Children's National

COVID-19 Vaccines for Children Ages 5-11

Kelli P. Baldwin, MD
Attending Physician, Children's Health Center
Children's National Hospital

November 10, 2021

Agenda

- Current state of the COVID-19 pandemic in children
- Development of the Pfizer vaccine for children aged 5-11
- Commonly encountered questions regarding this latest development in children
- Questions

Children's National

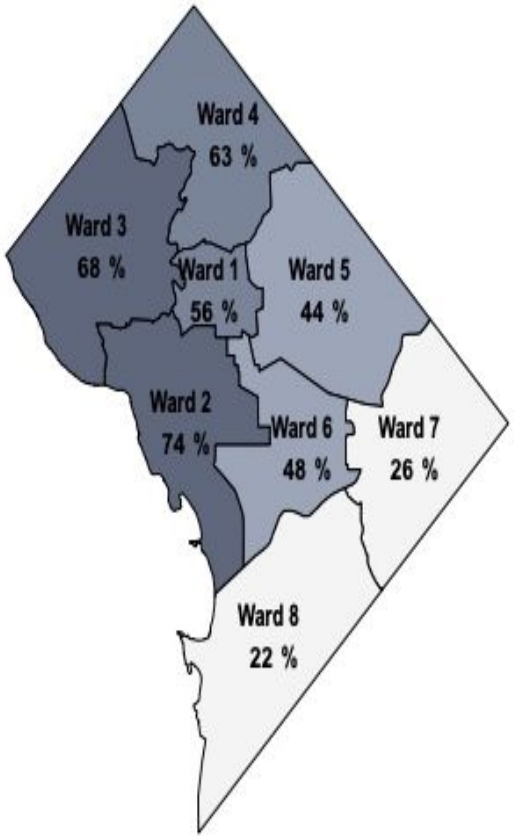
COVID-19 in Children: Where are we now?

Neighborhood | Ward

Count or coverage:

Coverage (%)

