

## COVID-19 and Back to School... Again *plus BONUS: Monkeypox!*

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### Disclosures

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this CME activity.
- I will be discussing investigative use of a commercial product/device in my presentation.

### Learning Objectives

- By the end of this session, the participant will be able to:
  - » List effective measures to minimize the risk of SARS-CoV-2 between students, teachers, and other school staff
  - » Understand the implications of new variant strains
  - » Summarize the risk/benefits of COVID-vaccination in children
  - » Discuss the current Monkeypox outbreak and potential implications for children

### Schools Are Essential!

- Schools are an important part of the infrastructure of communities. They provide safe and supportive learning environments for students that support social and emotional development, provide access to critical services, and improve life outcomes.
- They also employ people, and enable parents, guardians, and caregivers to work.

## Where are we now?

- Vaccines (and boosters) for everyone 6 months and older
  - » But uptake is not great
- Easy access to rapid testing
  - » But inaccurate formal case counts
- Omicron variants highly transmissible
- General public is 'over' mask use
  - » Public health reporting switched to "Community Levels"



## Vaccine Updates

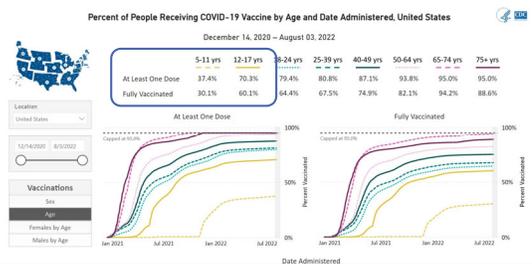
- Everyone 6 months and older is eligible for vaccine
- Boosters:
  - » Everyone 5+ years old: 1 booster 5 months after last dose
  - » Everyone 50+: 2<sup>nd</sup> booster 4 months after first booster
  - » Omicron variant boosters may be available as early as September

| Child's Age            | Pfizer-BioNTech       | Moderna               |
|------------------------|-----------------------|-----------------------|
| 6 months – 4 years old | 3-dose primary series | 2-dose primary series |
| 5 – 17 years old       | 2-dose primary series | 2-dose primary series |

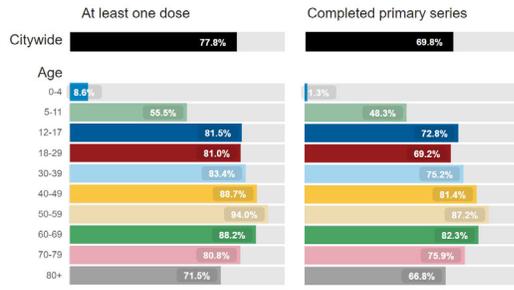
## Vaccine Updates

- Myocarditis after mRNA vaccination
  - » 5-11 year olds: ~20 cases out of 18.1 million doses of Pfizer vaccine between Nov. 2021-Apr. 2022
  - » 12-15 year olds: 70 cases per million doses in males
  - » 16-17 year olds: 105 cases per million doses in males
  - » Booster dose in 12-17 year olds: 1.4 cases per million doses in males

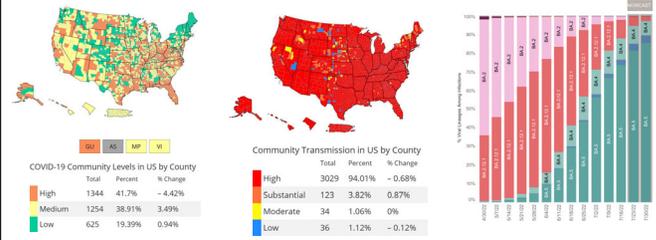
## Show me the data: vaccination



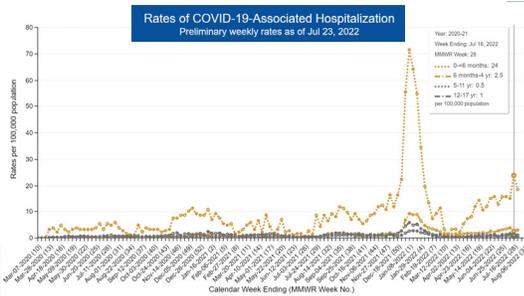
## Show me the data: vaccination (city of Chicago)



