Summary

- The role of children in spreading *SARS-CoV-2* infection is incomplete and is evolving; the latest scientific reports suggest children may transmit infection just the same as adults
- Bundesrat agreed to open primary and secondary schools nationwide on May 11
- FOPH distributed guidelines, but **cantons decide on the modality of school opening** – decision on **how to open schools** (e.g. full classrooms or half classrooms) is **local**
- Canton Basel Stadt has been hit hard by COVID-19 – 5th highest cumulative infection prevalence in the country (50 per 10,000), the highest infection prevalence among all German speaking cantons and significantly higher infection prevalence than the national average (32 per 10,000)
- School opening strategy varies by canton and correlates with cumulative infection prevalence
- Basel Stadt is an outliner in its "risk group peers" (GE, VD, VS, TI) – with high cumulative infection prevalence yet aggressive school opening strategy (full classrooms, no social distancing among students)
- Many cantons with much lower infection prevalence (e.g. ZH, SG, LU) opted for more cautious approach to school opening
- Given much is still unknown about infection transmission, and the role of children in speeding SARS-CoV-2 infection, caution is needed when re-opening schools. This is particularly important in cantons that suffered highest infection rates per capital in CH (e.g. Basel Stadt)

Zusammenfassung

- Die Rolle von Kindern bei der Verbreitung der SARS-CoV-2-Infektion ist noch wenig erforscht und muss weiter untersucht werden; die jüngsten wissenschaftlichen Berichte deuten darauf hin, dass Kinder die Infektion genauso übertragen können wie Erwachsene
- Der Bundesrat beschloss, am 11. Mai die obligatorischen Schulen bundesweit wieder zu öffnen
- Das BAG verteilte Richtlinien, aber die **Kantone entscheiden über die Modalitäten der Schulöffnung** - die **Entscheidung über die Art und Weise der Schulöffnung** (z.B. volle oder halbe Klassenzimmer) liegt bei den Kantonen
- Der Kanton Basel-Stadt wurde von COVID-19 hart getroffen – der Kanton hat die fünfthöchste kumulative Infektionsprävalenz des Landes (50 Infizierte pro 10.000 Einwohner), die höchste Infektionsprävalenz aller deutschsprachigen Kantone und eine deutlich höhere Infektionsprävalenz als der nationale Durchschnitt (32 pro 10.000)
- Die Schulöffnungsstrategie variiert von Kanton zu Kanton und korreliert mit der kumulativen Infektionsprävalenz
- Basel Stadt ist ein „Ausreisser“ in der Risikogruppe der Kantone mit der höchsten kumulativen Infektionsprävalenz (GE, VD, VS, TI) – hohe kumulative Infektionsprävalenz zusammen mit aggressiver Schulöffnungsstrategie (volle Klassenzimmer, kein „ social distancing “ unter den Schülern)
- Viele Kantone mit viel geringerer Infektionsprävalenz (z.B. ZH, SG, LU) entschieden sich für einen vorsichtigeren Ansatz bei der Schulöffnung
- Da über die Infektionsübertragung und die Rolle der Kinder bei der Verbreitung der SARS-CoV-2-Infektion noch viel unklar ist, ist bei der Wiedereröffnung von Schulen Vorsicht geboten. Dies ist besonders wichtig in Kantonen, die in der CH die höchsten Infektionsraten pro Hauptort aufweisen (z.B. Basel Stadt).

The role of children transmitting SARS-CoV2 is mixed

- Researchers in **Iceland**, one of the few countries to conduct mass screening, turned up no infections in 848 children under the age of 10 without significant symptoms, compared with an infection rate of nearly 1% in ages 10 and older.
- A **U.S. analysis** of nearly 150,000 infected people found that just 1.7% were younger than 18.
- But a study of 391 cases and almost 1300 close contacts in **Shenzhen, China**, reported that children were just as likely to be infected as adults.
- **Eckerle** cautions that some of these data come from surveys done after shutdowns were put in place. “They were collected in an artificial situation,” she says. Children “weren't going to the playground and were not going to school.”
- Several studies suggest children who do get sick with COVID-19 are just as infectious as ailing adults. Researchers have detected the same amounts of viral RNA in nose or throat swabs from sick children as in those from older patients. Finding RNA does not always mean a person is infectious; it can also come from noninfectious viral remnants. But in a 1 May preprint, **Eckerle's team*** reported that 12 out of 23 children sick with COVID-19 had virus in their nose or throat able to attack and infect human cells, a rate similar to adults.