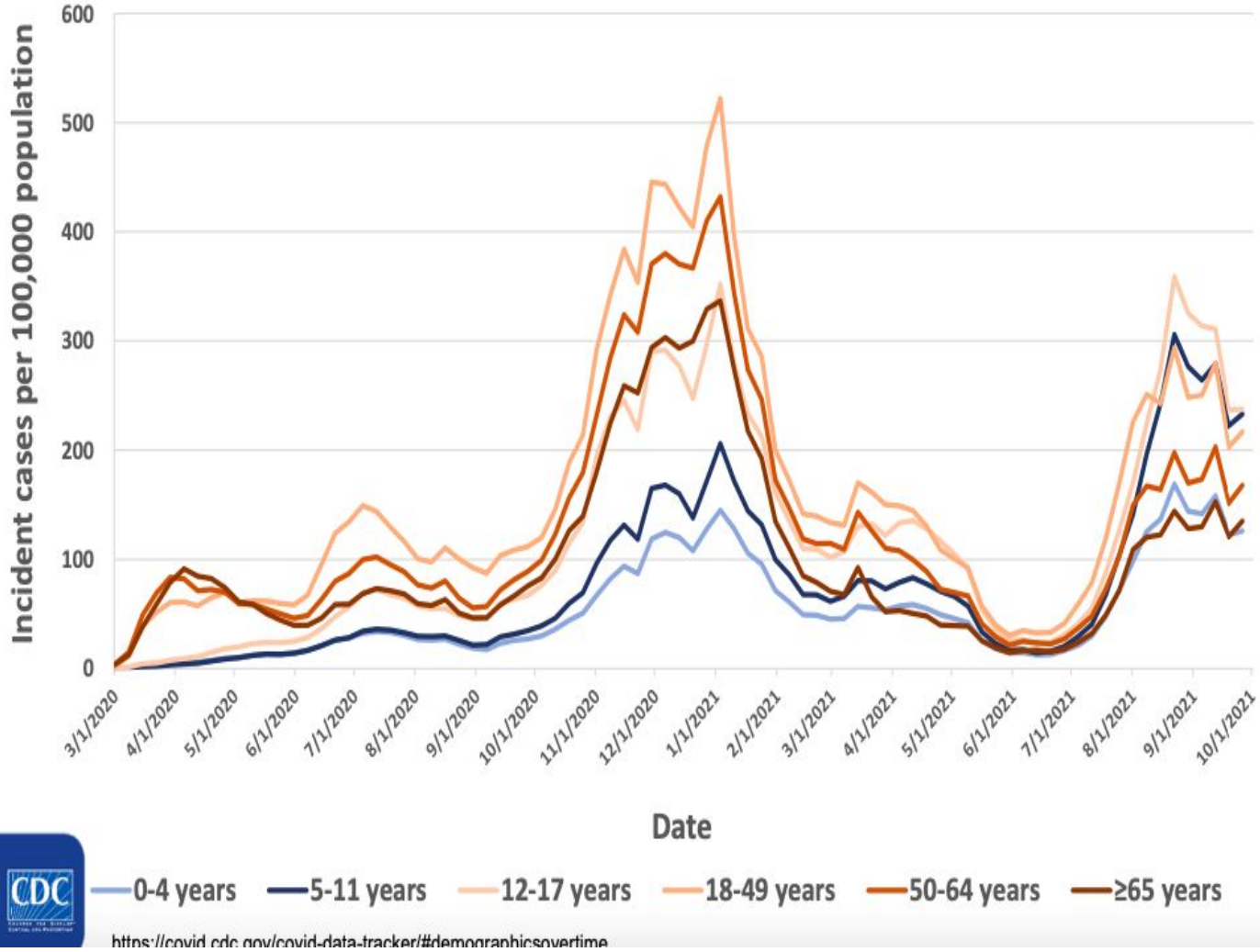
Ward - Age Group



Age Group
- [ ] (All)
- [ ] Null
- [x] 12-15
- [x] 16-17
- [ ] 18-24
- [ ] 25-39
- [ ] 40-49
- [ ] 50-64
- [ ] 65-74
- [ ] 75+

