

Covid-19 and Children: 2022

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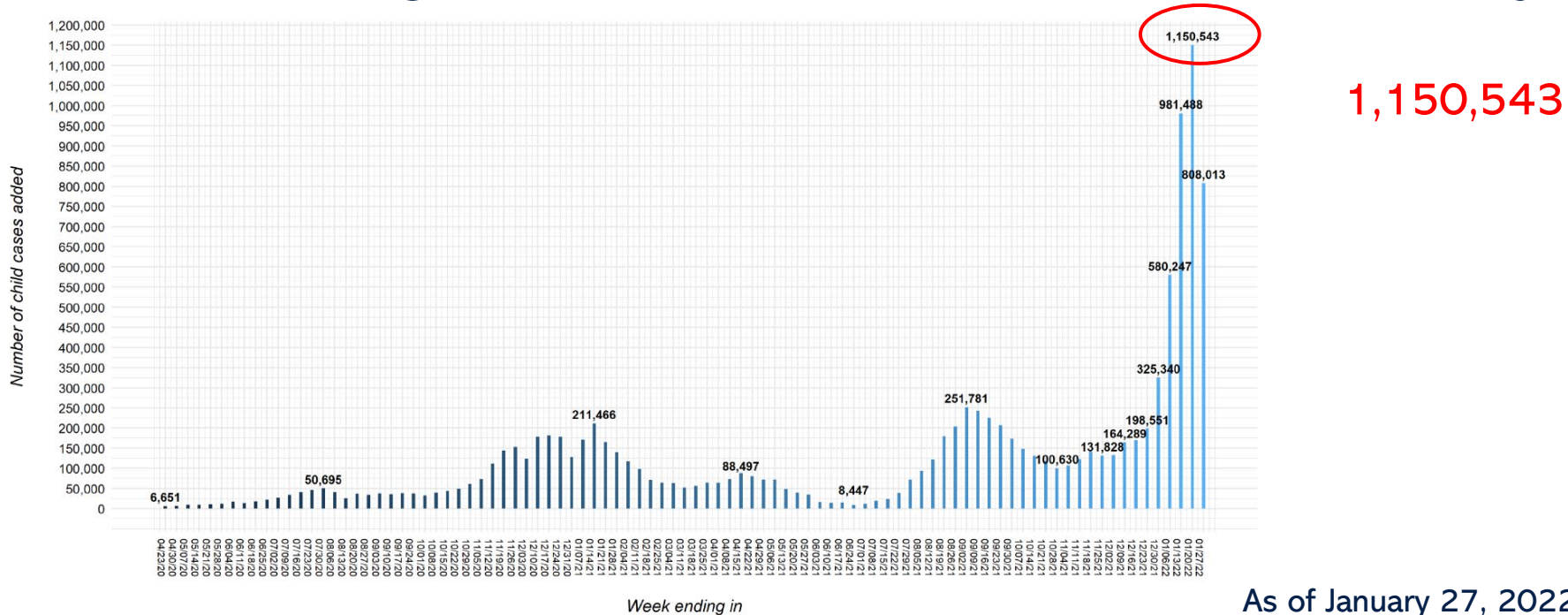
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Chief Division of General Pediatrics

Agenda

- Covid-19 now: Omicron, Impacts and Inequity
- Covid-19 Vaccination
- Where we are, where we want to be and how to get there safely and equitably

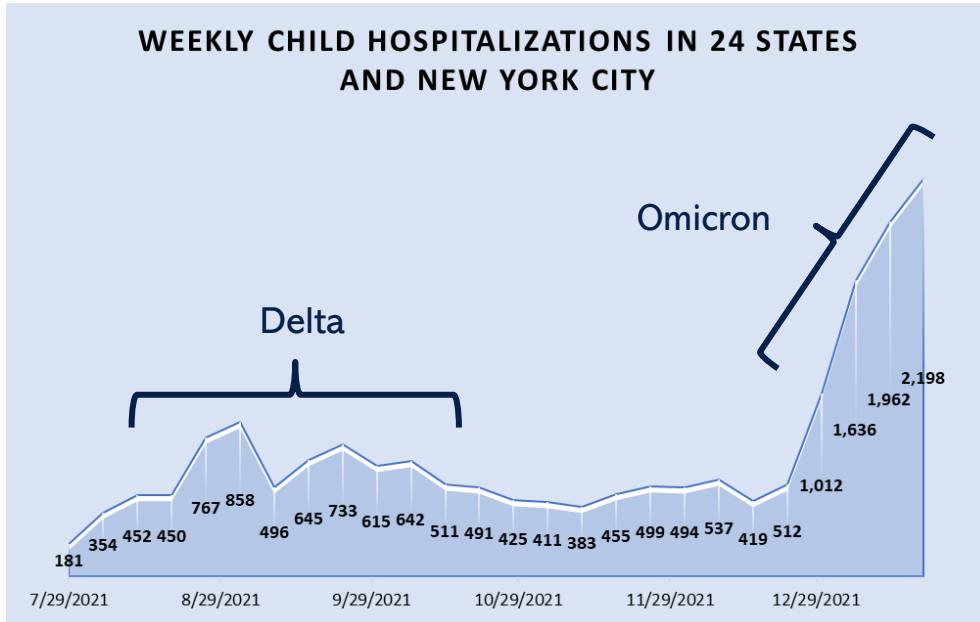
Omicron brought child case rates to new peaks along with adults across the country



