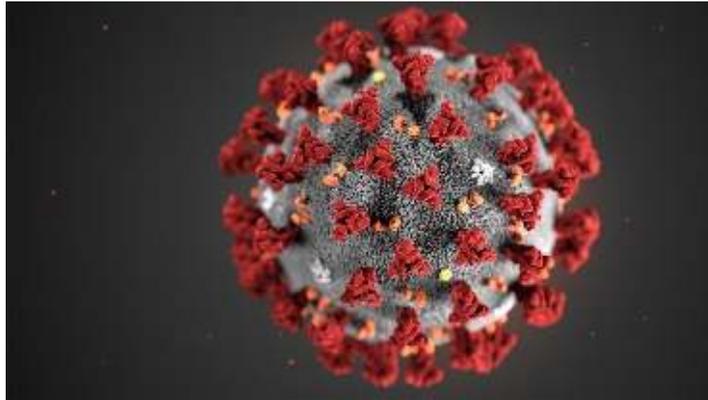


THE PANDEMIC V. CHILDREN & SCHOOLS



A Presentation For

CHE ALASKA: PROTECTING CHILDREN WHILE REOPENING SCHOOLS

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www.HealthySchools.org

THE PANDEMIC V. CHILDREN AND SCHOOLS

FRAMING THE ISSUES



Children are not just little adults.

- Uniquely vulnerable to environmental hazards
- Still developing; specific behaviors
- Cannot recognize threats or articulate exposures
- Lack of timely research on virus and on children

Schools are not just little offices.

- More densely occupied than offices or nursing homes
- ~ 95% occupants are women and children
- Mix of processes under one roof
- Poor facilities: air, sanitation, molds, chemicals, legacy toxics
- No consistent funding; minimal oversight

PUBLIC HEALTH STOPS AT THE SCHOOLHOUSE DOOR

- All states require children to attend school
- School and childcare facilities have environmental health problems that impact children's health, thinking, and learning
- Schools are not required to have infection control plans or to stay current on ventilation standards
- OSHA regulations cover all private schools; and public schools in 24 states with State OSHA Plans
- No state provides environmental public health services for children at risk or with suspected exposures in these settings
- The poorest communities have the schools in the worst physical condition
- Not all school environmental improvements are costly, and many will boost health, attendance, and learning.



High CO₂: indicates poor ventilation and increased air pollution

Adult critical thinking skills begin a steep decline at 1,000 ppm; this classroom shows over 4,000 ppm. Research in U.S. classrooms has shown CO₂ levels often at 2,000-3,000 ppm

LEGACY TOXICS UNADDRESSED – HIGH COST TO ADDRESS



DANGER

ASBESTOS

CANCER AND LUNG
DISEASE HAZARD.

AUTHORIZED
PERSONNEL ONLY.
RESPIRATORS AND

CAUTION

CONTAINS

PCBs

(Polychlorinated Biphenyls)



**POOR MAINTENANCE =
POOR INDOOR ENVIRONMENTS**

MEDIUM COST TO ADDRESS



HOARDER CLASSROOM - LOWEST COST

Indoor Environmental Challenges:

Filled with dust catchers

What to clean, how to clean, what to disinfect

Pests drawn to food and plants in classrooms

Air flow impeded

Flammable decorations: fire hazard

Cost to clean up? \$ 0.00

NB- cluttered classrooms do not appear in media stories about reopened schools in Europe

DISPROPORTIONAL BURDEN OF THE ONGOING PANDEMIC

The Black, Latinx, and Native American communities hit hardest by COVID will send their children back to the poorest schools in the worst condition.

A fragmented, piecemeal approach will speed the spread the virus, sow confusion, deepen disparities, and stymie research on how to keep schools open and kids healthy.

CALL TO ACTION - PANDEMIC V. SCHOOLS PLAYBOOK



HEALTHY
SCHOOLS
NETWORK

Contributors: American Public Health Association, New Jersey Education Association, New Jersey PTA, National Association of School Nurses, Asthma and Allergy Foundation of America, New York Lawyers for the Public Interest, Green Seal, Learning Disabilities Association of America, Collaborative for High Performance Schools, NEA Healthy Schools Caucus



Coalition *for* Healthier Schools

*...providing the national platform and
the forum for environmental health at school, since 2001...*

