



COVID19 AND DOWN SYNDROME A PEDIATRIC PERSPECTIVE

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CORONAVIRUSES AND COVID 19 – THE BASICS

Other coronaviruses are super common and cause 10-30% of the common cold

- Some strains are more serious: SARS, MERS, and now Covid19

Children are a minority of reported cases

- 22% of the US population is made up of infants, children, and adolescents aged <18 years
- 1.7% of reported cases are in children

Demographic characteristics of COVID-19 cases in the United States, as of April 15, 2020, at 4pm ET (n=465,995)*

Age group (years)	No. of cases (% of total)						Total
	< 18	18-44	45-64	65-74	75+	Unknown	
Totals	8,171	168,730	172,124	50,516	53,246	13,208	465,995



DATA ON CHILDREN IS LIMITED IN GENERAL

Surveillance data from the US (MMWR 4/6/20, updated 4/10/2020)

- Total cases 2,572 children <18 yrs
- Signs & Symptoms in the 291 (11%) with complete case report forms

3 case series from China

- Chinese CDC (n=2,143, 731 confirmed+) (Dong et al.)
- Wuhan Children's Hospital (n=171) (Lu et al.)
- Hospitals in Zhejiang, China (n= 36) (Qiu et al)

Surveillance data from Spain

- 30 secondary & tertiary hospitals (n= 365) (Tagarro et al.)



SYMPTOMS

Similar to adults,
but much milder

Likely many more
asymptomatic

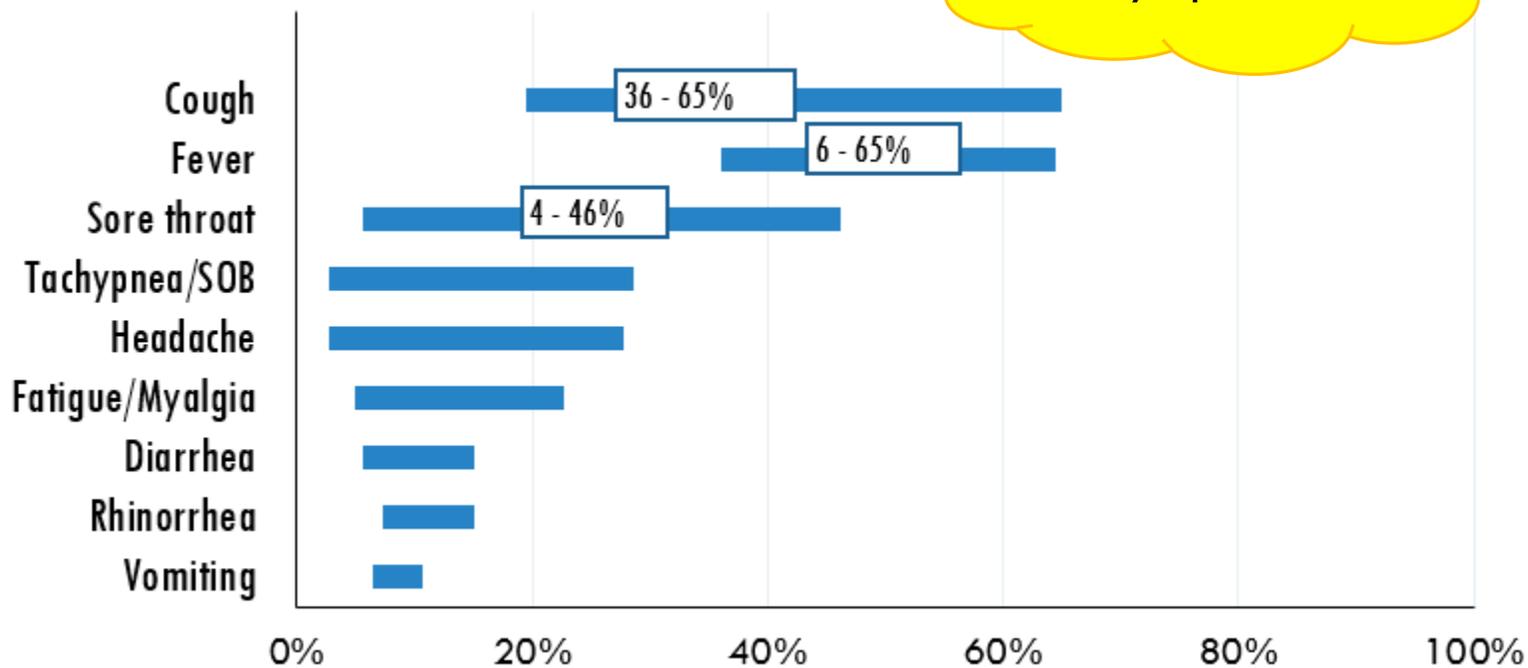


TABLE. Signs and symptoms among 291 pediatric (age <18 years) and 10,944 adult (age 18–64 years) patients* with laboratory-confirmed COVID-19 — United States, February 12–April 2, 2020