Source: https://science.sciencemag.org/content/368/6491/562.

* Geneva University

Scientific evidence on the role of children in infection spreading is evolving – not exhaustive

Children are underrepresented in COVID-19 case numbers, with most pediatric cases exhibiting limited severity, and do not seem to be major drivers of transmission, unlike for other respiratory viruses. That said, ***SARS-CoV-2 infects children across all age groups, and despite the high proportion of mild or asymptomatic infections, it would be naïve not to consider them as transmitters***

Eckerle et al

SARS-CoV-2 shedding patterns of culture competent virus in symptomatic children resemble those observed in adults. Therefore, ***transmission of SARS-CoV-2 from children is plausible***

Eckerle et al

Analysis of **variance of viral loads** in patients of different age categories found **no significant difference between any pair of age categories including children**. In particular, these data indicate that **viral loads in the very young do not differ significantly from those of adults**. Based on these results, we have to **caution against an unlimited re-opening of schools and kindergartens in the present situation. Children may be as infectious as adults**.

Drosten et al

Assuming that the presence of **IgG antibodies** is at least in the short-term associated with immunity, these results highlight that the **epidemic is far from burning out simply due to herd immunity**. Further, **no differences in seroprevalence between children and middle age adults are observed**. These results must be considered as Switzerland and the world look towards easing restrictions aimed at curbing transmission

Stringhini et al

Shedding of infectious SARS-CoV-2 in symptomatic neonates, children and adolescent, *Eckerle et al*, May 1;
Repeated seroprevalence of anti-SARS-CoV-2 IgG antibodies in a 2 population-based sample , *Stringhini et al*, May 6
An analysis of SARS-CoV-2 viral load by patient age, *Drosten et al,*

Cantons decide on school opening strategy – FOPH May 7

Back to school (primary and lower secondary school)

- *Classroom teaching at pre-school and at primary and lower secondary schools resumed on 11 May. **The cantons are free to decide what form that should take**. Special basic principles form the basis for schools to devise sets of precautionary measures to protect schoolchildren and teaching staff from infection with the coronavirus.*

