



COVID-19, Children and Schools

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The disease: basics

- After infection, there is an incubation period of 1-14 days (usually 5-6 days) before symptoms appear
- Typical symptoms include fever and cough
 - Other symptoms include: sore throat, runny nose, fatigue, headache, loss of smell or taste, diarrhoea, vomiting
- Disease ranges from mild (resembles a common cold) to moderate (mild pneumonia) to severe (life-threatening pneumonia)

How is the virus transmitted?

Microscopic droplets are produced when coughing and sneezing – called respiratory droplets



- The virus is spread mainly via respiratory droplets through sneezing, coughing, or when people interact with each other for some time in close proximity (usually less than one metre).
- These droplets can then be inhaled, or they can land on surfaces that others may come into contact with, who can then get infected when they touch their nose, mouth or eyes.
- The virus can survive on different surfaces from several hours (copper, cardboard) up to a few days (plastic and stainless steel). However, the amount of viable virus declines over time and may not always be present in sufficient numbers to cause infection.



- Who is at risk of getting infected?
 - Highest risk: anyone who has been very close to a case (within 1 m) for an extended time period (at least 15 minutes), *WHILST the person was infectious*
 - A person who is at risk is called a 'contact'
 - Contacts include household members (including domestic help and childminders etc) work colleagues, healthcare workers
 - Lower risk: anyone within a communal environment setting where high-touch environmental surfaces may have been contaminated with respiratory droplets (e.g. workplaces, malls, healthcare facilities)
- When are persons with COVID-19 infectious?
 - Persons with COVID-19 are most infectious when they have symptoms
 - Recent evidence suggests that
 - people can be infectious for 1-2 days before developing symptoms
 - certain people can be infected without ever showing any symptoms (called asymptomatic infection) but can infect others – but this plays a lesser role in transmission overall



COVID-19 in children: what we know

- Children typically account for <2% of cases in most countries
- Children have milder disease than adults and recover quicker; most have asymptomatic or mild infection
- Severe disease in children is uncommon
- Deaths from COVID-19 is extremely rare (about 0.01% of children with infection die)



- Children usually become infected in the household, from close household contacts
 - Adults usually transmit disease to children, not the other way around
- Symptoms of COVID-19 in children
 - Most common: cough and fever (>50%)
 - Sore throat or runny nose (30-40%)
 - Diarrhoea and vomiting (9-10%)
- There is no way of telling COVID-19 apart from the other usual childhood respiratory viruses based on symptoms



- Children with certain underlying health conditions are at higher risk of severe disease
 - Significant heart or lung conditions
 - Weakened immune systems (due to cancer or other disease, or treatment)
 - Severe neurological disabilities
- Infants <1 year may also be at higher risk for more severe disease



- The rate of complications from COVID-19 in children is no higher than that from other respiratory viruses (e.g. influenza)



COVID-19 in children: what we don't know

- Are children as susceptible as adults to becoming infected?
 - Possibly not
- Are children effective transmitters of the virus?
 - Probably not as effective as adults, but definitely NOT more effective than adults

The story of COVID-19 in 3 countries

- US: largest epidemic of any country to date
- Germany: success in mitigation of severe disease
- SA: the story is still being written...