Sign/Symptom	No. (%) with sign/symptom	
	Pediatric	Adult
Fever, cough, or shortness of breath [†]	213 (73)	10,167 (93)
Fever [§]	163 (56)	7,794 (71)
Cough	158 (54)	8,775 (80)
Shortness of breath	39 (13)	4,674 (43)
Myalgia	66 (23)	6,713 (61)
Runny nose [¶]	21 (7.2)	757 (6.9)
Sore throat	71 (24)	3,795 (35)
Headache	81 (28)	6,335 (58)
Nausea/Vomiting	31 (11)	1,746 (16)
Abdominal pain [¶]	17 (5.8)	1,329 (12)
Diarrhea	37 (13)	3,353 (31)

Qiu et al. *Lancet Infectious Diseases*; Lu et al. *NEJM*; Xia et al. *Pediatric Pulmonology*; Wang et al. *Zhonghua Er Ke Za Zhi*

Coronavirus Disease 2019 in Children — United States, February 12–April 2, 2020 . *MMWR*. April 6, 2020



FIGURE 2. COVID-19 cases among children* aged <18 years, among those with known hospitalization status (N=745),† by age group and hospitalization status — United States, February 12–April 2, 2020

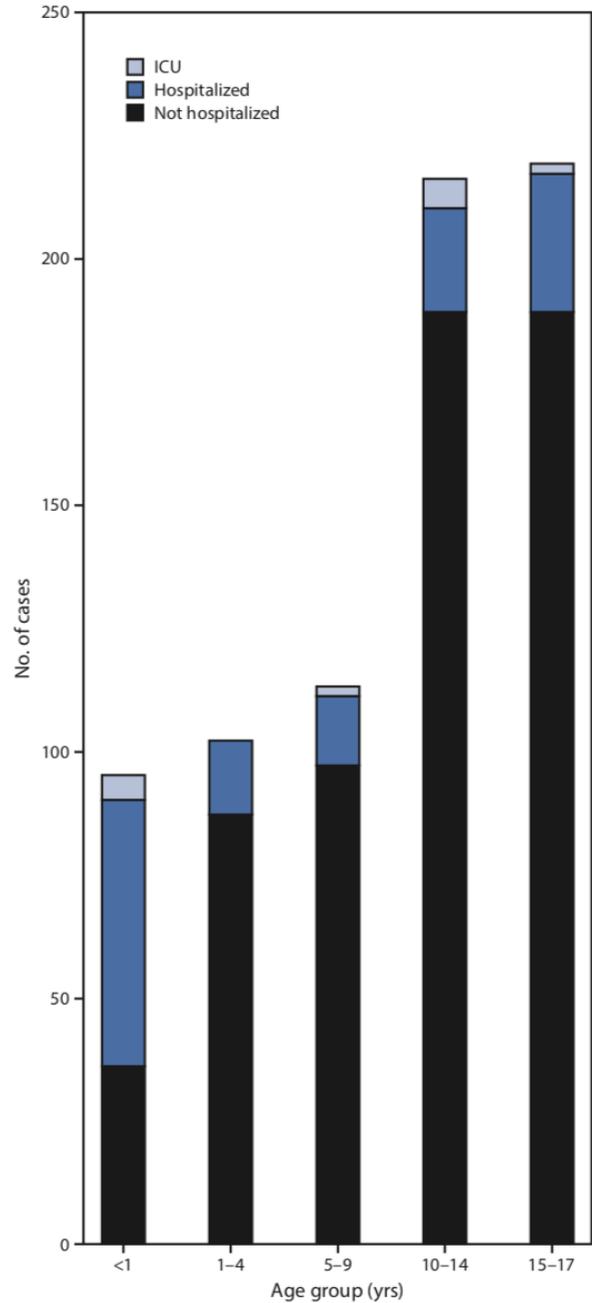
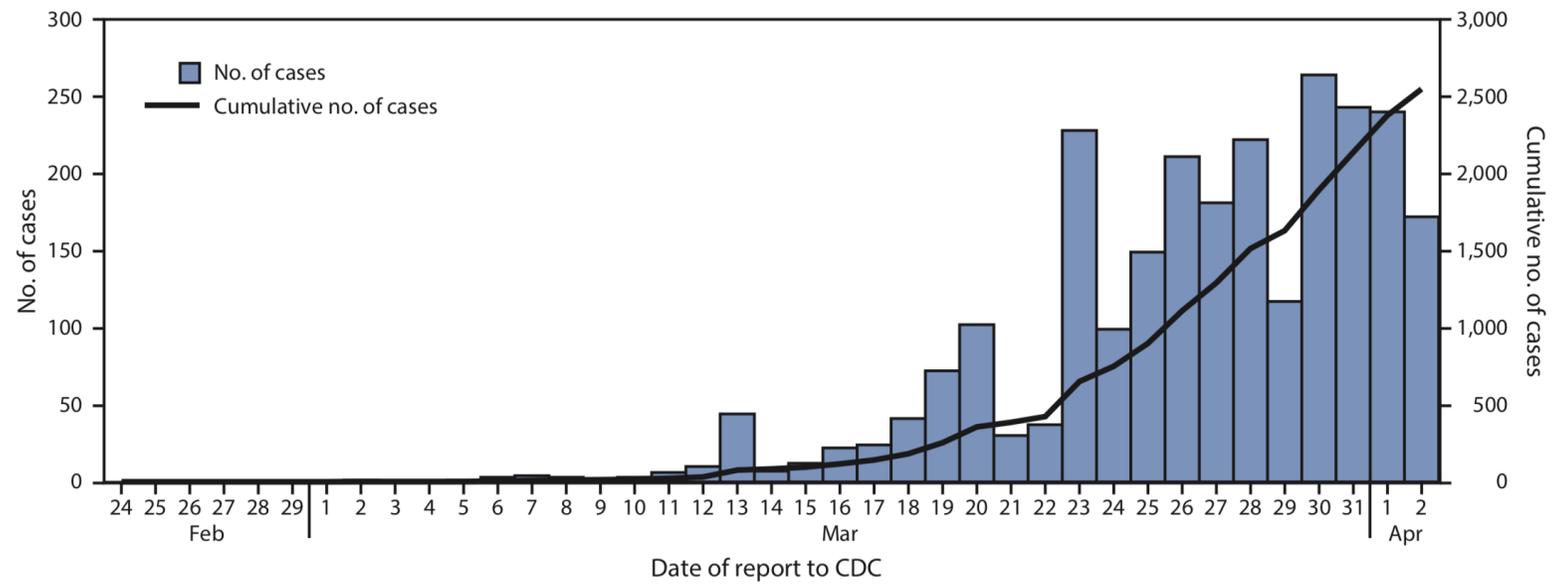