1,150,543



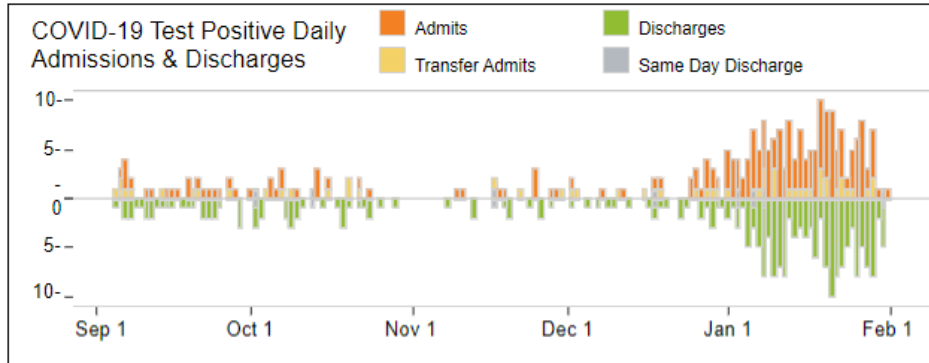
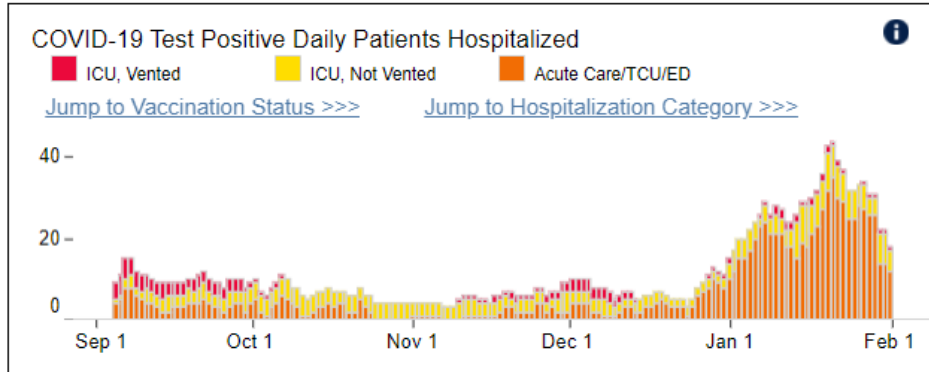
Child hospitalizations also rose to new heights ... (even though Omicron causes milder disease overall)



- Number of hospitalizations strain understaffed hospitals
- The death rate among children has remained low (<0.01%) ... but cumulative deaths among <18 years old now number 1,220 (CDC as of 1/31/22)