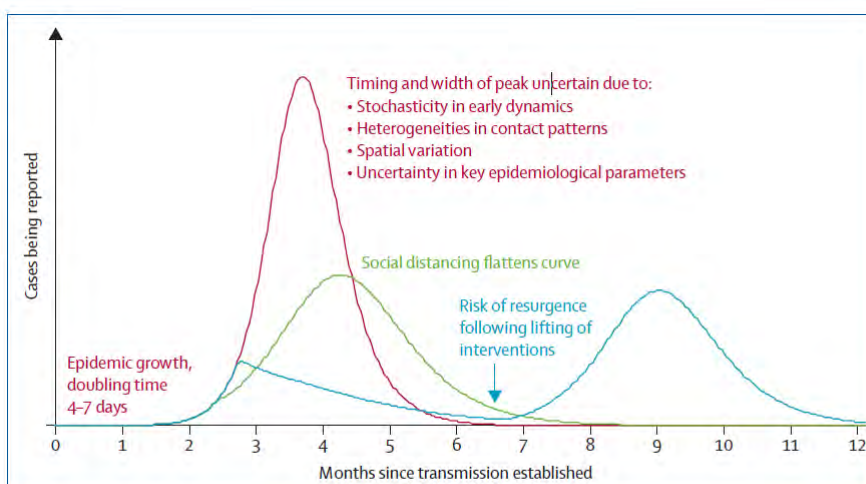



Figure: Illustrative simulations of a transmission model of COVID-19

A baseline simulation with case isolation only (red); a simulation with social distancing in place throughout the epidemic, flattening the curve (green), and a simulation with more effective social distancing in place for a limited period only, typically followed by a resurgent epidemic when social distancing is halted (blue). These are not quantitative predictions but robust qualitative illustrations for a range of model choices.

Anderson RM. Lancet Mar 6, 2020: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30567-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30567-5/fulltext)

