

INTRODUCTION

The *Indoor Air Quality (IAQ) Tools for Schools (TfS)* Program was developed by the U.S. Environmental Protection Agency (EPA) to reduce exposures to indoor environmental contaminants in schools through the voluntary adoption of sound indoor air quality management practices. The *IAQ Tools for Schools* Program is a comprehensive resource to help schools maintain a healthy environment in school buildings by identifying, correcting, and preventing IAQ problems. Poor indoor air quality can impact the comfort and health of students and staff, which, in turn, can affect concentration, attendance, and student performance. In addition, if schools fail to respond promptly to poor IAQ, students and staff are at an increased risk of short-term health problems, such as fatigue and nausea, as well as long-term problems like asthma.

This Compendium is intended to provide other states with the guidance to implement the TfS program in their school districts. It includes information on the development of the program in Connecticut, guidance for beginning the process of implementation, training presentations and handouts as well as several additional complementary training programs.

Resource Team Participating Agencies & Organizations:

- American Federation of Teachers –CT
- American Institute of Architects—CT
- American Lung Association of Connecticut
- CT Association of Boards of Education
- CT Association of Local Health Directors
- CT Association of Public School Superintendents
- CT Association of School Business Officials
- CT School Building & Grounds Association
- CT Council for Occupational Safety & Health
- CT Department of Construction Services
- CT Department of Education
- CT Department of Energy & Environmental Protection
- CT Department of Labor, Division of Occupational Safety and Health
- CT Department of Public Health
- CT Education Association
- CT Federation of School Administrators, AFL-CIO
- CT Foundation for Environmentally Safe Schools
- CT School Nurses Association
- CT Interlocal Risk Management Agency
- CT Parent & Teacher Association
- UCONN Health Center – Division of Occupational & Environmental Medicine Program
- U.S. Environmental Protection Agency, Region I
- Yale Occupational & Environmental Medicine Program

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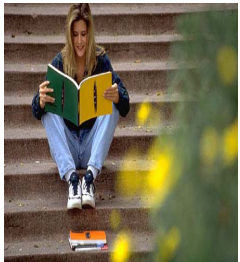
Connecticut School Indoor Environment Resource Team

PROMOTING
EPA'S *TOOLS*
FOR SCHOOLS
TO IMPROVE
CONNECTICUT
SCHOOLS'
INDOOR
ENVIRONMENTS



Background: IAQ In Schools

There has been a growing concern regarding health problems linked to poor indoor air quality (IAQ) in buildings – including school facilities. EPA estimates that human exposure to air pollutants can be 2-5 times, and occasionally more than 100 times, higher than



The U.S. Government Accounting Office reports that 50% of all U.S. school buildings have at least one environmental problem which affects indoor air quality.

outdoor levels. This is a particular concern because most people spend approximately 90% of their time indoors. IAQ problems can result from a variety of factors, including reduced ventilation to save energy, deferred maintenance, building materials and furnishings, and specific contaminants.

Failure to prevent IAQ problems in schools can :

- Increase chances for health problems for students, administrators and staff
- Impact the learning environment, comfort and attendance
- Reduce productivity due to discomfort, sickness, or absenteeism
- Pose potential liability issues for schools.

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What Is *Tools For Schools?*

The U.S. EPA has developed an innovative program – Indoor Air Quality *Tools For Schools (TfS)* Action Kit – for schools to identify and address IAQ problems. The program is based on the following key principles:

- Many IAQ problems can be prevented by the school community.
- IAQ problems can often be resolved using the skills of school staff.
- The expenditures and effort to prevent most IAQ problems is a fraction of that required to solve problems once they develop.



***Tools For Schools* is a proactive, preventive strategy for addressing IAQ problems in schools.**

EPA's Tools For Schools is based on an action kit providing all the materials necessary to promote a low-cost, problem-solving team approach to improving IAQ. Once a committee of administrators, teachers, maintenance staff, parents, and others investigates and prioritizes indoor air hazards, short and long-term strategies are developed to solve IAQ problems. PBS's *This Old House* TV crew has produced a video "*Taking Action*" which spotlights a New England school's *Tools for Schools* team and its successes. The video is part of the kit.

EPA TfS Web sites:
www.epa.gov/iaq/schools
www.epa.gov/schools

What Services Can the Resource Team Provide?

School systems have identified the need for technical assistance in order to implement EPA's *Tools For Schools*. The Resource Team includes IAQ specialists, industrial hygienists, epidemiologists, educators, trainers and others who can assist schools. For no cost, the Resource Team provides the following services to school districts:

- A 2 part implementation training program for new districts
- A "refresher" workshop for districts to revitalize their program.
- An "Advanced TfS for Custodians & Facilities" Workshop
- The CSIERT Web Site: a source of IAQ information and tips
- Technical assistance

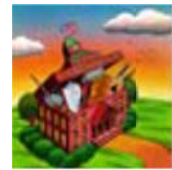


The Resource Team provides assistance for implementing TfS.

For more information - Contact The Resource Team

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CSIERT Web Site: www.csiert.org
DPH Schools Site: www.ct.gov/dph/schools



EPA Indoor Air Quality Tfs Program & Connecticut's School Indoor Environment Resources

The *Indoor Air Quality (IAQ) Tools for Schools (Tfs)* Program was developed by the U.S. Environmental Protection Agency (EPA) to reduce exposures to indoor environmental contaminants in schools through the voluntary adoption of sound indoor air quality management practices. The *IAQ Tools for Schools* Program is a comprehensive resource to help schools maintain a healthy environment in school buildings by identifying, correcting, and preventing IAQ problems. Poor indoor air quality can impact the comfort and health of students and staff, which, in turn, can affect concentration, attendance, and student performance. In addition, if schools fail to respond promptly to poor IAQ, students and staff are at an increased risk of short-term health problems, such as fatigue and nausea, as well as long-term problems like asthma. In Connecticut, a consortium of 24 agencies and organizations has formed the Connecticut School Indoor Environment Resource Team (CSIERT). This group assists schools with the implementation of the Tfs program throughout the state.