<https://covid.cdc.gov/covid-data-tracker/#demographics>

UCSF BCH's have faced the same wave



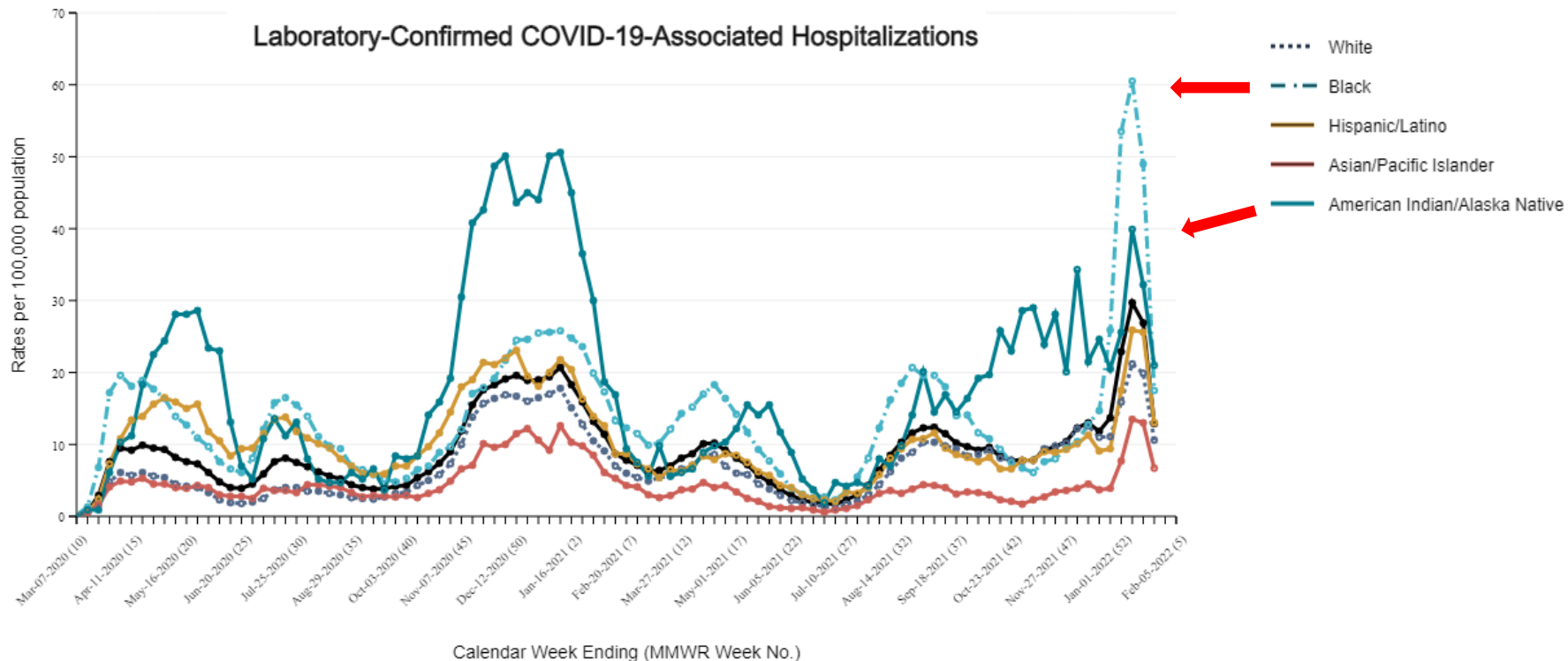
Hospitalizations To Date i by highest level of care	
COVID-19 Test Positive	
458	Acute Care/TCU 4 Avg Hosp Days
145	Critical Care 15 Avg Hosp Days
41	4
Vented	ECMO
571	Discharges
6	Deaths

Roughly half hospitalized "for" vs "with" COVID19

Data as of January 31, 2022

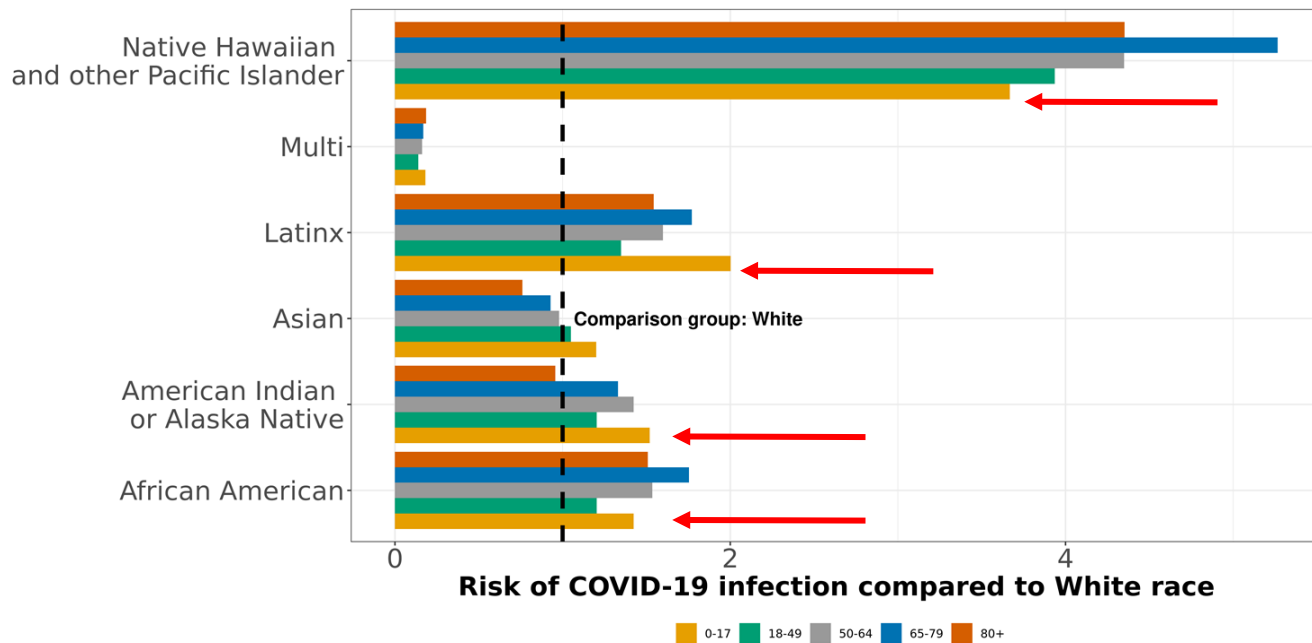


Inequity in Omicron-related hospitalizations, nationwide



Data for all ages as of January 22, 2022

Non-white children in California continue to have higher risk of infection



Risk (Incidence Rate Ratio) of COVID-19 infection compared to White race by Race/Ethnicity and Age Group in January 2022