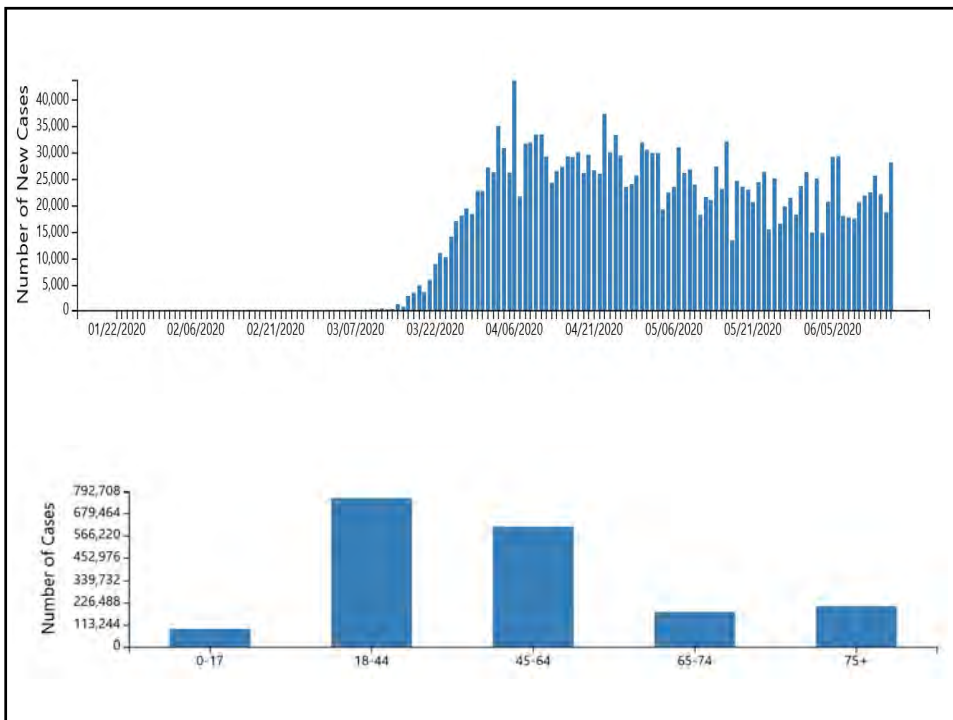


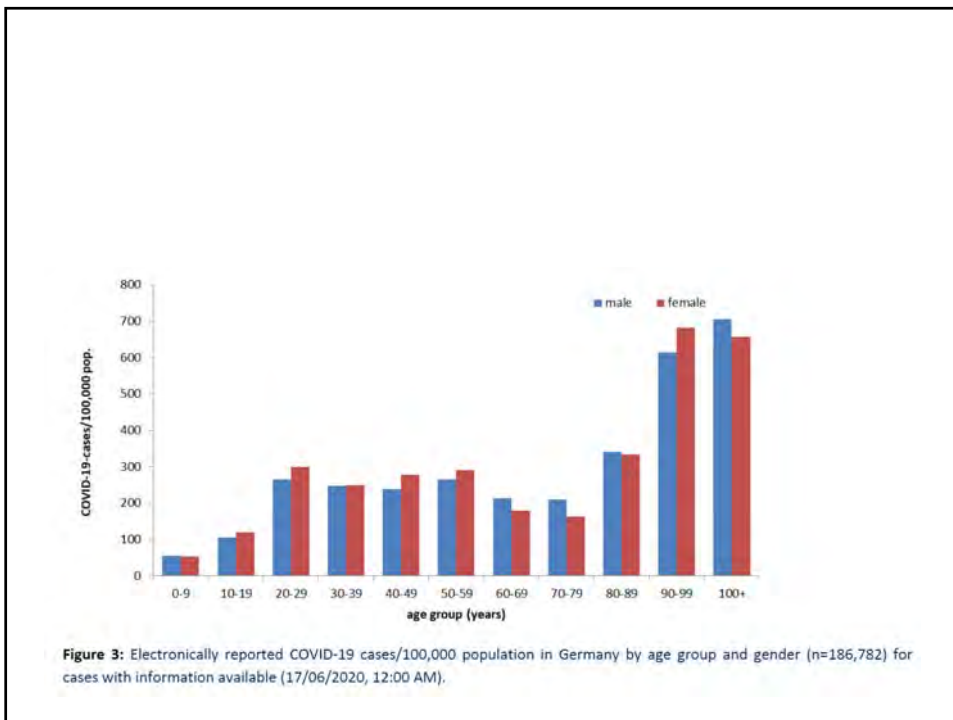
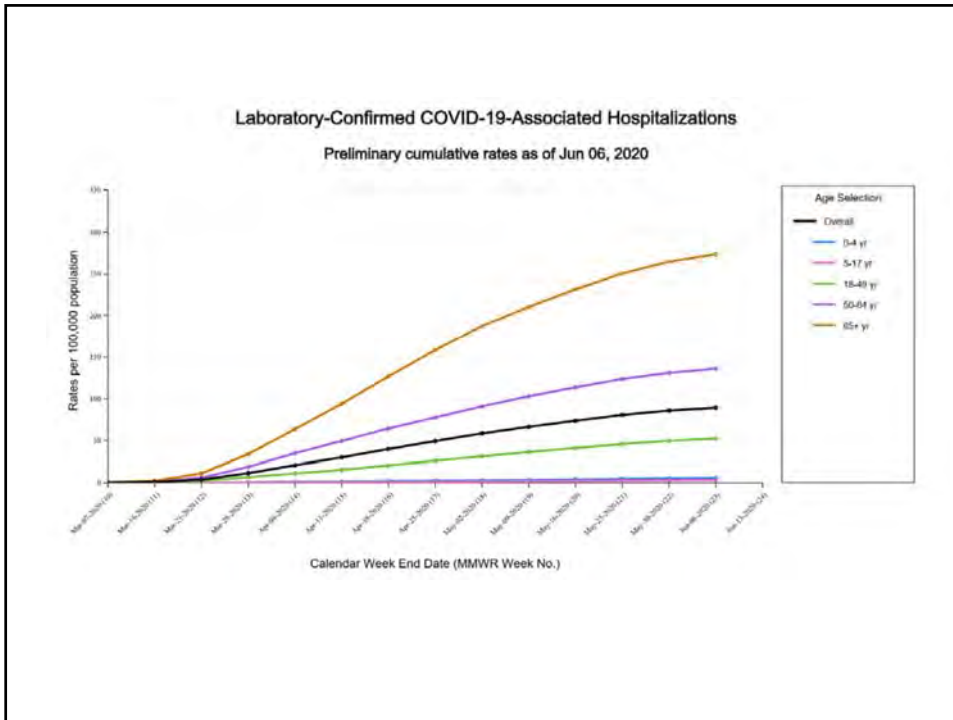
CDC COVID Data Tracker