Coordinated by Healthy Schools Network

NATIONAL CALL TO ACTION - PANDEMIC V. SCHOOLS PLAYBOOK

- **A Public Health Imperative: Keeping Children Safe at School**
- **The State's Role: Providing Infection Prevention and Control Plan for Schools**
 - State, advised by stakeholders, develops model “School Infection Prevention and Control Plan”
 - State establishes hotline and system to follow up on complaints, requires schools to report attendance and new infections
 - Local schools convene stakeholders to adapt the state template plan and adopt locally as policy
- **The Condition of School Facilities Affects the Transmission of the Virus**
- **School Staff Vulnerability, COVID-19, and Schools**
- **Appendices**
 - Federal and other resources; Indoor air, water systems; molds; cleaning and disinfecting, symptoms

PANDEMIC V. SCHOOLS PLAYBOOK

States must guide schools in reopening, slowing spread of virus

School Infection Prevention and Control Plans: specify how the building will be operated and maintained to reduce the presence of the virus, and how occupancy rates and occupants will be managed for optimal health and learning.

- **Reopen Facility - Routine Inspections**
- **Assess Exterior and Interior Spaces**
 - Prioritize cleanups and repairs; save list
 - Check building systems:
 - **drinking water, air/HVAC, plumbing, electrical, communications**
- **Review, update Emergency Management Plans**
- **Inventory and stock supplies:** products for cleaning and disinfecting, masks and PPE, ventilation/AC filters, water filters, soap, hand sanitizer, paper towels, toilet tissue; HEPA vacuums, mops, cleaning cloths, etc.
- **Facility engineering controls to help stay open**
- **Enhanced ventilation and filtration**
- **Clean and disinfecting**
- **Safer pest control**
- **Track and respond to complaints and illnesses**
 - Update maintenance schedule as needed to address one-time or persistent problems
- **Closures**
 - Unexpected opportunity to address priority repairs

ASTHMA TRIGGERS IN SCHOOLS

Asthma Triggers	Homes	Schools	Communities
Secondhand Smoke	X		X
Pests	X	X	X
Mold	X	X	X
Pets	X		X
Chemical irritants	X	X	X
Outdoor air pollution	X	X	X
Dust mites	X	X	
Cleaning & Disinfecting products	X	X	X
Pesticides	X	X	X
Respiratory infections	X	X	X
Fragrances, strong odors	X	X	X
Food allergies	X	X	X

CLEANING, SANITIZING, DISINFECTING V. ASTHMA

Cleaning with soap and water will decrease the presence of the human coronavirus (SARS-CoV-2) on surfaces and objects, which reduces the risk of exposure. Handwashing with soap and water for 20 seconds deactivates and removes the virus.

Sanitizing lowers the number of germs on surfaces to a safe level, judged by public health standards or requirements. Products used to sanitize are not registered to kill viruses.

Disinfecting deactivates viruses on surfaces, but viruses return every time dirty hands or droplets touch the surface. Not all disinfectants kill the coronavirus. Read and follow all directions exactly, including observing the product “dwell time”.

Avoid asthmagens and chemical irritants: buy safer, low-odor products.

WARNING. Caution on use of foggers and misters. Do not overuse disinfectants. Do not allow children to apply disinfectants or use disinfecting wipes. If your facility has been unoccupied for weeks, the coronavirus will no longer be active. If your school is pressured to use more, check with your public health agency. If vendors are pressuring schools to buy “new” or “emerging” products, schools may save money by checking the **EPA N-List** * to see if the product is registered as effective against the human corona virus.



HealthySchools.org/CleaningforHealthySchools

GREEN CLEANING: START-UP TIPS

Parents

- Ask your school facility director or head of maintenance if s/he is now doing green cleaning
- Ask to see a product label
- Talk to other parents and see if they want to learn more and help you

Classroom Staff

- Keep classroom easy to clean
- Do not use room deodorizers

Model Fragrance-Free Policy

Custodial Staff

- Identify the worst products you must use
- Read the SDS (Safety Data Sheets)
- Ask your supervisor for safer substitutes
- Ask the vendor for free demonstrations of green cleaning products

Disinfecting and Sanitizing in Child Care Centers: Model Recommendations from San Francisco Asthma Task Force



STAY OPEN: CLEANING AND DISINFECTING

Cleaning and Disinfecting

- Inventory all cleaning supplies; restock
- **Cleaning for Healthy Schools**
 - NYS Joint Memo on Cleaning and Disinfecting Appendix C (2020)
 - Washington State Department of Health on Cleaning for Healthy Schools
 - Enhanced Green Cleaning Training Manual (NYS 2010)
- Disinfectants: EPA N List (>500)
 - **Safer Disinfectants (Responsible Purchasing Network) (~80)**

Should You Use These to Disinfect?			COPYRIGHT GREEN SEAL 2020
EPA List N Products	YES	Follow label directions for approved application methods and required contact times.	
Electrostatic Spraying	MORE INFO NEEDED	EPA and CDC are reviewing safety and effectiveness.	
Ultraviolet, Ozone or Steam	MORE INFO NEEDED	EPA and CDC are reviewing effectiveness.	
Fogging	NO	Increases hazardous chemical exposure and provides no added benefit.	
Ultrasonic Waves or LED blue light	NO	There is no data to suggest these are effective against COVID-19.	