Source: DC Health. Data are subject to change.

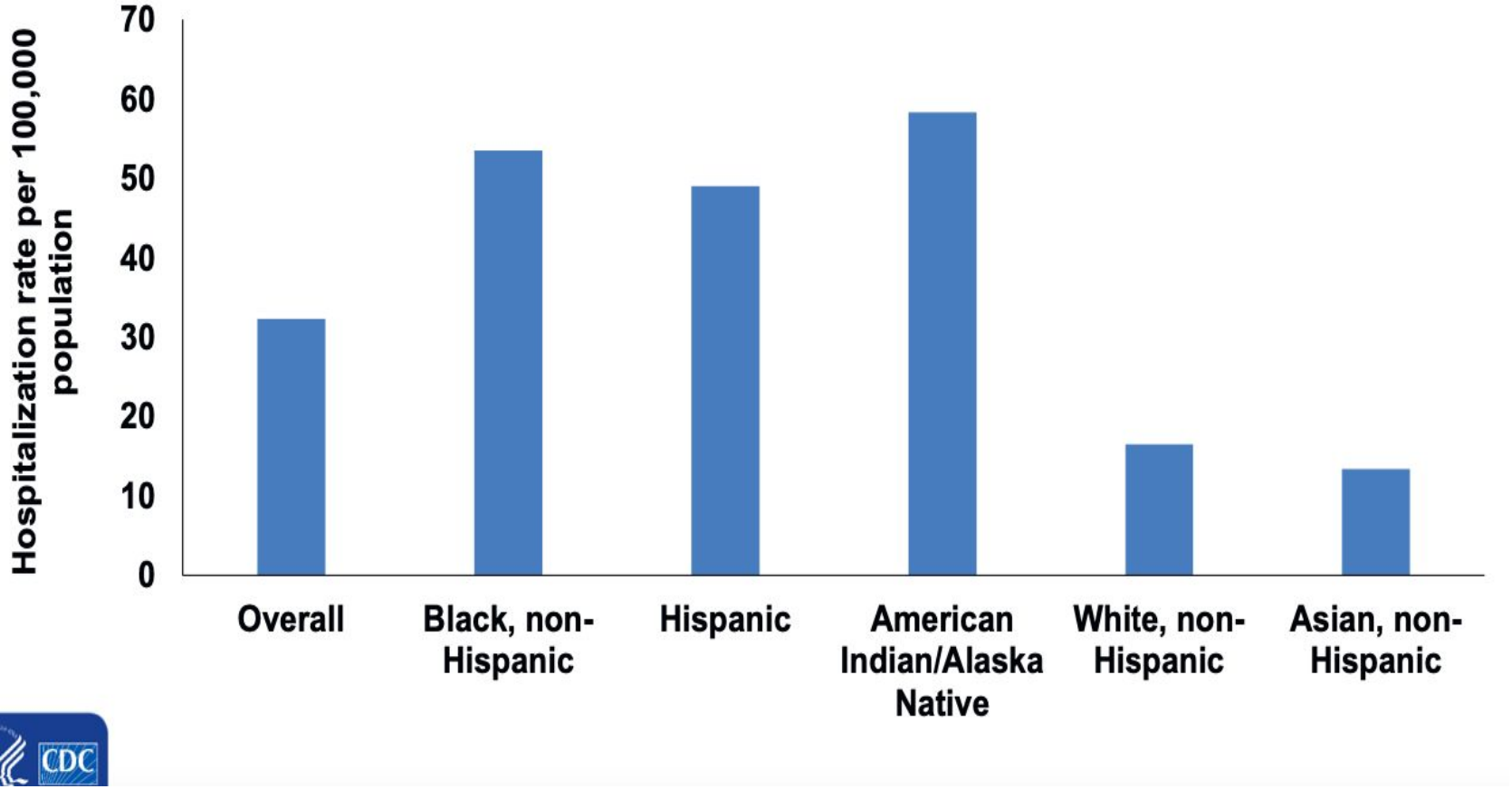
COVID-19 Weekly Cases per 100,000 Population by Age — United States, March 1, 2020–October 10, 2021



