K-12 Schools and COVID-19

Samuel V. Scarpino, PhD Assistant Professor Network Science Institute Director, Emergent Epidemics Lab Northeastern University

External Faculty Santa Fe Institute

s.scarpino@northeastern.edu @svscarpino scarpino.github.io



Emergent **Epidemics** Lab





https://covidamp.org/

COVID-AMP has ~400 different policies related to schools.

Unique ID	Authorizing level of government	Authorizing country name	≑ Authorizing country ISO	Authorizing state/province, if applicable	Authorizing local area (e.g., county, city)	¢ Authorizing role (e.g., official with authority)	Authorizing body (e.g., agency, office)	¢ Affected level of government	Affected country name	Affected country ISO	Affected state/province (intermediate area)	Affected local area (e.g., county, city)	Policy relaxing or restricting
7975	State / Province	United States of America (USA)	USA	Vermont	N/A	Governor	Office of the Governor	State / Province	United States of America (USA)	USA	Vermont	N/A	Other
34098	State / Province	United States of America (USA)	USA	Utah	N/A	Governor	Office of the Governor	Local	United States of America (USA)	USA	Utah	Carbon County, UT; Tooele County, UT; Sevier County	Relaxing
34194	State / Province	United States of America (USA)	USA	New York	N/A	Governor	Office of the Governor	State / Province	United States of America (USA)	USA	New York	N/A	Restricting
28030	State / Province	United States of America (USA)	USA	Nevada	N/A	Governor	Executive Department	State / Province	United States of America (USA)	USA	Nevada	N/A	Relaxing
355	State / Province	United States of America (USA)	USA	Illinois	N/A	Governor	Executive Department	State / Province	United States of America (USA)	USA	Illinois	N/A	Restricting
35120	State / Province	United States of America (USA)	USA	Utah	N/A	Interim Executive Director	Department of Health	State / Province	United States of America (USA)	USA	Utah	N/A	Restricting
34138	State / Province	United States of America (USA)	USA	Utah	N/A	Governor	Office of the Governor	Local	United States of America (USA)	USA	Utah	Salt Lake City (city), UT	Relaxing
34576	State / Province	United States of America (USA)	USA	Utah	N/A	Governor	Office of the Governor	Local	United States of America (USA)	USA	Utah	Uintah County, UT; Piute County, UT; Duchesne Count	Relaxing
48065	State / Province	United States of America (USA)	USA	Utah	N/A	Governor	Office of the Governor	Local	United States of America (USA)	USA	Utah	Carbon County, UT; Tooele County, UT; Sevier County	Restricting
20336	State / Province	United States of America (USA)	USA	New Mexico	N/A	Governor	Office of the Governor	State / Province	United States of America (USA)	USA	New Mexico	N/A	Restricting
2192	State / Province	United States of America (USA)	USA	California	N/A	Governor	Office of the Governor	State / Province	United States of America (USA)	USA	California	N/A	Restricting
6602	State / Province	United States of America (USA)	USA	North Dakota	N/A	Governor	Office of the Governor	State / Province	United States of America (USA)	USA	North Dakota	N/A	Restricting
28028	State / Province	United States of America (USA)	USA	Nevada	N/A	Governor	Executive Department	State / Province	United States of America (USA)	USA	Nevada	N/A	Relaxing

41	Policy category
	Social distancing
	Travel restrictions
	Social distancing
	Social distancing
	Social distancing

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6602	State / Province	United States of America (USA)
28028	State / Province	United States of America (USA)