Explore and understand coronavirus disease (COVID-19)
Maps, charts, and data provided by the Centers for Disease Control and Prevention

USA
2 132 738
TOTAL CASES
CDC | Updated: Jun 17 2020 5:45PM

USA
116 878
TOTAL DEATHS
CDC | Updated: Jun 17 2020 5:45PM







**Coronavirus Disease 2019
(COVID-19)**
Daily Situation Report of the Robert Koch Institute

17/06/2020 - UPDATED STATUS FOR GERMANY

Confirmed cases	Deaths	Deaths (%)	Recovered
187,184 (+ 345*)	8,830 (+ 30*)	4.7%	ca. 173,600**

*Change from previous day; **Estimate

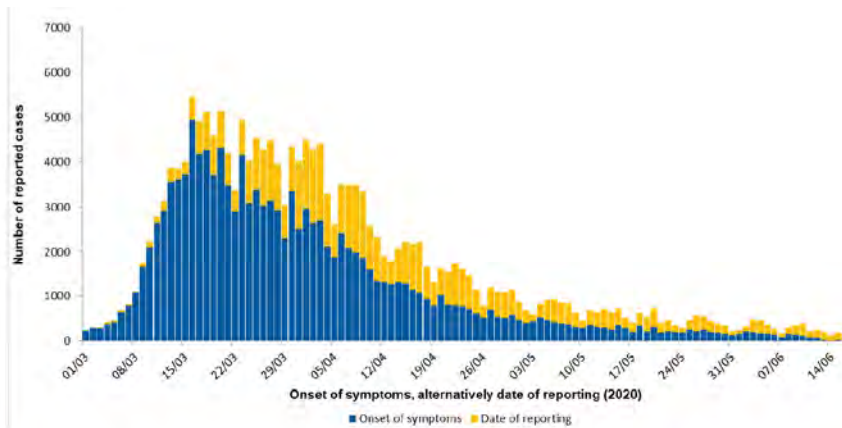


Figure 2: Number of COVID-19 cases in Germany electronically reported to the RKI by date of symptom onset or alternatively by date of reporting from 01/03/2020 (17/06/2020, 12:00 AM).

Table 2: Number of notified COVID-19 deaths by age group and gender electronically reported to RKI (Data available for 8,825 of notified deaths; 17/06/2020, 12:00 AM)

Gender	Age group (in years)										
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+
Male		2	6	17	49	227	618	1,333	2,071	556	6
Female	1		3	6	20	82	221	653	1,859	1,050	45
Total	1	2	9	23	69	309	839	1,986	3,930	1,606	51

- In total, 8,830 COVID-19-related deaths have been reported in Germany (4.7% of all confirmed cases).
 - The median age was 82 years. Of all deaths, 7,576 (86%) were in people aged 70 years or older
 - So far, three deaths among COVID-19 cases under 20 years of age have been reported to the RKI. Pre-existing medical conditions were reported for all three.



COVID-19 STATISTICS IN SA

TESTS CONDUCTED	POSITIVE CASES IDENTIFIED	TOTAL RECOVERIES	TOTAL DEATHS	NEW CASES
1 200 736	80 412	44 331	1 674	4 078

WEDNESDAY
17
JUNE
2020



COVID-19 WEEKLY EPIDEMIOLOGY BRIEF

SOUTH AFRICA WEEK 23 2020

NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

The median age of laboratory-confirmed cases for the past week, was the same as that of the total cases to date, 38 years (interquartile range [IQR], 29-49 years). *Overall, children aged <10 years accounted for 3.0% (1246/ 48 051) of total cases and 2.4% (371/15 526) of cases reported in the past week.* In week 23, the incidence risk was highest among females in the 40-44-year age group (55.3 cases per 100 000 person).