- Read and follow directions on product labels.
- Children must not use school cleaning and disinfecting products..



CLEANING AND DISINFECTING

New York State Education and Health Joint Memo on Cleaning and Disinfecting Appendix C (2020)

Step 1: Clean: Always clean surfaces prior to use of disinfectants to reduce soil and remove germs

Step 2: Disinfect: Cleaning of soiled areas must be completed prior to disinfecting to ensure the effectiveness of the disinfectant

Examples of frequently touched hard surfaces

- Classroom desks and chairs
 - Door handles and push plates
 - Kitchen and bathroom faucets
 - Light switches
 - Buttons on vending machines and elevators
 - Shared telephones
 - Shared computer keyboards and mice
 - Bus seats and handrails.
 - Lunchroom tables/chairs
 - Handrails
 - Handles on equipment
 - Shared desktops;
- Note: Computer keyboards are difficult to clean due to the spaces between keys and the sensitivity of its hardware to liquids.

INDOOR AIR POLLUTION: HEALTH SYMPTOMS (US EPA IAQ TFS)

When to Suspect a School IAQ Problem

- The roof leaks, the building smells damp, or has been flooded
- The building or its floors are newly surfaced, painted, or renovated and have not aired out
- The building is fully carpeted.
- You/your child frequently comes home from school with odd smells on his or her clothing
- You/your child has health/learning problems only in the building and not during days off or in other settings
- Building maintenance and repair are always under-budgeted.

- rhinitis, nasal congestion 1, 2, 3, 4, 6
- nosebleed 4
- pharyngitis, cough 1, 2, 3, 4, 6
- wheezing, worsening asthma 2, 4, 6
- shortness of breath 1, 3, 6
- severe lung disease 1
- red, watery eyes 1, 2, 3, 4, 6
- headache or dizziness 1, 2, 3, 4, 5, 6
- lethargy, fatigue, malaise 1, 2, 3, 4, 5
- nausea, vomiting, loss of appetite 2, 3, 4, 5
- cognitive impairment, personality change 1, 2, 4, 5
- rashes 3, 4, 5
- fever, chills 3, 5
- rapid pulse 2, 5
- retinal hemorrhage 2
- muscle aches 1, 4
- hearing loss 5

1 Sick Building 2 Combustion 3 Biologicals 4 VOCs
5 Heavy Metals 6 Tobacco

INDOOR AIR, VENTILATION: AEROSOL TRANSMISSION

Airborne Transmission

- Transmission of SARS-CoV-2 through the air is possible so facility engineering controls will help
- Improving operations of heating, ventilating, and air-conditioning, will help reduce airborne virus particles

Source: [ASHRAE, Statement on airborne transmission of SARS-CoV-2, May 2020](#)



Reducing Transmission

- Ventilation and filtration provided by mechanical systems can reduce the airborne concentration of SARS-CoV-2
- Unconditioned spaces can cause thermal stress to people that may be directly life threatening and that may also lower resistance to infection.

Source: [ASHRAE, Statement on operation of heating, ventilating, and air-conditioning systems to reduce SARS-CoV-2 transmission, May 2020](#)

Schools Lack of Indoor Air Quality Controls (US GAO)

- HVAC systems in 36,000 buildings should be updated or replaced
- **These are only the schools that already have HVAC systems**
- No agency at any level in any state routinely monitors environmental hazards or exposures in schools

2020 Source: [US Government Accountability Office \(GAO\), K-12 Education: School Districts Frequently Identified Multiple Building Systems Needing Updates or Replacement, June 2020](#)



INDOOR AIR & VENTILATION

ASHRAE Epidemic Task Force: Reopening Schools and Universities checklist (excerpts)

- Review: system design (HVAC), existing Indoor Air Quality complaints; inspect systems
- Upgrade filters (MERV 13 or 14, if equipment allows)
- Air flush all systems prior to school occupancy

If there is no mechanical ventilation: ensure tall windows open top and bottom and are screened; install vents to outside in RN office, lavatories, kitchen, gym; use box fans; use classroom air cleaners

- **US EPA Maintaining Healthy Indoor Environments in Schools (2020)**

Stop the Spread of COVID-19



WASH YOUR HANDS often with soap and water for 20 seconds.