>1.9 million cases among children 5-11 years of age

Children's National

Cumulative COVID-19-Associated Hospitalization Rates by Race and Ethnicity among Children 5-11 Years of Age — COVID-NET, March 1, 2020–October 23, 2021

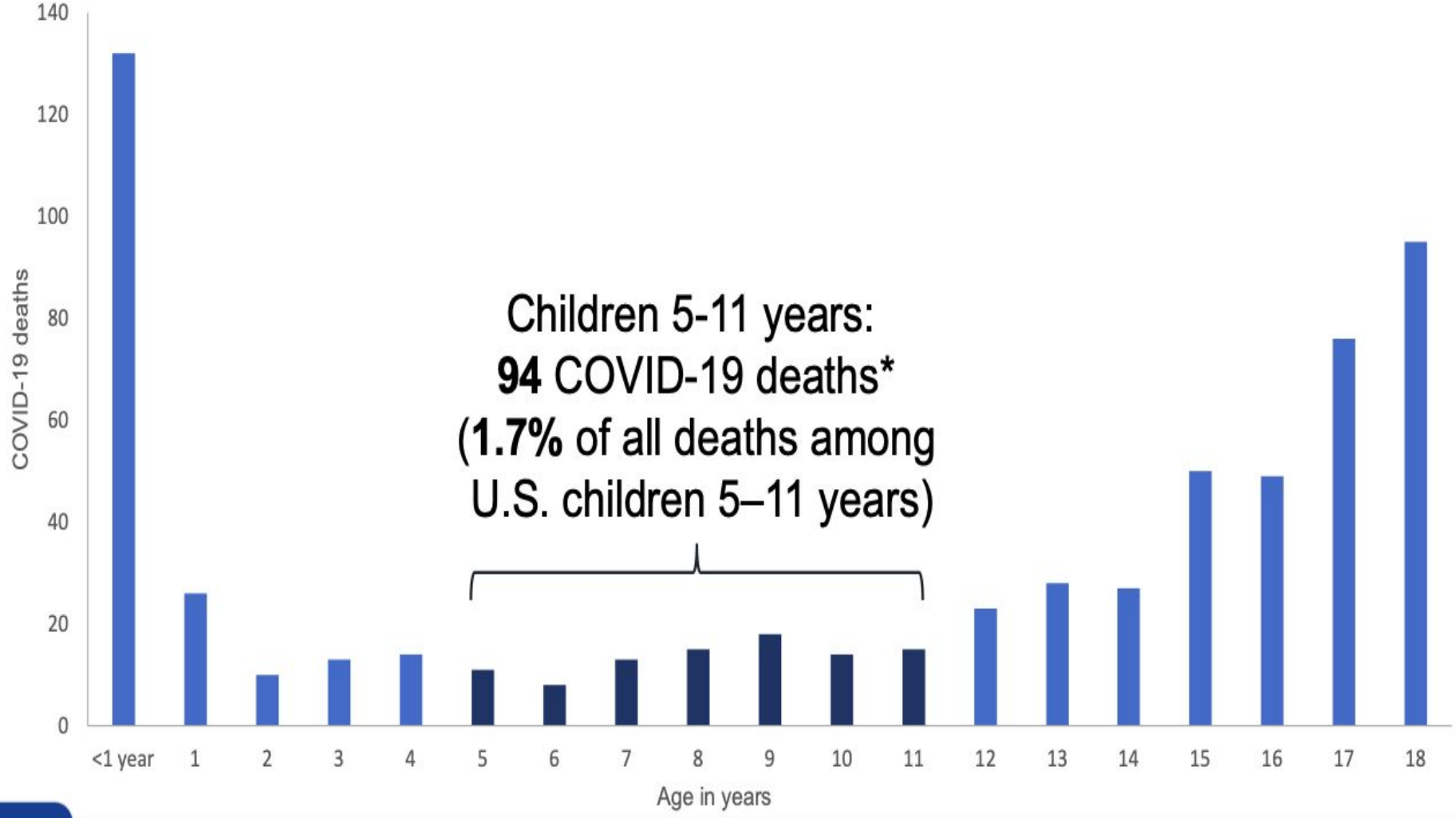


Ages 5-11:

- 2 million cases
- 8,300 hospitalizations
- 2300 MIS-C cases (group with highest number)
- 30% no underlying medical conditions

Children's National

COVID-19 Deaths by Age Group, NCHS — United States. January 1, 2020–October 16, 2021



*Lag in reporting of deaths might result in underestimate

Leading Causes of Death in Children 5-11 Years of Age, NCHS, 2019

Causes of Death	Death (n)	Crude rate per 100,000
Accidents (unintentional injuries)	969	3.4
Malignant neoplasms	525	1.8
Congenital malformations, deformations and chromosomal abnormalities	274	1.0
Assault (homicide)	207	0.7
Diseases of the heart	115	0.4
Chronic lower respiratory diseases	107	0.4
Influenza and pneumonia	84	0.3
Intentional self-harm (suicide)	66	0.2
Cerebrovascular diseases	56	0.2
Septicemia	48	0.2

