spreads secretions then use airborne
- PPE: Gown/Glove/Eye protection/N95 for staff; surgical mask and all skin covered for patient during transportation
- Continue precautions until all lesions are healed with fresh skin growing and scabs all separated

https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html

Monkeypox vaccines

- Two vaccines available
  - ACAM2000: live vaccinia virus, causes skin blister/scar, 85% effective
  - JYNNEOS: live non replicating vaccinia, two injections, no “take”
- Pre-exposure prophylaxis
  - Diagnostic and research lab workers, public health response team
- Post-exposure prophylaxis:
  - Give within 4 days to prevent disease
  - Give within 4-14 days to attenuate symptoms

https://www.cdc.gov/poxvirus/monkeypox/clinicians/smallpox-vaccine.html


THINK TIDY!
OUR SAFETY DEPENDS
ON CLEANLINESS
ANGAMI STUDENTS' UNION