A photograph of two young children standing outdoors. On the left is a young boy with curly brown hair, wearing a green button-down shirt and blue jeans. On the right is a young girl with long brown hair, wearing a red coat with a white fur collar and dark pants. They are standing in front of a stone wall with a wooden fence in the background. The lighting is soft, suggesting an overcast day.

Other Impacts of Covid-19

Impacts on mental health and behavior

- Intense loneliness due to closure of schools
- Association of loneliness with diagnoses of mental health conditions in children up to 9 years later
- During pandemic children are showing acute behavioral changes including sadness, clinginess, anxiety, sleep disturbance



Larsen et. al. *Eur Child Adolesc Psychiatry* (2021). <https://doi.org/10.1007/s00787-021-01758-x>

Loades et. al. *Journal of the American Academy of Child & Adolescent Psychiatry* <https://doi.org/10.1016/j.jaac.2020.05.009>.

Disruptions to other health care



School-based: Delays in assessments 504 Plans and IEPs, School based Therapies

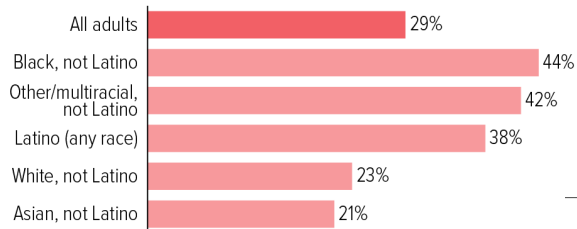


Health Care: Disruptions to care for other health conditions due to hospital and health system capacity—surgeries, diagnostic interventions & treatments

Covid Impacts created financial and food insecurity

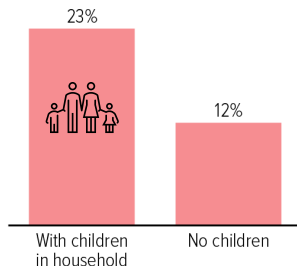
Over 1 in 4 Adults Had Trouble Paying for Usual Household Expenses in Last 7 Days

Share of adults reporting that it was somewhat or very difficult for their household to pay for usual expenses



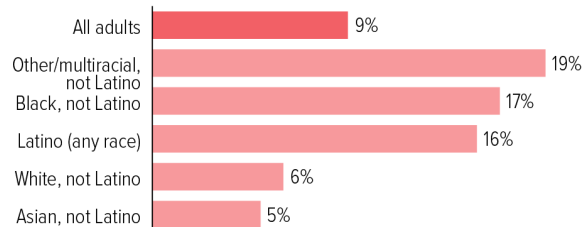
Over 1 in 5 Renters Living With Children Are Not Caught Up on Rent

Share of adult renters saying household is not caught up on last month's rent



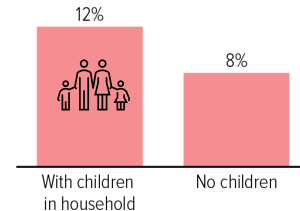
Households of Color Likelier to Lack Sufficient Food During Pandemic

Share of adults saying that their household sometimes or often did not have enough to eat in the last 7 days



For Nearly 1 in 8 Adults With Children, Household Lacked Sufficient Food in Last 7 Days

Share of adults reporting that their household sometimes or often did not have enough to eat