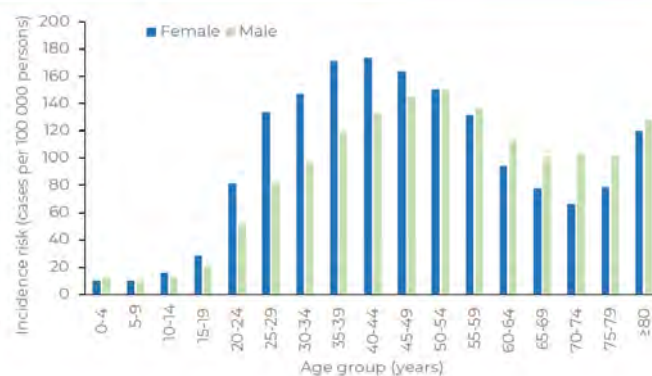
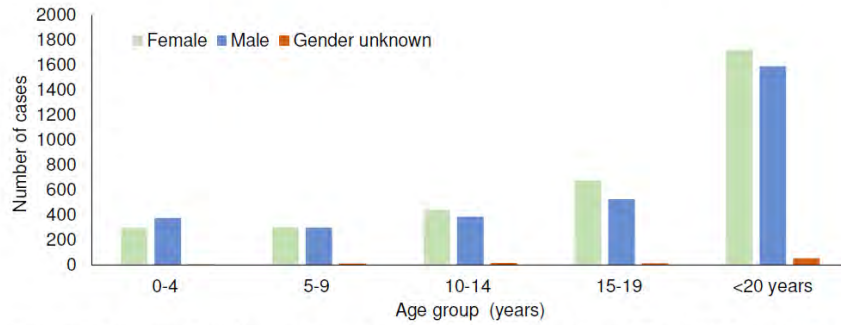
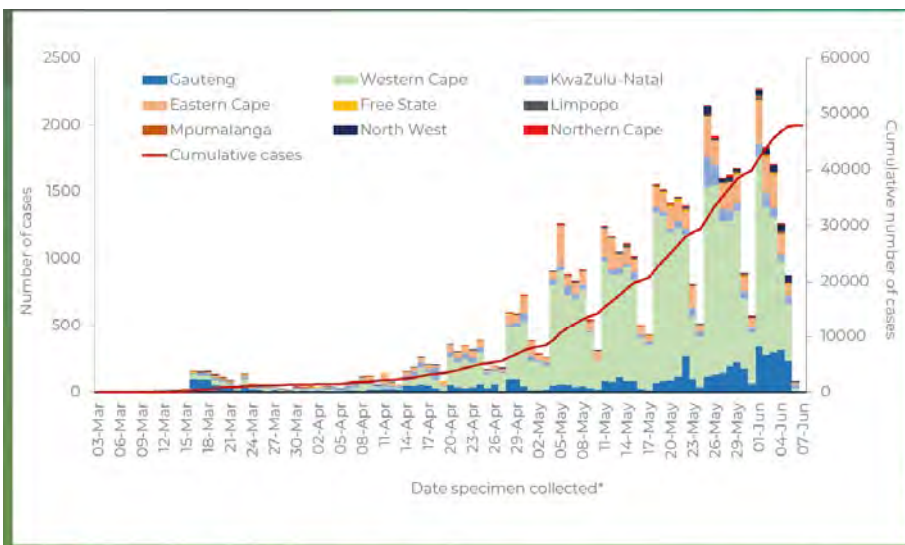


Figure 6. Incidence risk by age group and sex, South Africa, 3 March 2020-6 June 2020 (n=48 051, age and/or gender missing for 234 cases)

