

## School Environments and Health

School environments are important to the health and academic success of children. Children spend 90% of their time indoors and much of that time is spent in school. Unhealthy school environments can affect children's health, attendance, concentration, and performance.<sup>1</sup>

### Why are children at higher risk?

Children are more sensitive to environmental hazards.

- They are still growing.
- They breathe faster than adults, taking in more air compared to their body mass.
- Airborne contaminants are generally more harmful to children.
- They can be more at risk for accidental injuries than adults.
- They have less control over their environment.

### Healthy and Safe School Environments

Improving the school environment can improve the health of staff and students and boost performance. The School Environmental Health and Safety (SEHS) program focuses on school buildings and surrounding areas, air quality, noise, lighting, hazardous materials, control of communicable diseases, sanitation, and injury prevention issues to make schools safer and healthier.

### Indoor Air Quality (IAQ)

Mold, asbestos, formaldehyde, carbon monoxide, animal dander, particulates, ozone, pesticides, cleaners, volatile organic compounds (VOCs), radon, and mercury all contribute to indoor air pollution. To improve IAQ and reduce health problems, including allergies and asthma, schools need proactive programs that include:

- Maintenance of heating, ventilation, and air conditioning systems.
- Prevention of water leaks, dampness, and mold.
- Safe cleaning and disinfection.
- Elimination of hazardous chemical exposures.
- Control of pollutant sources, including using low VOC building materials, school supplies, and cleaning products.

### Asthma

The number of children with asthma is rising and the impact on schools is significant. It is the most common chronic disease in children, affecting nearly one in ten, and the leading cause of school absenteeism. Asthma-friendly schools work to create safe and supportive learning environments for students by reducing environmental triggers including dust mites, animal dander, cockroaches, mold, VOCs, fragrances, pesticides, cleaners, disinfectants, motor vehicle exhaust, and ozone. Schools with asthma management programs that reduce exposure to known triggers have shown significant improvements in attendance, decreased classroom interruptions, and increased participation in physical activity.<sup>2</sup>



### Important Facts

- ❖ Over 1 million Washington children spend about 1,300 hours in a school building each year.
- ❖ One half of U.S. schools have indoor environmental quality problems. (Source: EPA)
- ❖ Indoor pollutants levels are commonly three to five times higher than outdoor concentrations.
- ❖ Poor IAQ can trigger asthma episodes in susceptible children.
- ❖ Poor IAQ compromises learning by causing:
  - Drowsiness.
  - Headache.
  - Eye, nose, throat, and skin irritation.
  - Inability to concentrate.

<sup>1</sup>U. S. EPA Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program, October 2012 ([www.epa.gov/schools/ehguidelines/download.html](http://www.epa.gov/schools/ehguidelines/download.html))

<sup>2</sup> CDC, Adolescent and School Health: Asthma and Schools ([www.cdc.gov/healthyyouth/asthma/index.htm](http://www.cdc.gov/healthyyouth/asthma/index.htm))

## Infection Control in Schools

Reducing communicable and zoonotic diseases in schools helps the whole community by minimizing student and staff absences and the ripple effect when parents stay home with ill children. Zoonotic infectious diseases of concern in schools include rabies, West Nile Virus, Hantavirus, and *Salmonella*. Common communicable diseases such as influenza, staph, strep, and norovirus can be reduced in schools with best practices, including proper hand washing, cleaning, and disinfecting. However, the proper chemicals need to be selected and used appropriately to prevent respiratory, skin, and eye irritation.

## Integrated Pest Management (IPM)

Schools should be free of insects and rodents that cause health problems, while protecting students and staff from inappropriate exposure to chemical pesticides. IPM is an effective method to prevent pests in schools and significantly reduce pesticide use. Buildings and grounds can be designed to prevent pest problems. Common pests, including ants, rodents, and cockroaches can be prevented by eliminating their access to buildings, food, and water. Caulking, screening, door sweeps, and proper food cleanup and storage prevent pest problems.

## Injury Prevention

Injury prevention is a critical responsibility of schools and happens through policies, facility design, training, and good practices. Areas for school focus in injury prevention include:

- Playground design and maintenance.
- Athletic equipment and facilities.
- Car and bus traffic, safe bike and walking routes.
- Science laboratories, art departments, career and technical education programs.



## Prevention

The Washington State Board of Health rule for Primary and Secondary Schools, Chapter 246-366 Washington Administrative Code, has been protecting Washington school children for over 60 years. The rule covers basic SEHS and requires local health jurisdictions (LHJs) to review and approve building sites and plans for new and remodeled schools and to inspect schools.

## Department of Health School Environmental Health and Safety Program Services

- Technical assistance, training, and resources to public health and school staff, including risk managers, maintenance and operations, nurses, and administrators on SEHS issues.
- School site visits, IAQ walk-throughs, presentations, and trainings.
- Interpretation and technical support for WAC 246-366, the *K12 Health and Safety Guide*, and the *IAQ Best Practices Manual for Schools*.

## Resources

Visit the School Environmental Health and Safety Program Website for information and resources: [www.doh.wa.gov/schoolenvironment](http://www.doh.wa.gov/schoolenvironment).

Join the School Environmental Health and Safety Information Listserv to receive updates from the Program: [www.doh.wa.gov/schoolenvironmentcontact](http://www.doh.wa.gov/schoolenvironmentcontact).

## Program Manager

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