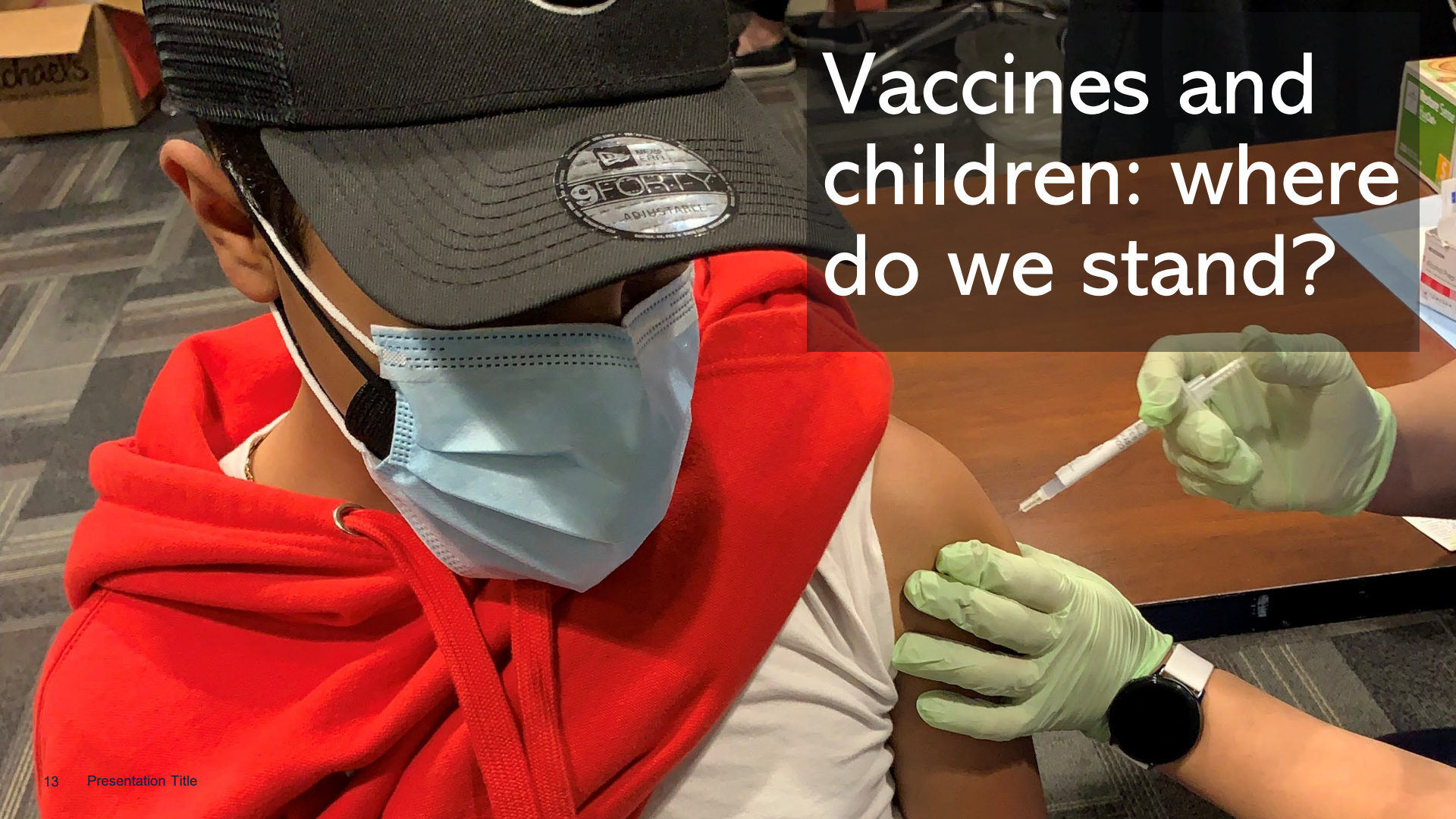


Loss of parents and primary caregivers

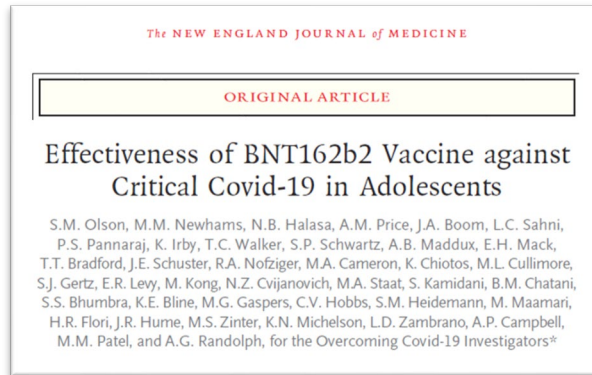


- For every 4 deaths, 1 child loses a parent or caregiver
- 1 in 500 children in U.S. has had a COVID-19-associated death of a parent or grandparent caregiver
 - Native American: 1 in 168
 - Black non-Hispanic: 1 in 310
 - Hispanic: 1 in 412
 - Asian non-Hispanic: 1 in 682
 - White non-Hispanic: 1 in 753

Vaccines and children: where do we stand?