Policy subtarget	Policy description	Issued date	Effective start date	Anticipated end date	Actual end date			
Drimen advertion: Cocondem advertion: Uinher adve	Extension of enforcement of enfinital prosecution to a		2020 00 01	2020 09 15	Unemocified	- ÷	Policy	
Primary education; Secondary education; Higher educ	Extends order that K-12 schools, colleges, universitie	2020-08-27	2020-09-01	2020-09-15	Unspecified	ty, city)	relaxing or	Policy category
Childcare facilities (preschool or other daycare); Prima	Effective 09/01/2020, group sizes in child care hom	2020-08-26	2020-08-26	Unspecified	Unspecified		restricting	
Primary education; Secondary education	\$100 million in additional federal CRF funding will go	2020-08-26	2020-08-26	Unspecified	Unspecified	Inty. UT: Sevier County	Other Relaxing	Social distancing
	All counties in Indiana will remain in Stage 4.5 wrtil O	2020 08 26	2020 08 26	2020 00 25	2020 00 25	-	Restricting	Social distancing
Primary education; Secondary education	All counties in Indiana will remain in Stage 4.5 until 9	2020-08-26	2020-08-26	2020-09-25	2020-09-25	-	Relaxing	Social distancing
Childcare facilities (preschool or other daycare); Prima	Students in Kindergarten and above shall wear face c	2020-08-26	2020-08-26	Unspecified	Unspecified		Restricting	Social distancing
Childcare facilities (preschool or other daycare); Prima	Local Education Agencies must notify parents/guardi	2020-08-26	2020-08-26	Unspecified	Unspecified		Restricting	Social distancing
						-	Relaxing	Social distancing
Childcare facilities (preschool or other daycare); Prima	An initial in-person screen Local Education Agencies must	t 2020-08-26	2020-08-26	Unspecified	Unspecified	y, UT; Duchesne Count	Relaxing	Social distancing
Childcare facilities (preschool or other daycare); Prima	Local education authorities students aged 18 and up if the	2020-08-26	2020-08-26	Unspecified	Unspecified	unty, UT; Sevier County	Restricting	Social distancing
Childrens fasilitias (ana alegal an atlan davas as). Daima	school becomes aware that a		2020 08 26	Line and alf and	Line and a C rad	-	Restricting	Travel restrictions
Childcare facilities (preschool or other daycare); Prima	Child care nomes and centiperson who tested positive was	s in 20-08-26	2020-08-26	Unspecified	Unspecified	_	Restricting	Social distancing
Childcare facilities (preschool or other daycare); Prima	Allow school corporations time as students.	2020-08-21	2020-08-21	Unspecified	Unspecified		Restricting	Social distancing
Childcare facilities (preschool or other daycare); Prima	Increases from six to ten the number of school-aged	2020-08-21	2020-08-21	Unspecified	Unspecified	-	Relaxing	Social distancing
Primary education; Secondary education	The state will development a plan to offer each teach	2020-07-30	2020-08-21	Unspecified	Unspecified	_		
		2020 00 20	2020 00 20					



Schools Should Prioritize Reopeni K-5, While Weighing Risks and Be

News Release | July 15, 2020

https://www.nationalacademies.org/news/2020/07/schools-should-prioritize-reopening-in-fall-2020-especially-for-grades-k-5-while-weighing-risks-and-benefits

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From Bond, E., Dibner, K., & Schweingruber, H. Reopening K-12 Schools During the COVID-19 Pandemic: Prioritizing Health, Equity, and Communities. https://www.nationalacademies.org/news/2020/07/schools-should-prioritize-reopening-in-fall-2020-especially-for-grades-k-5-while-weighing-risks-and-benefits

Open questions

- 2. The role of reopening schools in community spread.
- 3. Airborne transmission of the virus, and
- 4. The effectiveness of various virus mitigation strategies.

• The report recommends research be conducted immediately to investigate:

1. The link between children and the transmission of COVID-19.

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Schools Should Prioritize Reopening in Fall 2020, Especially for Grades K-5, While Weighing Risks and Benefits News Release | July 15, 2020



Some emerging answers

1. The link between children and the transmission of COVID-19.

See: https://www.axios.com/children-coronavirus-community-spread-ec749389-9873-4a95-9ab1-de87c3c0cd98.html

Children can transmit COVID-19 and may be important for transmission in some settings, e.g., at home and at summer camps that don't follow appropriate guidelines [1-2].

2. The role of reopening schools in community spread.

This is still largely unknown as few places with COVID-19 outbreaks have tried to re-open schools.

3. Airborne transmission of the virus, and

There is evidence for aerosol transmission, but the importance of this transmission route is still being investigated [3-4].