## Show me the data: cases

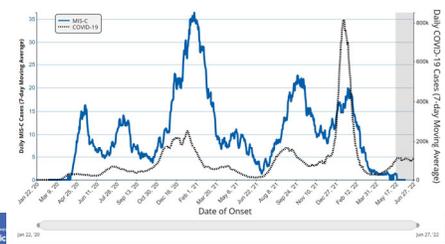


## Pediatric Hospitalization



## MIS-C

Daily MIS-C Cases and COVID-19 Cases Reported to CDC (7-Day Moving Average)



## Post-COVID conditions

| Adults                         | Children/adolescents          |
|--------------------------------|-------------------------------|
| 1% asymptomatic                | 6% asymptomatic               |
| 99% symptomatic                | 94% symptomatic               |
| 81% mild                       | 99% mild                      |
| 19% severe                     | 1% severe                     |
| 10-61% post COVID-19 condition | 1-30% post COVID-19 condition |

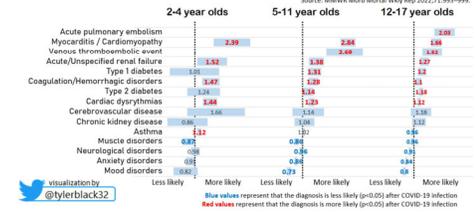
### Symptoms Post COVID-19 Infection

- Limitations in physical activity
- Feeling distressed about symptoms
- Mental health challenges
- Decreased school or daycare attendance
- Missed opportunities for participation in sports, playdates, or other activities

## Post-COVID conditions

### Hazard Ratio for Post-COVID-19 Diagnoses Among Children and Adolescents

Source: MMWR. Morbidity and Mortality Weekly Report 2022;71:993-999.



visualization by @tylerblack32

## Latest CDC Update:

Operational Guidance for K-12 Schools and Early Care and Education Programs to Support Safe In-Person Learning

Updated May 27, 2022 Languages Print

**New Update Coming Soon**

[Schools, Child Care, and Colleges | COVID-19 | CDC](#)

## Strategies for Everyday Operations from CDC

- Vaccination (routine and COVID)
- Stay home when sick
- Optimize ventilation
- Hand hygiene and respiratory etiquette
- Cleaning and disinfection

| COVID-19 COMMUNITY LEVEL | PREVENTION STRATEGY FOR MASKING  | PREVENTION STRATEGY FOR TESTING  |
|--------------------------|--|--|
| LOW                      | Support those who choose to continue to mask   | Ensure access to diagnostic testing for symptomatic persons and those exposed, and for continuity, schools may choose to continue to implement screening testing |
| MEDIUM                   | Person who are immunocompromised, at high risk for severe disease or have household or social contacts at high risk for severe disease, should be encouraged to talk to their healthcare providers about whether they need to wear a mask. | Ensure access to diagnostic testing for close contacts and those exposed, and for continuity, schools may choose to continue to use screening testing            |
| HIGH                     | <u>Universal masking indoors in public, regardless of vaccination status, should be promoted.</u> Persons who are immunocompromised should be encouraged to wear a mask or respiratory that provides greater protection.                   | Ensure access to diagnostic testing for close contacts and those exposed, and for continuity, schools may choose to continue to use screening testing            |

### Quarantine and Test To Stay

- Exposed to COVID-19 and **not** up-to-date on Vaccine:
  - Quarantine for at least 5 full days.
  - Wear a well-fitting mask around others (for 10 full days)
  - Get tested at least 5 days after close contact
  - Avoid being around people who could get very sick from COVID
- Exposed to COVID-19 and fully vaccinated:
  - No quarantine needed unless symptoms develop
  - Get tested at least 5 days after close contact
  - If you develop symptoms, get tested and isolate
- Test to Stay: contact tracing + serial testing (at least twice in 7 days)
  - Masking at school, isolate if symptoms develop

### Isolation

- Stay home for at least 5 days and isolate from others
- Wear a well-fitting mask if you must be around others in your home
- End isolation after 5 full days if you are fever free and symptoms improving\*
- If you got very sick or have weakened immune system isolate for at least 10 days
- Wear well-fitting mask for 10 full days when you are around others

### How should we manage COVID-19 in school?

- Modeling study comparing “quarantine strategy” with “test-to-stay” in elementary and middle schools

5-d in-person attendance

|  |  |                                |
|--|--|--------------------------------|
| <b>Quarantine:</b>                     | <b>Test to stay:</b>                   | <b>Instruction:</b>            |
| — No screening or surveillance         | — No screening or surveillance         | — Fully remote instruction     |
| — Weekly screening                     | — Weekly screening                     | — Hybrid: remote and in-person |
| — Weekly surveillance, 20% of students | — Weekly surveillance, 20% of students |                                |