FIGURE 1. COVID-19 cases in children* aged <18 years, by date reported to CDC (N = 2,549)† — United States, February 24–April 2, 2020[§]



Coronavirus Disease 2019 in Children — United States, February 12–April 2, 2020 . MMWR. April 6, 2020

Country	Child Cases	Child Deaths
China (Wu, JAMA)	965	1
China (Dong PEDS)	171	1*
South Korea	201	0
Italy	~ 270	0
USA	2,572	3

(Wu, JAMA, 2020; LU, NEJM, 2020; KSID, JJKMS, 2020; Livingston, JAMA, 2020; MMWR 2020 (69) 4.3.2020)

WHAT ABOUT CHILDREN WITH DOWN SYNDROME?

We do not have specific data on Covid 19 in children with Down syndrome

Children with Down syndrome have higher likelihood of having a chronic health condition

- Congenital heart disease
- Respiratory problems
- Diabetes
- Immune dysfunction

While we do not have scientific data to prove that children with Down syndrome are at increased risk for serious disease from Covid19, it is prudent to treat this group as a “high risk group”



WHAT CAN WE DO?

Adhere strictly to social/physical isolation guidelines

- Avoid gatherings – only spend time with your immediate family unit that lives under your one roof
- Do not relax these standards for anyone in the family
- Federal Government 3-tier plan for “return to normalcy” – at risk individuals are the last to “rejoin society”

Wash your hands frequently, for 30 seconds, with soap that foams (or use hand sanitizer)

- Throughout the day
- Especially during or after outings

Redirect your child if when they touch their face – this, of course, is very hard

- Masks can keep us from touching our face
- Fidget toys etc can keep our hands busy

Disinfect surfaces in common areas often



I FEEL POWERLESS — HOW CAN I HELP?

Stay home, practice social distancing, follow guidelines — the main thing you can do is prevent infection

Make sure you have your medications, make sure you have your doctor's number handy — call before showing up to your doctor's office, always

- Is your doctor offering telehealth?

Parents should make a childcare plan for what would happen if they became sick

Our children are watching — take care of yourself, and turn off the news!

Advocate for special ed services and EI services to continue through technology

Support each other — technology now allows us to support virtually

Look out for community members who may be more financially impacted by this crisis



HOW DO WE “RETURN TO NORMAL?”

4 things need to be in place:

1. Incidence of infection is “genuinely low.”
2. A “well functioning” monitoring system capable of “promptly detecting any increase in incidence” of infection.
3. A public health system that is “reacting robustly” to all cases of covid-19 and has surge capacity to react to an increase in cases.
4. A health system that has enough inpatient beds and staffing to rapidly scale up and deal with a surge in cases

Individualized discussions about return to school, resumption of in-home services, etc



ACKNOWLEDGEMENTS

The Matthew Foundation

All the organizations that put together this resource:



Q&A on COVID-19 and Down Syndrome

Expanded Version • From March 26, 2020

ORGANIZERS:



Drs Holmen, Singh, Hsieh, and Petru at UCSF Benioff Children's Hospital Oakland for providing up to date pediatric data on Covid 19

All the frontline providers – not just in healthcare – who are facing added risk while providing for our basic needs