4. The effectiveness of various virus mitigation strategies.

Masks are highly effective, when group sizes are kept small [5-6].

Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1



CORRESPONDENCE



https://www.nejm.org/doi/full/10.1056/nejmc2004973



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Transmission of SARS-CoV-2: A Review of Viral, Host, and Environmental Factors

Eric A. Meyerowitz, MD 🗳 🔟, Aaron Richterman, MD, MPH 🔟, Rajesh T. Gandhi, MD, Paul E. Sax, MD

The dominant route of transmission of SARS-CoV-2 is respiratory (48). Growing evidence indicates that infectious virus can be found in aerosols and in exhaled breath samples (5, 6, 49), and it is likely that under certain circumstances, including during aerosol-generating procedures, while singing, or in indoor environments with poor ventilation, the virus may be transmitted at a distance through aerosols.





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EMERGING INFECTIOUS DISEASES[®]

EID Journal > Volume 26 > Number 9—September 2020 > Main Article

Volume 26, Number 9—September 2020 Dispatch

Detection of Severe Acute Respiratory Syndrome Coronavirus 2 RNA on Surfaces in Quarantine Rooms

Fa-Chun Jiang¹, Xiao-Lin Jiang¹, Zhao-Guo Wang, Zhao-Hai Meng, Shou-Feng Shao, Benjamin D. Anderson, and Mai-Juan Ma🖂

Table 2. Results of environmental sampling of 2 rooms at a								
centralized quarantine hotel occupied by 2 presymptomatic								
SARS-CoV-2-infected patients, China, 2020*								
Values‡								
Environmental source†	Patient A's room	Patient B's room						
Door handle	0/1	0/1						
Light switch	1/1 (37.59)	0/1						
Faucet	0/1	1/1 (28.75)						
Bathroom door handle	1/1 (36.02)	0/1						
Toilet seat, flush handle	0/1	0/1						
Thermometer	0/1	0/1						
TV remote	0/1	0/1						
Pillow cover	1/1 (28.98)	1/1 (34.57)						
Duvet cover	1/1 (35.64)	0/1						
Sheet	1/1 (30.58)	0/1						
Towel	1/1 (36.98)	0/1						
Total, no. (%) 6/11 (54.5) 2/11 (18.2)								

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https://wwwnc.cdc.gov/eid/article/26/9/20-1435_article



Effects of immunizing school children with 2009 influenza A (H1N1) monovalent vaccine on absenteeism among students and teachers in Maine

Samuel B Graitcer¹, Nancy L Dube, Ricardo Basurto-Davila, Peter F Smith, Jill Ferdinands, Mark Thompson, Amra Uzicanin, Paul Gargiullo, Sandra S Chaves, Sara Robinson, Stephen Sears, Meredith Tipton, Arnold S Monto, Dora Mills, David K Shay



Influenza vaccination in preventing outbreaks in schools: A long-term ecological overview

Yang Pan^{a, b, c}, Quanyi Wang^{a, b, c} \approx \boxtimes , Peng Yang^{a, b, c} \approx \boxtimes , Li Zhang^{a, b}, Shuangsheng Wu^{a, b}, Yi Zhang^{a, b}, Ying Sun^{a, b}, Wei Duan^{a, b}, Chunna Ma^{a, b}, Man Zhang^{a, b}, Xingxing Zhang^{a, b}, C. Raina MacIntyre^{d, e}

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https://doi.org/10.1016/j.vaccine.2017.10.096

> Vaccine. 2012 Jul 6;30(32):4835-41. doi: 10.1016/j.vaccine.2012.05.008. Epub 2012 May 17.





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- 1.) Children and teens can transmit COVID-19
- 2.) Mask wearing, limits on group sizes, physical distancing, and cohorting of students are essential.
 - 3.) Aerosol transmission is a high risk.
 - 4.) Symptoms are unreliable, which is why vaccination for influenza is essential.

Take-home messages:

- 3. Morawska, L., & Milton, D. K. (2020). It is time to address airborne transmission of COVID-19. Clin Infect Dis, 6,

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