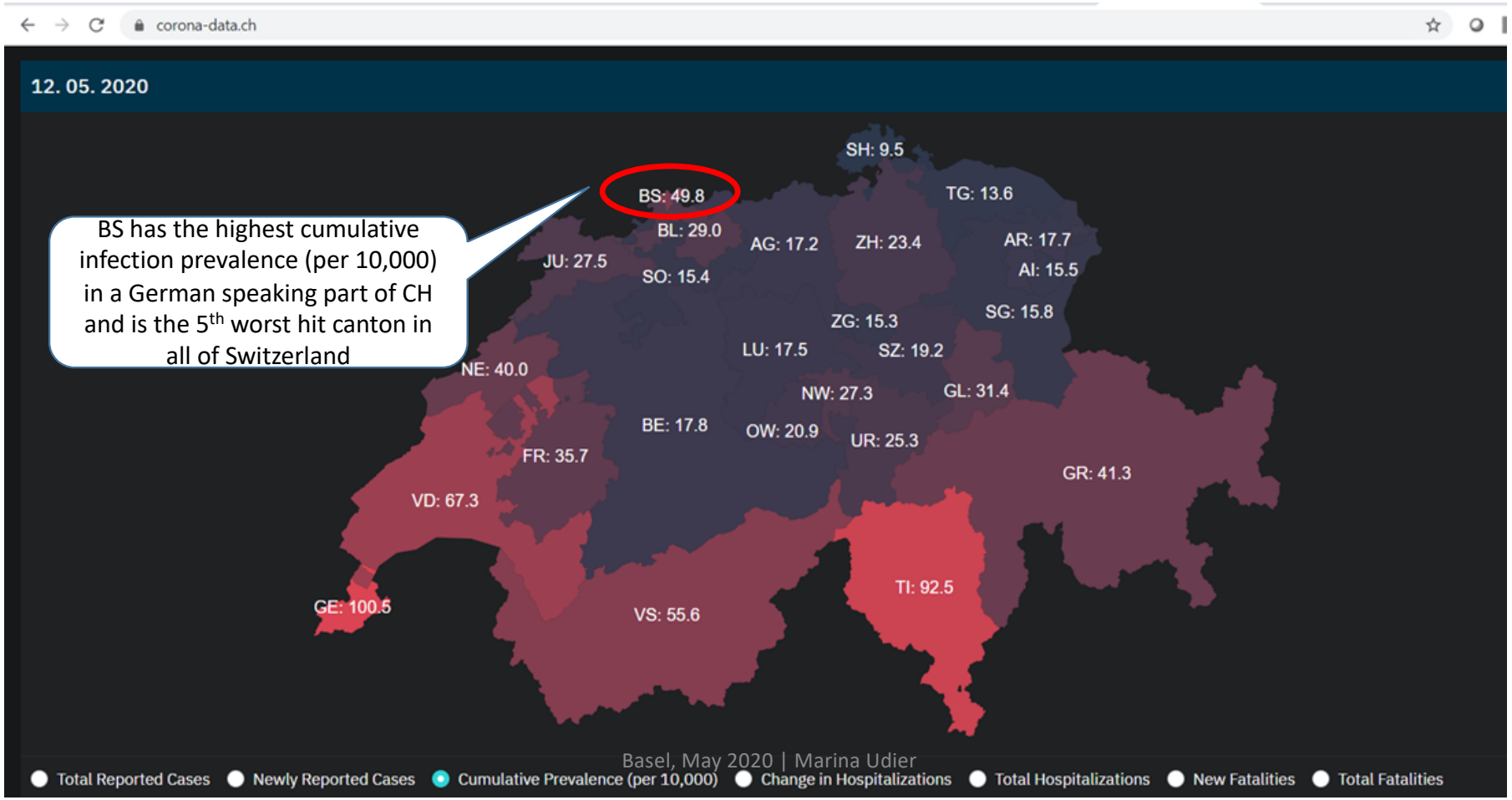
Rückkehr in die obligatorischen Schulen

- *Seit dem 11. Mai unterrichten Kindergärten und obligatorische Schulen wieder vor Ort. **In welchem Umfang dies geschieht, ist den Kantonen überlassen**. Für die Schulen gelten spezielle Grundprinzipien, auf deren Grundlage die Schulen ein Schutzkonzept erstellen. Das Schutzkonzept beinhaltet Massnahmen, die Schulkinder und Lehrpersonen vor einer Ansteckung mit dem Coronavirus schützen sollen*.

https://www.bag.admin.ch/bag/en/home/krankheiten/ausbrueche-epidemien-pandemien/aktuelle-ausbrueche-epidemien/novel-cov/empfehlungen-fuer-die-arbeitswelt.html#-580177832

COVID-19 Information for Switzerland – May 12, 2020

cumulative infection prevalence (per 10,000); corona-data.ch



School opening strategy varies by canton and correlates with cumulative rate of infections per capita

Cantons in top half (average 48 infections per 10,000) chose a more conservative school opening strategy (half classes, social distancing among students, remote learning possibility). Basel Stadt is an exception, with ~50 infections per 10,000, it opened schools with full classrooms, without social distancing rule among students

Cantons in bottom half (average 17 infections per 10,000) chose a mix of approaches; SG, LU, BE and ZH chose to open with half classes despite 2-3 times lower infections per capita compared with BS