Strong evidence of vaccine efficacy in children



- N= 445 cases, 777 controls
- 12 to 18 years old
- Overcoming COVID-19 Network
- 31 sites in 23 states,
- May - October 2021

Table 2. Clinical Outcomes and Covid-19 Severity among Hospitalized Case Patients, According to Vaccination Status.*

Variable	Unvaccinated (N=427)	Fully or Partially Vaccinated (N=18)
Severe Covid-19 — no. (%)†	194 (45)	2 (11)
ICU admission — no. (%)	178 (42)	2 (11)
Life-threatening illness with life support — no. (%)‡	126 (30)	1 (6)
Invasive mechanical ventilation — no./total no. (%)	48/425 (11)	1/18 (6)
Noninvasive mechanical ventilation (BiPAP or CPAP) — no./total no. (%)	90/423 (21)	1/18 (6)
Vasoactive infusions — no./total no. (%)	38/426 (9)	1/18 (6)
Extracorporeal membrane oxygenation — no./total no. (%)	13/425 (3)	0
Patients with discharge data — no./total no. (%)	407/427 (95)	18/18 (100)
Median length of hospital stay (IQR)§	5 (2–7)	4 (1–5)
Death before discharge — no./total no. (%)	7/407 (2)	0

BiPAP denotes bilevel positive airway pressure, CPAP continuous positive airway pressure, and IQR interquartile range. Severe Covid-19 illness was defined as admission to the intensive care unit (ICU) or life-threatening illness. Life-threatening Covid-19 was defined as illness leading to invasive or noninvasive mechanical ventilation, the use of vasopressors or extracorporeal membrane oxygenation, or illness resulting in death. Data regarding the length of the hospital stay were not available for 28 unvaccinated patients.

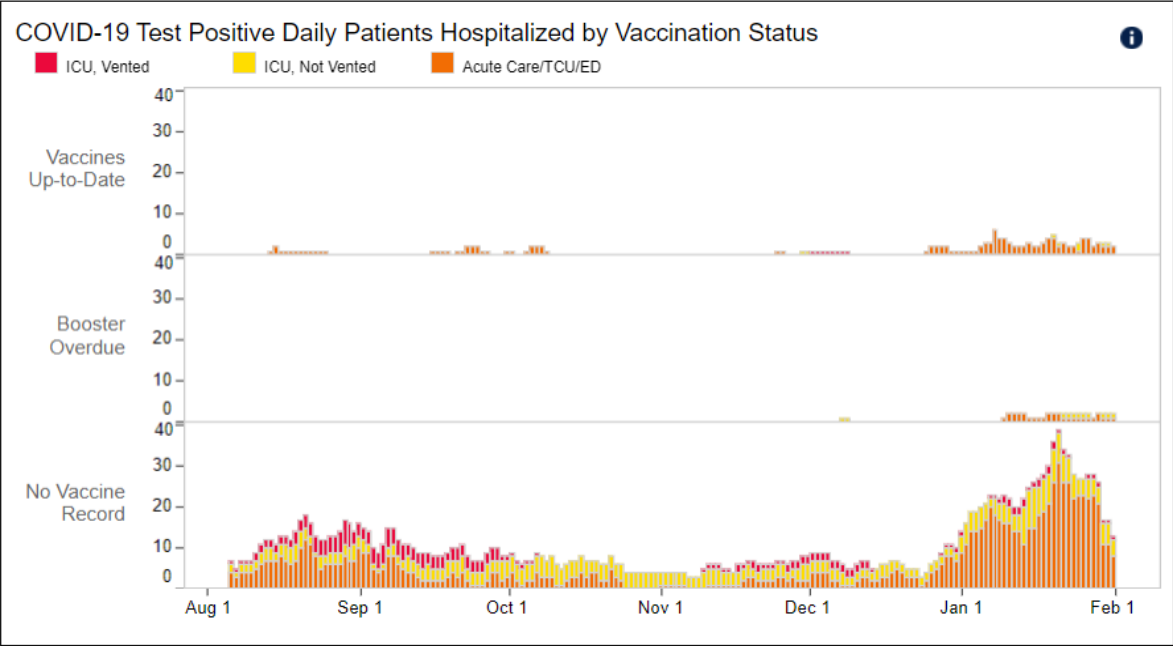
Effectiveness

Hospitalization: 94%

ICU Admission: 98%

Life support: 98%

Evidence that vaccination is protective in our own BCH patient population..

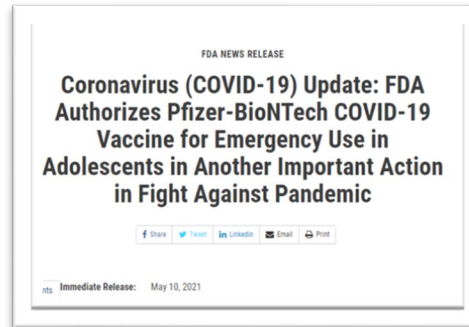


Data as of January 31, 2022



Pfizer-BioNTech BNT162b2 EUA Timeline

- 16 -18 year old:
December 11, 2020



- 12-15 years old:
May 10, 2021



- 5 -11 years old:
October 29, 2021

- 6 month to < 5 years old:
Anticipate submission this week
Study of 3rd dose for 2 to < 5 yo ongoing

The New York Times

Pfizer is expected to ask the F.D.A. to authorize its Covid vaccine for children under 5.