66 COVID-19 associated deaths in children 5–11 10/3/20-10/2/2021

Total population 5-17 years, 2019: 52,715,248

CDC

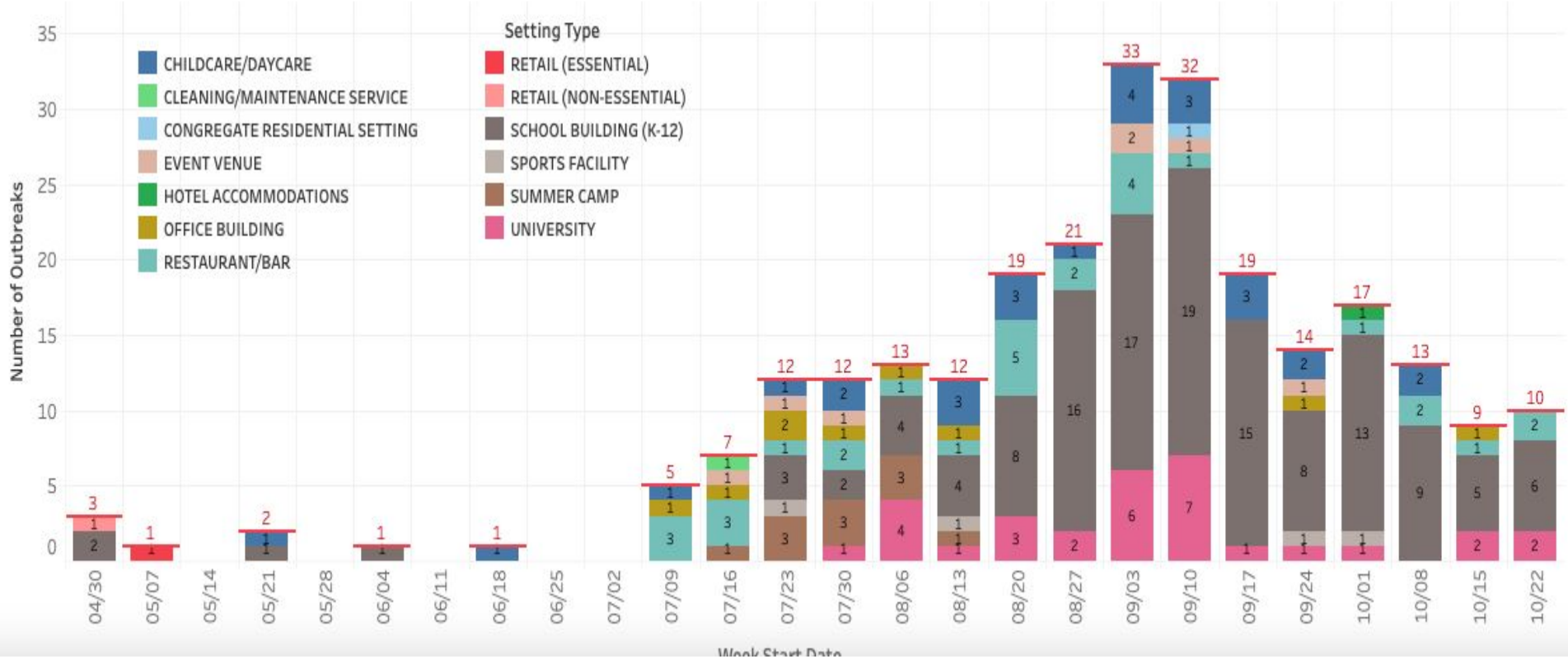
Children's National

Number of Outbreaks by Setting Type and Week

Setting Type: (All)

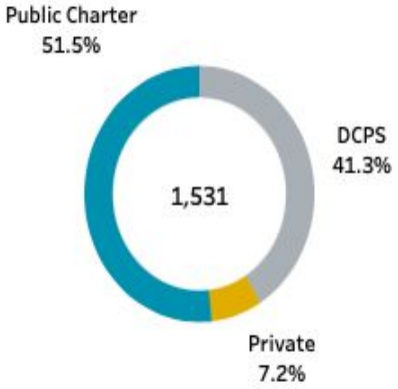
Outbreak Range Start Date: 4/30/2021

Outbreak Range End Date: 11/4/2021

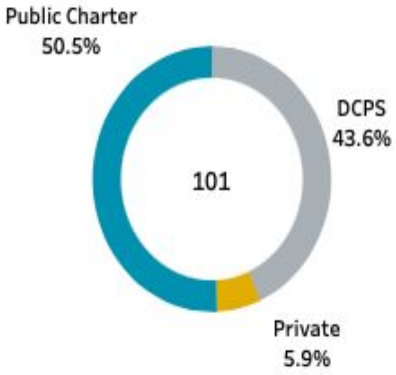


School-Associated Cases in the District of Columbia Between August 29, 2021 - November 3, 2021