Since 2000, Tfs has been implemented in hundreds of schools across the state. School districts that have implemented Tfs find that there are common elements to successfully implementing the program.

1. **Organizing** a team with a committed group of individuals dedicated to ensuring good IAQ and with clear support from senior management
2. **Assessing** current IAQ conditions and issues
3. **Creating a Plan** outlining a strategic approach to identifying, resolving, and preventing IAQ problems
4. **Taking Actions** to improve IAQ in the school that lead to increased student and staff health and productivity
5. **Evaluating** the IAQ management program by tracking and assessing results
6. **Communicating** the intent, results, and next steps of the IAQ management Program

The Tfs Program provides materials and guidance at no cost to help schools implement an indoor air quality management program. In addition to the IAQ Tfs Action Kit, specialized fact sheets, brochures, and software programs are available to provide in-depth information on environmental topics.

In Connecticut, CSIERT provides a two part, five hour Tfs implementation training to the Tfs team members in school districts. Each school within a school district forms a five member team that consists of a teacher, nurse, administrator, custodian, and parent. The trainings are done free of charge by trained environmental health professionals. The first training includes basic IAQ information and the importance of good IAQ for schools as well the steps for successful implementation. Each school team completes checklists and compiles the data. At the second training the team learns how to conduct a building IAQ walkthrough. The teams then conduct a walkthrough at their school and combine this data with the checklist data to identify problem areas. A report is produced that provides recommendations and establishes priorities for the school administration and board of education. The next step is to act on the recommendations.

The TfS program emphasizes low or no cost solutions to indoor air issues. Many small changes can often make a big difference in air quality.

Outcomes

Successful TfS programs have seen marked reductions in the number of visits to the school nurse, a decrease in school absenteeism (students and staff), and improved health outcomes. The program also helps to open the lines of communication between staff, teachers, administrators and parents. More information about TfS can be found on the web at www.epa.gov/iaq or on the CSIERT web site: www.csiert.org

To arrange for a training workshop, contact the Connecticut Department of Public Health at 860-509-7740 or kenny.foscue@ct.gov ; joan.simpson@ct.gov).

CTDPH/CSIERT Tools for Schools Training Programs & Resources

Implementation Workshop Program:

The First Session is a 3-hour workshop that covers an overview of school IAQ issues, an exercise and presentation on IAQ health issues, and a detailed review of how to use the TfS kit. There are 2 trainers from CTDPH who conduct the workshop. The workshop uses PowerPoint presentation, video, and hand-on exercises.

The Second Training Session is a 2-hour workshop on conducting walkthrough investigations, and is scheduled around 2 months after the first session. This workshop is conducted by one of the industrial hygienists from the Yale or UConn Environmental Medicine programs, or the CT OSHA program. The basics of building IAQ investigations are covered, and a group investigation exercise is conducted in one or two areas of the training site (a school).

Refresher Workshop:

This is a 2.5 hour workshop for TfS teams that have a combination of experienced and new members, and need to update their knowledge and skills. The workshop combines elements of the 2 implementation workshops, with an emphasis on IAQ problem source identification. Finding no or low-cost solutions is emphasized, including educating staff, students and parents about their role in keeping the buildings clean and healthy. This workshop needs to take place in a school, as it includes a walkthrough investigation exercise.

Advanced TfS for Custodians & Facilities Personnel Workshop:

CSIERT offers a special workshop for school district custodial and facilities maintenance staff. Besides providing additional expertise and skills to participants, this training seeks to integrate all custodial and facilities personnel into the TfS program, and to encourage them to work with the building team members (which includes a custodian). The workshop also covers green cleaning and infection control issues.

RECOMMENDATIONS BASED ON LESSONS LEARNED

1. Based on 14 years' experience, the Connecticut School Indoor Environment Resource Team (CSIERT), recommends that a school Tools for Schools program be based on recruiting, training and maintaining individual school building based teams of at least 5 members (administrator, teacher, nurse, head custodian and parent; students in upper grade schools).
2. Convincing and assisting school districts to implement and maintain EPA's Tools for Schools program is a major undertaking. An active group of statewide school stakeholder organizations and agencies working together (as suggested by the EPA Office of Children's Health Protection's "Voluntary School Guidelines for States Development and Implementation of a School Environmental Health Program") is recommended as the best strategy for success.
3. CSIERT recommends that Tools for Schools implementation efforts be made on a school district-wide basis, rather than individual schools or "pilot projects."
4. Before providing training and technical assistance to school districts, CSIERT recommends that a mandatory "buy-in" presentation is delivered to all school district administrators (including all principals), preferably at a regularly scheduled district meeting. This strategy has been effective in ensuring the support and involvement of the key administrators to make Tools for Schools implementation successful.
5. Providing training to the school-based teams is crucial to their success. CSIERT utilizes an "empowerment" workshop model consisting of presentations, videos and "hands-on" exercises. These workshops occur "on site" in the school district to allow interaction and team-building, rather than off-site webinars, etc.
6. It is important to develop support mechanisms for assisting school districts to maintain the building teams for the long haul. CSIERT has found that districts that maintain their programs with yearly assessments and recommendations are likely to be successful in documenting problems and making improvements.
7. CSIERT recommends that the Tools for Schools building teams be instructed and encouraged to develop yearly summary reports of their building assessments, prioritized recommendations and completed remedial activities. These reports can act as yearly needs assessments to be used by school administrators to make further improvements.