- “Test-to-stay” = less quarantine time, minimal ↑ in transmission
- Weekly screening = substantial ↓ in-school transmission when community incidence high; lower societal costs than remote instruction

## 2022-23 School Year

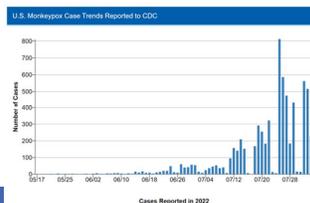
- Schools are Essential!
- We have tools to mitigate risk, but many people are done thinking about the pandemic
  - » Death is the worst outcome, but not the ONLY outcome
- We have tools to facilitate remote learning, but for many, in-person classes (with a consistent teacher) is the best way to learn

# Monkeypox (MPV)



## Monkeypox (MPV) basics

- Virus related to smallpox and molluscum
- 2022 worldwide outbreak
  - » >26,000
  - » >7,100 US cases



## Typical Presentation

- Incubation period 7-14d (range 5-21)
- Systemic symptoms: fever, headache, muscle aches, exhaustion, lymphadenopathy\*
- Rash develops 1-3 days after fever appears. Typically rash on face then spreads
- Illness lasts 2-4 weeks, contagious from start of symptoms until rash fully healed and a fresh layer of skin has formed

\* LAN happens with MPV, but NOT smallpox  
[Monkeypox: What You Need to Know \(idsociety.org\)](https://www.idsociety.org/monkeypox-what-you-need-to-know/)



## Evolution: All lesions at same stage



## Monkeypox Transmission

- Direct contact with MPV rash, scabs, or body fluids
- Touching objects, fabrics (clothing, bedding, or towels), and surfaces used by someone with MPV.
- Contact with respiratory secretions.
- Transplacental to fetus.
- No reported transmission during:
  - » Brief interactions (e.g., brief conversation)
  - » Close proximity, long duration encounters (e.g., passengers seated near a person with MPV on an airplane)
  - » Healthcare encounters

## Increased risk of severe disease

- Children under 8 years of age
- Children and adolescents with immunocompromising conditions
- Children and adolescents with a history or presence of atopic dermatitis, or with other active exfoliative skin conditions (e.g., eczema, burns, impetigo, varicella zoster, herpes simplex, severe acne, severe diaper dermatitis with extensive areas of denuded skin, psoriasis, or Darier disease [keratosis follicularis])
- Children and adolescents with aberrant infections, such as those involving the eyes, face, or genitals

## Treatment, Prevention

- Tecovirimat (TPOXX) – first line anti-viral medication, available under investigational protocol, for all children
- Jynneos™ (aka Imvamune or Imvanex)
  - » Attenuated live (non-replicating) viral vaccine for prevention of Mpx.
  - » 2 subcutaneous injections 4 wk apart; 'fully vaccinated' 2 wk after 2<sup>nd</sup> dose
  - » No visible "take", therefore not contagious
- ACAM2000 (live vaccinia virus)
  - » Inoculated into skin via pin-prick, lesion ("take") at site, contagious until scab falls off
  - » Single dose, 'fully vaccinated' 28d after dose
- Post-exposure prophylaxis (PEP): either vaccine

## Infection Control at Home

- Individual with MPV should avoid contact with people/pets while contagious
- Wear masks if interactions are unavoidable with individual with MPV
- During interactions with caregivers, children >2 years of age with monkeypox should wear mask when possible.
- Limit the number of caregivers to one person.
- Caregivers should avoid direct skin-to-skin contact with the rash.
  - » Cover areas of broken skin with bandages
  - » Wear gloves when changing bandages or clothing covering rash.
  - » Dispose gloves after use, wash hands
- Immediately launder any clothing (caregiver or child) that comes into contact with the rash,

## Monkeypox Exposures

- Monitor for symptoms for 21 days
- Contacts who remain asymptomatic can be permitted to continue routine daily activities (e.g., go to work, school)
- May qualify for PEP
- Testing only available on lesions

## Monkeypox

- Many unanswered questions
- Improving access to testing
- Current cases all have epidemiological link
- Be aware, but no need to panic

# Thank you!



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**Comer Children's**

# Any Questions?