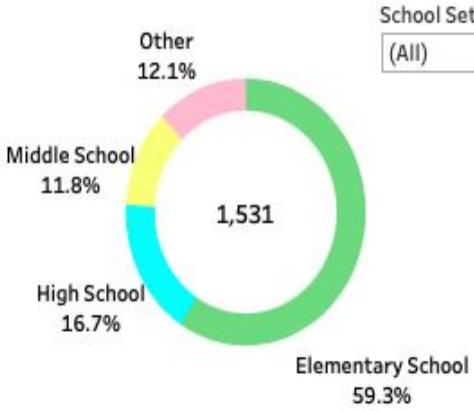
COVID-19 Cases by School Setting



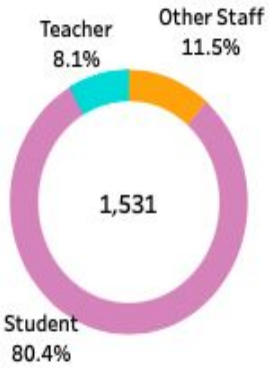
Outbreaks Within School Setting



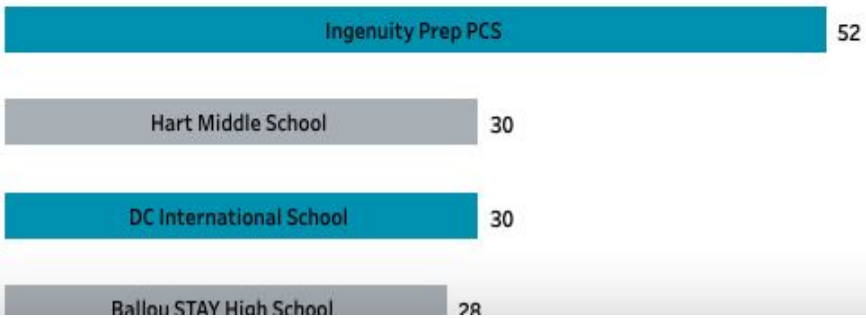
COVID-19 Cases by School Level



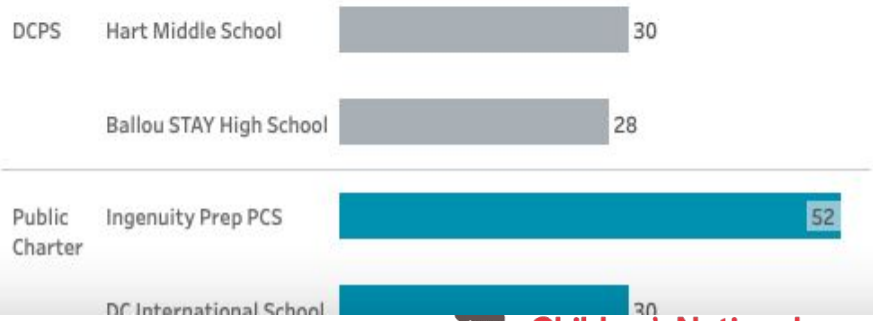
Job/Role at School



Schools With Highest Number of COVID-19 Cases



Schools With Highest Number of COVID-19 Cases by School Setting



Development of the COVID-19 Vaccine in Children, Aged 5-11

Pfizer BioNtech COVID-19 Vaccine Trial

- March 2021: Pfizer doses first children as part of **continuous, ongoing randomized global** trial to study COVID-19 vaccination in children aged 6mo-11yrs

- Aim of study: to evaluate the **safety, tolerability, and immunogenicity** of the COVID-19 vaccine in this age group.
  - Dosage: 10 micrograms of mRNA spaced 21 days apart

- Age groups studied by subgroup
  - **5 to 11 years**
  - 2 to 5 years
  - 6 months to 2 years

- Number of participants: approximately **4600**, aged 5-11
  - 3100 received the COVID-19 vaccine
  - 1538 received a placebo

Children's National

Pfizer BioNTech COVID-19 Vaccine Trial: Effectiveness

- Compared the immune response of the 5-11 age group to the immune response of 16 to 25-year-olds who received a higher dose
  - Dosage effective regardless of size of child

- Analyzed cases of COVID-19 illness 7 days after 5-11 age group received vaccine (participants with no known prior infection of COVID-19)

  - 3/1305 vaccine recipients reported cases
  - 16/663 placebo recipients reported cases

- Overall efficacy at preventing COVID-19 efficacy: **90.7%**
- **100% effective at preventing severe illness**

Children's National

Pfizer BioNTech COVID-19 Vaccine Trial: Effectiveness

Why is it recommended for all children in this age group to receive the same dosage regardless of size?