Cases in children and adolescents by age and sex

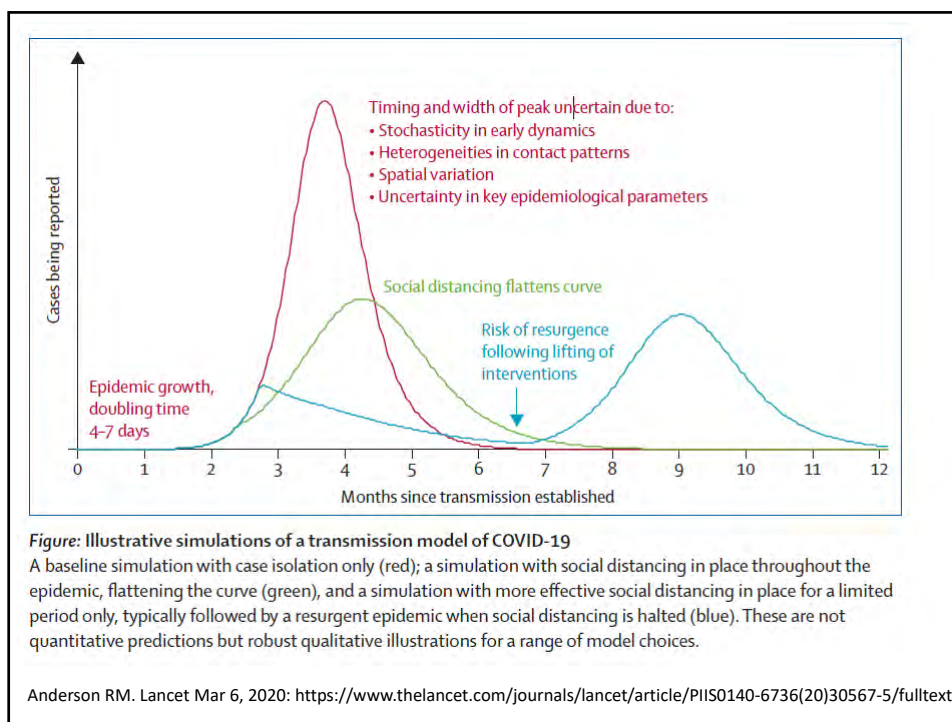


Number of laboratory-confirmed cases <20 years by age group and sex, South Africa, 3 March 2020-7 June 2020 (n=3 361)



*Date of specimen receipt used where date of collection was missing

Figure 1. Number and cumulative number of laboratory-confirmed cases of COVID-19 by province and date of specimen collection, South Africa, 3 March-6 June 2020 (n=47 870, 415 missing dates of specimen collection and/or province allocation)



.... we have far to go!

- Community transmission well established in Gauteng
 - Rate growing faster than in Eastern Cape
- Further easing of lockdown restrictions:
 - Opening of restaurants, cinemas, specified sports, personal care services: expect additional surge in cases
- ‘Pandemic fatigue’: almost 3 months since lockdown; slackening of preventive behaviours
- Influenza season has been delayed this year
 - Can expect a double-hit for healthcare system (estimated 4.7 – 9.4 million people infected with influenza each year in SA, with estimated 11 000 deaths per year)

What about school?

- With widespread community transmission established in Gauteng and easing of lockdown restrictions:
 - more likely that children get infected at home or outside of school (shops or malls, restaurants, cinemas, sport, visiting friends or family)
 - more likely that adult family members get infected from other adults outside of the home (workplace, other public places) than from their children

HOW TO FIGHT CORONAVIRUS



PREVENTION!

Social distancing, hand hygiene, cough etiquette, wearing cloth masks (or visors)

EDUCATION!

Know the facts, dispel the myths, make informed decisions



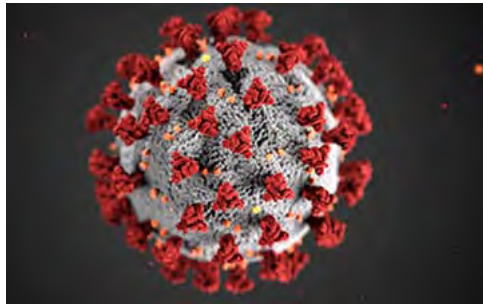
Credible resources for COVID-19 information

- General information on COVID-19
 - WHO: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
 - US CDC: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>
 - NICD: <http://www.nicd.ac.za/diseases-a-z-index/covid-19/>



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Thank you