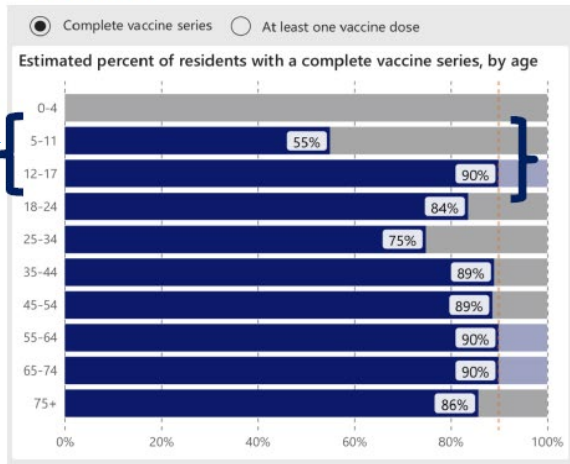


By Sharon LaFraniere and Noah Welland

Jan. 31, 2022

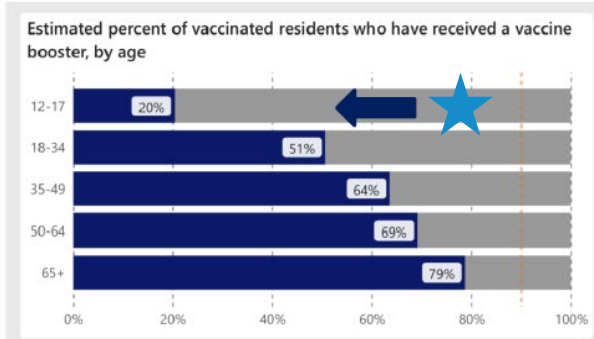
Persistent gap in vaccine coverage for children

Vaccines



In San Francisco, as of 1/12/22

Boosters



- **34.4%** of the of 5-11 year-olds in California have received a single dose. (as of 1/31/22)
- Vaccine Equity Metric Quartile 4 (the healthiest) has received **37.0% of doses vs 20%** in Quartile 1.

Where do we stand now?



- Closer to a future of "living with" COVID-19
- Omicron was "milder" and more like other respiratory viruses. We hope it will continue to evolve this way.
- Many current strategies to prevent transmission and severe disease have worked

Where do we stand now?



- Closer to a future of "living with"
 - Omicron was "milder" and more like other respiratory viruses. We hope it will continue to evolve this way.
 - Many current strategies to prevent transmission and severe disease have worked
- NOT quite there yet ...
 - Omicron had massive impact on workforce and the health of children and adults
 - Continued inequity of these impacts across our population
 - Still have gaps in population level immunity and vaccine coverage

We feel...

Scared

Fatigued

Disrupted

Disillusioned

Bias

Sick

Overwhelmed

Building steps to the future

Using what we know to get there

- Keeping children in classrooms and childcare settings
 - ❑ Rely on strategies that have worked while adapting guidelines to new epidemiology
 - ❑ Ensuring that all students and educators and staff remain and feel safe
- Expansion of vaccination coverage
 - In children and other under-vaccinated populations

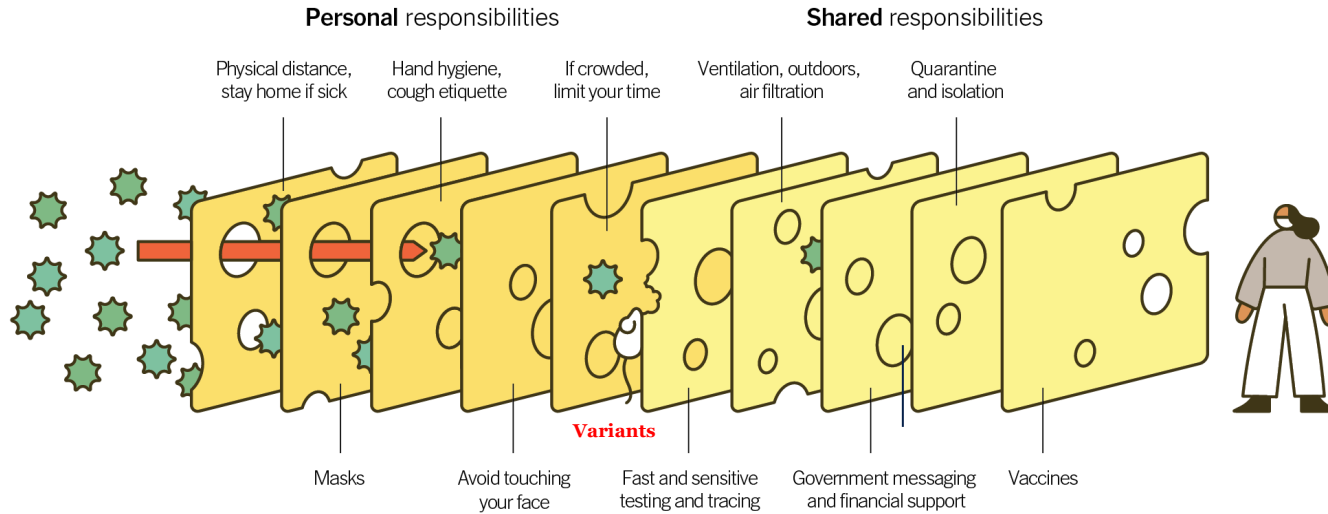


We must work closely with communities and public health leadership to ensure we all get there together ...