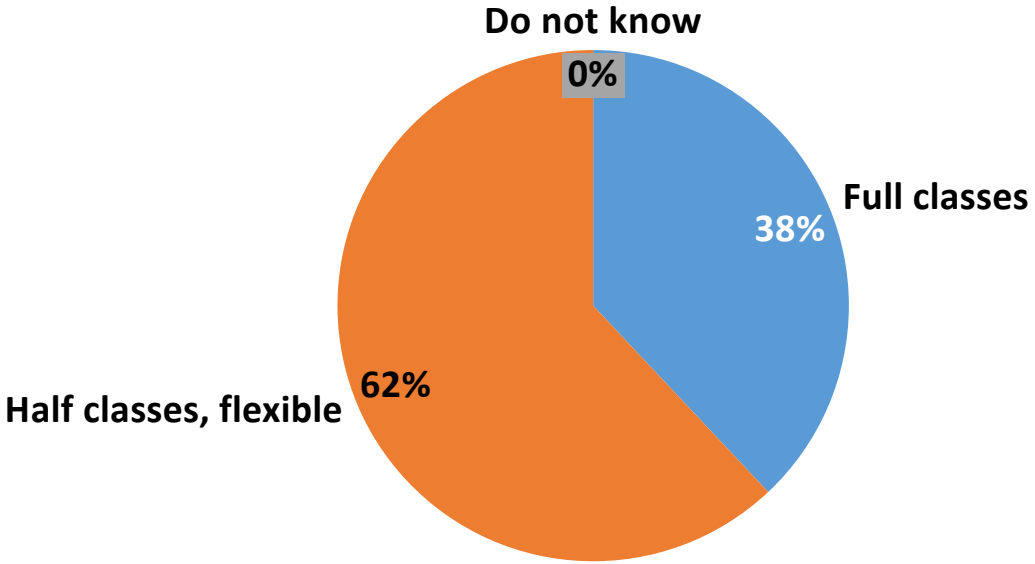
Kanton	Infections per 10,000	School opening strategy
GE	100.5	Half classes
TI	92.5	presumed half classes
VD	67.3	Half classes
VS	55.6	Half classes
BS	49.8	full classes
GR	41.3	presumed full classes
NE	40	Half classes
FR	35.7	Half classes
GL	31.4	full classes
BL	29	full classes
JU	27.5	Half classes
NW	27.3	mix
UR	25.3	full classes
median		
ZH	23.4	Half classes
OW	20.9	presumed full classes
SZ	19.2	full classes
BE	17.8	half classes
AR	17.7	do not know
LU	17.5	Half classes
AG	17.2	full classes
SG	15.8	Half classes
AI	15.5	do not know
SO	15.4	full classes, remote learning option
ZG	15.3	presumed full classes
TG	13.6	presumed full classes
SH	9.5	presumed full classes

All cantons with higher infection prevalence than BS opened with a cautious approach

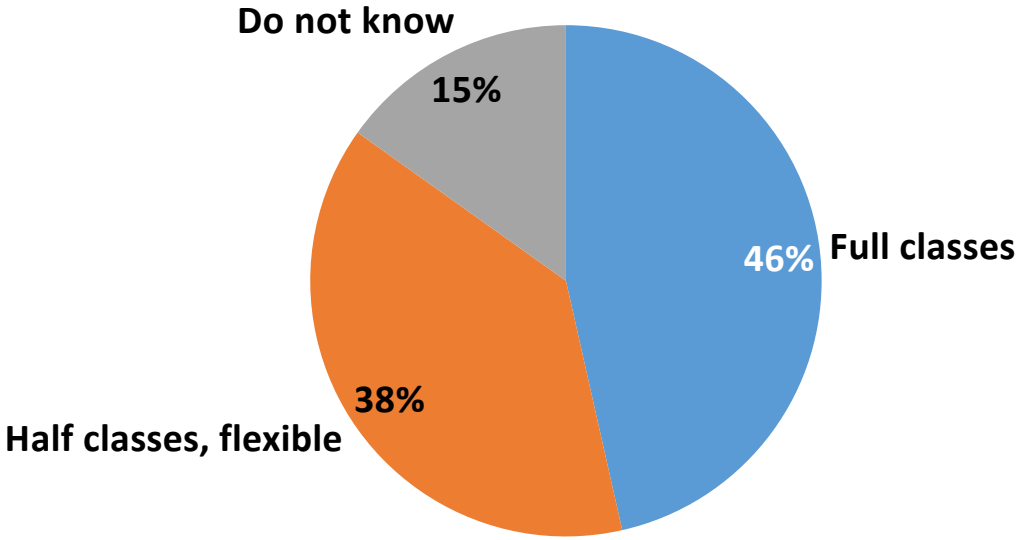
https://www.srf.ch/news/schweiz/flickenteppich-wegen-corona-die-schulentscheide-der-kantone-in-der-uebersicht

School opening strategy in a canton correlates with cumulative infection prevalence (per 10,000)

Most cantons in top half (~48 cumulative infection prevalence per 10,000) chose **conservative** school opening strategy (half classes, distancing among students and/or offer to continue with remote learning)



Cantons in bottom half (~17 cumulative infection prevalence per 10,000) chose a mix of strategies



Example: Luzern adopts social distancing in classrooms

Teaching in half classrooms is logistically possible