

# COVID-19 Pandemic: Impact on Child Health

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**Thanks to my colleague Bob Frenck at Cincinnati Children's  
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# COVID-19 and U.S. Children (as of 1/1/22)

- Over 7.9 million children have been infected
- 29,220 children have been hospitalized
- 6400 with MIS-C
  - 62% are Hispanic or Black
- 735 children have died from the infection
- The pandemic also has taken a toll on:
  - Children's mental and emotional health
  - Social development/well-being
  - Educational experience
  - Vaccine hesitancy –physician-patient relationship

# Pediatric Hospitalizations and Deaths in US from COVID vs Selected Viral Illnesses Pre-vaccination

Virus	Hospitalizations (per 100,000)	Death per year
COVID	22 (0-17 yrs old)	735 (as of Jan 2, 2022)
Influenza	34-92 (<4 yrs old) 20-41 (5-17 yrs old)	110-192 (2016-2020)
Varicella	4-13 (0-20 yrs old)	50 (1970-1994)
Rotavirus	1500 ( $\leq$ 5 yrs old)	20-60 (1999-2007)
Rubella	Not available	17 (1966-1968)
Hepatitis A	<1 (0-15 yrs old)	3 (1990-1995)

# COVID-19 Vaccines

- **Both mRNA vaccines safe and highly protective against severe disease and death in adults, adolescents and children aged 5-11**
- **Booster doses just approved for ages 5-11**
- **Both Pfizer and Moderna have submitted data indicating that their mRNA vaccines are highly immunogenic in children aged 6 months to 4 years – approval likely in June, 2022**

# Estimated Impact of Vaccines in U.S. 1994-2014

- 732,000 deaths prevented
- 332 million illnesses prevented
- Endemic polio, Hib, measles virtually eliminated in U.S. (still potential for imported cases and even outbreaks in unimmunized populations)

# Global Impact of Vaccines

- **Hundreds of millions of lives saved** (300-400 million people died from smallpox in the 20<sup>th</sup> century alone)
- Approximately 2.5 million deaths prevented worldwide each year today
- WHO estimates **20.3 million deaths from measles prevented between 2000 and 2015**
- Yet approximately 17% of deaths in children under 5 worldwide are vaccine-preventable. An estimated 1.4 – 1.5 million children die annually from diseases that can be prevented by immunization

# Effectiveness of BNT162b2 Vaccine Against Critical Covid-19 in Adolescents

- Of the case patients;
  - 180 (40%) were admitted to the ICU,
  - 127 (29%) required life support;
  - Only 2 patients in the ICU had been fully vaccinated.
- Effectiveness of vaccine against
  - Hospitalization- 94% .
  - ICU admission- 98%
  - Requiring life support- 98%
  - Death- 100% (0 vaccinees vs 7 unvaccinated)



# So why are so many people not immunized against COVID-19?

- Vaccine hesitancy/refusal influenced by misinformation, disinformation, pseudo-science, and conspiracy theories (the vaccines implant a microchip under your skin, cause infertility, etc)
- BUT there are also obstacles to immunization in underserved communities and legitimate reasons for many people to distrust the medical system
- And there is a background rate of vaccine hesitancy in America that we need to address

# The “Psychology of Regret” and Vaccine Hesitancy

- Human beings worry about “worst case scenarios” and focus on the potential for rare side effects instead of the risk of the disease that is prevented by the vaccine
- \*”Anticipated regret” sheds light on why vaccine-hesitant people seem more comfortable taking their chances with the virus rather than getting the shot, a decision that is not rational given the relative likelihood of experiencing severe effects of covid-19 vs. severe vaccine side effects”

• \*Adam Galinsky, Washington Post  
<https://www.washingtonpost.com/outlook/2021/11/11/vaccine-hesitancy-psychology-regret/>

# **So how do we promote vaccine confidence and improve immunization rates?**

- Start by taking parental concerns seriously and respectfully; browbeating and lecturing do not work
- Combat vaccine misinformation by providing correct information on vaccines (handouts, websites like iVaccinate, AAP's Healthy Children website, Paul Offit's website at CHOP)
- Emphasize the incredible impact of immunizations on child health in past decades – measles, Hib, pneumococcal vaccine, etc

# Promoting Vaccine Confidence

- Most studies indicate that half or more of vaccine-hesitancy families will eventually agree to immunize their children, though some will not
- Most effective strategy is to work within a strong doctor-parent/patient relationship; dismissing families from our practices should be a last resort
- Pediatricians and family physicians should lobby for elimination of “philosophical” exemptions

# **Collateral Damage from Controversy about COVID-19 Vaccines?**

- Increase in hesitancy/refusal for routine childhood vaccines? (measles up 79% worldwide)
- Undermining trust in physicians and other primary care providers?
- Exacerbating existing crisis in pediatric mental and behavioral health (Oct 3<sup>rd</sup> fall forum)