- Several factors
  - Children are not “mini adults”
  - Children generally have robust immune systems
  - Importance of balancing effectiveness with safety
  - Demographic examples
    - Approximately 6% African-American, 21% Hispanic
    - 11.5% with obesity (BMI at or above 95% on growth chart)
    - 20% with comorbidities
    - Did not exclude children with allergies

Children's National

Pfizer BioNTech COVID-19 Vaccine Trial: Safety

- Serious Adverse Events
  - No SAEs determined to be related to vaccine after investigation
  - No deaths
  - No cases of pericarditis or myocarditis

Children's National

Pfizer BioNTech COVID-19 Vaccine Trial: Safety

What about myocarditis and pericarditis?

- Inflammation of the heart or sac which surrounds the heart
- Usually occurs after a viral infection
- Known causes in children: influenza, COVID-19, other common respiratory viruses
- Usually resolves by its own; rarely has severe sequala such as heart failure
- Related to trials
    - No cases reported in ages 5-11 group
        - Why? Some theories

Pfizer BioNTech COVID-19 Vaccine Trial: Safety
Which reactions did parents report?

- **Local** reactions: redness, swelling at the site
- **Systemic** reactions: headache, fever, nausea, vomiting
- 2.7% versus 1.1% reporting rate (vaccine versus placebo group)
- *Reactions more common after dose #2*

Children's National

Common Follow-up Questions

- In general, it is NOT recommended to wait until your child turns 12 to receive the larger dose

- If your child turns 12 in between doses, the second dosage will be according to chronological age (CDC recommendation; AAP recommends same dosage for #1 and #2 in this case). Speak with your pediatrician.

- It is safe and recommended to receive COVID-19 vaccination with other vaccinations such as influenza

- Contraindications: Previous severe allergic reaction (anaphylaxis) to polyethylene glycol containing medication such as Miralax; allergic reaction to previous COVID-19 vaccine, or allergy to any other ingredient in the vaccine

Reminders

- mRNA vaccine technology is not new; mRNA discovered in the 1960s, science researched mRNA more in earnest in 1970s which later formed building blocks of vaccine research to come
- mRNA vaccines cannot alter your child's DNA
- There is no live virus in the vaccine
- Antibody protection from natural COVID-19 infection is not as robust as protection

from the vaccine

- Claims linking COVID-19 vaccination to infertility have been unfounded
- Vaccination is a necessary part of achieving herd immunity and lessening societal restrictions
- Children deserve a safe and equitable environment to learn and grow
- **Discuss with your child's pediatrician and bring questions!**
- **Discuss with your child** ☺️

Children's National

References

- Gurtman, Alejandra. (2021, November 2). *BNT162b2 (COVID-19 Vaccine, mRNA) Vaccine Individuals 5 to <12 Years of Age.* Centers for Disease Control. https:..www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-11-2-3/02-COVID-Gurtman-508.pdf
- Jenco, Melissa. (2021, September 20). Pfizer: COVID-19 vaccine produces significant immune response in children ages 5-11 years. https://publications.aap.org/aapnews/news/15639?autologincheck=redirected
- Jones, Jefferson. (2021). *Epidemiology of COVID-19 Infection in Children Aged 5-11 years.* Centers for Disease Control. https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-11-2-3/03-COVID-Jefferson-508.pdf
- Oliver, Sarah. (2021). *EtR Framework: Pfizer BioNTech COVID-19 Vaccine in Children Aged 5-11 years.* Centers for Disease Control. https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-11-2-3/08-COVID-Oliver-508.pdf
- What You Need to Know About COVID-19 Vaccination and Fertility. (2021 August 11). Centers for Disease Control. https://www.cdc.gov/coronavirus/2019-ncov/vaccines/planning-for-pregnancy.html
- FDA Authorizes Pfizer-BioNTech COVID-19 Vaccine for Emergency Use in Children 5 through 11 Years of Age. (2021, October 29). U.S. Food and Drug Administration.
- DC Health. (2021). COVID-19 Surveillance. https://coronavirus.dc.gov/

Thank You!

Children's National

Subscribe and Follow Us

FACEBOOK | @childrens.national

TWITTER | @ChildrensNatl

INSTAGRAM | childrensnational

LINKEDIN | Children's National Hospital

InnovationDistrict.ChildrensNational.org

Children's National

Additional Questions?