How do we unpack the Swiss cheese?

Multiple Layers Improve Success

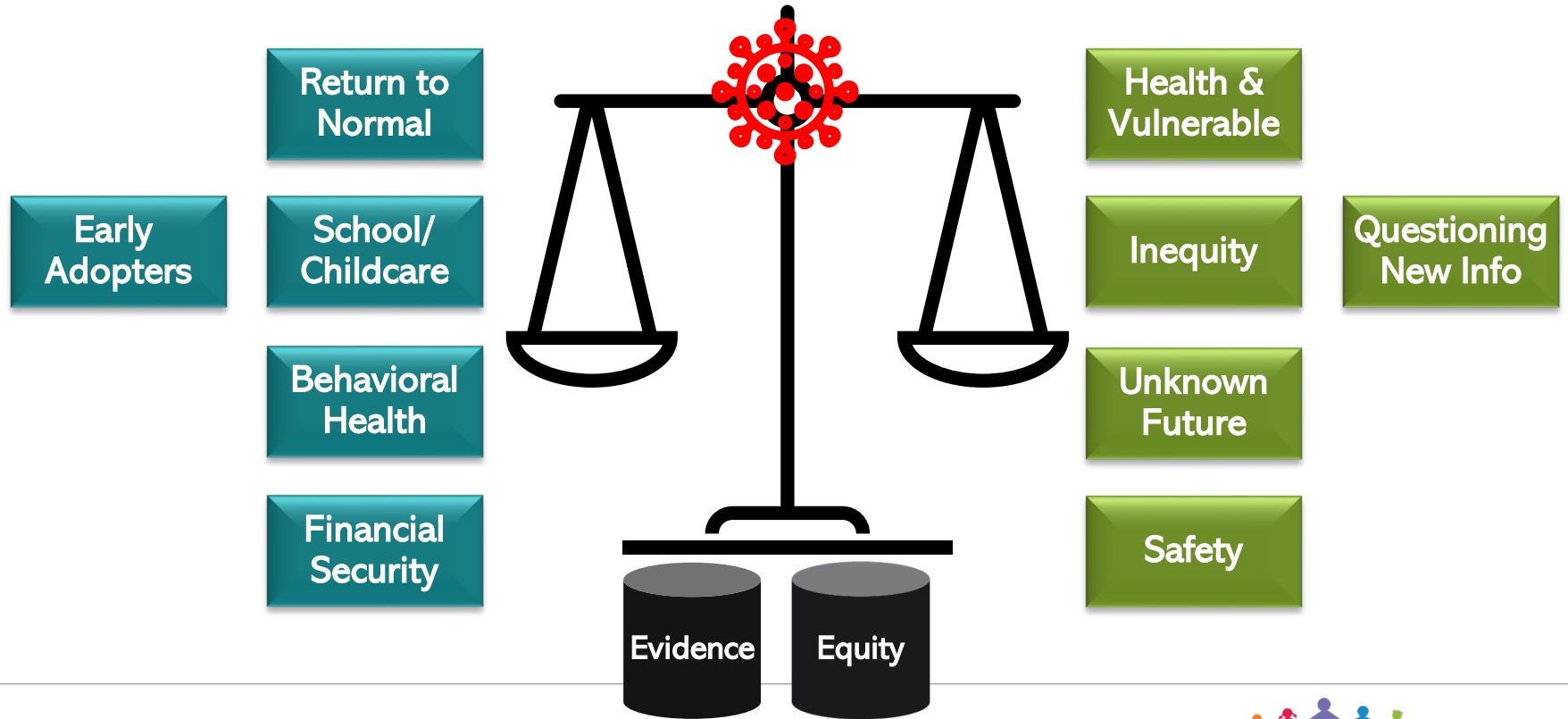
The Swiss Cheese Respiratory Pandemic Defense recognizes that no single intervention is perfect at preventing the spread of the coronavirus. Each intervention (layer) has holes.



For schools, we must remove layers in strategic steps that are based on operational and epidemiologic factors and prioritize continuous and equitable access

Source: Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason. Illustration by Rose Wong

Balancing it all out





UCSF Benioff Children's Hospitals