USE HAND SANITIZER with at least 60% ethyl alcohol or 70% isopropyl alcohol when handwashing is not available.



WEAR A MASK or fabric face covering.



STAY AT LEAST 6 FEET APART.



STAY HOME IF YOU'RE SICK.



Asthma and Allergy Foundation of America

aafa.org/covid19

IS IT COVID-19, THE FLU, A COLD OR ALLERGIES?

Symptoms	Coronavirus* (COVID-19) Symptoms range from mild to severe	Cold Gradual onset of symptoms	Flu Abrupt onset of symptoms	Seasonal Allergies Abrupt onset of symptoms
Length of symptoms	7-25 days	Less than 14 days	7-14 days	Several weeks
Cough	Common (usually dry)	Common (mild)	Common (usually dry)	Rare (usually dry unless it triggers asthma)
Shortness of breath	Sometimes	No**	No**	No**
Sneezing	No	Common	No	Common
Runny or stuffy nose	Rare	Common	Sometimes	Common
Sore throat	Sometimes	Common	Sometimes	Sometimes (usually mild)
Fever	Common	Short fever period	Common	No
Feeling tired and weak	Sometimes	Sometimes	Common	Sometimes
Headaches	Sometimes	Rare	Common	Sometimes (related to sinus pain)
Body aches and pains	Sometimes	Common	Common	No
Diarrhea	Sometimes	No	Sometimes for children	No
Chills/repeated shaking	Sometimes	No	Sometimes	No
Loss of taste or smell	Sometimes	Rare	Rare	Rare

Your symptoms may vary. *Information is still evolving. **Allergies, colds and flus can all trigger asthma, which can lead to shortness of breath. COVID-19 is the only one associated with shortness of breath on its own.

Sources: Asthma and Allergy Foundation of America, World Health Organization, Centers for Disease Control and Prevention, edited 4/29/20 • aafa.org/covid19

COVID-19, THE FLU, COLD, OR ALLERGIES

?

WHAT TO ASK YOUR SCHOOL ABOUT REOPENING

1. **Indoor Air Quality.** Do you have a written plan for enhancing ventilation at school that includes assessing the system, upgrading air filters, flushing the air out of the system before occupancy? If you do not have a mechanical ventilating system, do you have air cleaners in classrooms and ensure that all classroom windows can open?
2. **Drinking Water.** Did you consult with public health on reopening closed water systems?
3. **Cleaning and Disinfecting.** Do you have a written plan for cleaning and for disinfecting?
4. **Distance learning and social distancing.** Is there a plan for how to provide accessible e-learning? A plan for social distancing inside schools?
5. **Illnesses.** Is the nurse/clinic office ventilated to the outside? Do you have a written plan for managing new onset illnesses in school occupants and a plan for reporting absenteeism and new illnesses to public health officials?
6. **Masks and face coverings.** Do you have a written plan that requires masks and face coverings, and also addresses how sensitive and or special needs occupants can be exempted?
7. **High risk children and staff.** Do you have a written plan on how to accommodate the children and staff with special needs and or a plan for children whose families/guardians or households do not have the capacity for distance learning?
8. **Supplies and staffing.** Do you have sufficient stockpiles of masks and PPE, water and air filters, and cleaning and disinfecting products to last one full semester?

SELECTED RESOURCES

- **US EPA, Healthy Schools/Healthy Children** (*IAQ, IPM, Radon, Mold, Design, Chemical Management, Water, Asbestos, LSRR, Siting*)
- **Schools for Health**, Harvard TH Chan School of Public Health (2017)
- **Significance of the School Physical Environment – A Commentary**, Journal of School Health, July 2016
- **Towards Healthy Schools: Reducing Risks to Children** (HS Network, 2016)
- **Establishing Environmental Public Health Systems for Children at Risk or with Suspected Exposures**, American Public Health Association policy # 201713
- **Pandemic v. Schools: National Call to Action** (CHS - HS Network and NJ WEC, 2020)
- **COVID and the Education Sector: Early Lessons from the Pandemic**, APHA policy Oct 2020





HEALTHY SCHOOLS NETWORK

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... for children ... health ... environment ... education ... and communities ... since 1995 ...

Honors: APHA David P Rall Award for contributions to public health through science-based advocacy; American University William K Reilly Award for National Environmental Leadership; US EPA National Recognitions - 2005, 2007, 2017; Green Seal Outstanding Partner Award; Collaborative for High Performance Schools Green Apple Award, among others.