



CASE STUDY

CHICOPEE PUBLIC SCHOOLS

Chicopee, Massachusetts



In the fall of 1996, a series of simultaneous events led to Chicopee Public Schools' involvement in EPA's *Indoor Air Quality Tools for Schools (IAQ Tfs)* Program. At that time, a teacher began complaining to the Chicopee Education Association (the teachers' association) and the Western Massachusetts Coalition on Occupational Safety and Health (Western MassCOSH) about respiratory problems she was experiencing while in her classroom. She threatened to take legal action against the school system if her classroom-related health problems were not addressed and rectified in a timely manner.

At the same time, Chicopee representatives attended a Western Massachusetts Teachers Association meeting where Susan DeMaria of Western MassCOSH, a non-profit organization that provides training for the *Indoor Air Quality Tools for Schools Kit*, spoke about IAQ in schools. They relayed the information presented by Ms. DeMaria to the leadership of the Chicopee Education Association who arranged a meeting with her

during which they described some of the schools' IAQ problems—poor ventilation, vehicle exhaust fumes entering classrooms, and mold and mildew. Ms. DeMaria then approached Chicopee Public Schools to discuss implementing the *IAQ Tfs* Program to address these IAQ problems and improve the learning and teaching environment for students and staff.

"I found that being proactive was well worth the time and effort. Because our IAQ Team represented all the different personnel that make a school work, it was easier for staff to relate to each other."

*-Jim Stefanik
former Director of
Maintenance*

Approach—Project Description

School District Description

Located in Chicopee, Massachusetts (approximately 92 miles southwest of Boston), Chicopee Public Schools consist of 15 schools, one administrative building, one telecommunications building, and one alternative school in a leased building. Buildings range in age from 5 to over 100 years. Approximately 7,400 students were enrolled in the Chicopee system during the 1998-99 school year.

IAQ Team

Ms. DeMaria's first step involved contacting the district's Director of Maintenance who then set up meetings with union representatives. Their support for the IAQ program helped gain buy-in from the Superintendent and the Chicopee School Committee. In early 1997, Chicopee formed a district-wide IAQ Team consisting of a custodian with the United Food and Commercial Workers (UFCW) union, the Assistant Director of Maintenance, a teacher representative from the Chicopee Education Association, a school nurse, the President of the Cafeteria Workers Association, and a teacher with the Chicopee Council Parent-Teacher Organization (CCPTO). Staff from Western MassCOSH trained the IAQ Team on how to use the *IAQ Tfs Kit*, how to conduct effective IAQ meetings, and they participated in the first round of school walkthroughs. They also discussed who should be involved in the process of IAQ problem identification and remediation, how to prioritize problems, and how to obtain funding for improvements. The Team held meetings with CCPTO members to hear their concerns about potential IAQ problems.

Problem Identification

The Chicopee IAQ Team designed a problem identification process that focused on one school at a time. A school was randomly chosen from names in a hat, with the understanding that IAQ in all schools would eventually be evaluated. Once a school was chosen, letters were sent to parents informing them that the district would be evaluating and improving the school's indoor environment. The Team also made plans to attend the school's staff meetings to talk about the *IAQ Tfs* Program, explain and distribute the IAQ checklists, and answer any questions regarding IAQ. The *IAQ Backgrounder*, a document found in the *IAQ Tfs Kit*, was made available in the school office for interested staff, parents, and students.

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“Our committee was so successful because we put aside our differences and worked together as a team.”

*-Mike Muldoon
Custodian*

As they began working directly with each school, the IAQ Team quickly noticed a lack of communication between teachers and the custodial/maintenance staff. Following guidance in the IAQ TFS Kit, the Team worked to open these lines of communication by attending school-related meetings and speaking with individual teachers and staff about what to do and whom to contact if a potential IAQ problem was discovered in their classroom or school.

The IAQ Team also customized the Kit’s checklists to better fit each schools’ needs. They set strict deadlines for school staff to turn in completed checklists, which were then collated and reviewed by the Team prior to a school walkthrough. Afterward, the custodial and maintenance representatives met with the teachers individually to discuss the problems specified on their checklists.

IAQ problems found in some of the Chicopee schools included:

- Stained ceiling tiles.
- Stained, moldy, and mildewed carpet.
- Moldy counter tops.
- Pests and insects.
- Dirty air filters and univents.
- Closed air vents or books blocking air vents in classrooms.
- Excessive moisture in classrooms with plants.
- Improper use of pesticides and chemicals while school was in session.
- Food left in classrooms creating odor and pest problems.
- Sewer gases in the home economics classrooms resulting from dry drain traps.
- Leaking windows and pipes.
- Temperature problems (extreme hot or cold variations).

In some cases, exhaust fumes from school buses were entering classrooms and noxious fumes from dumpsters were entering cafeterias. Two of the schools in the district, each at least 100 years old, had malfunctioning ventilation systems, resulting in inadequate airflow in classrooms.

Lessons Learned

Short-Term Solutions

The presence of the IAQ Team paved the way for increased communication between teachers and the custodial and maintenance staff. Teachers were urged to contact someone on the IAQ Team or a member of the custodial and maintenance staff whenever they noticed problems in their classrooms so that these issues could be handled in a timely manner.

The maintenance and custodial staff completed most of the repairs, with some assistance from outside contractors. Short-term solutions for schools in the Chicopee system included:

- Relocating dumpsters away from doorways and windows.
- Removing trees near windows to discourage bees from entering classrooms.
- Placing fans in classrooms where ventilation was a problem.
- Opening windows when children were out of the classroom to let in fresh air.
- Replacing or caulking leaky windows.
- Cleaning and, where necessary, replacing carpet.

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"I don't understand why every school doesn't use the Indoor Air Quality Tools for Schools Kit."

*-Jim Stefanik
former Director of
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Teachers and staff members were advised to keep doors open in classrooms to improve ventilation, to take students to the cafeteria to eat, to refrain from leaving food or food containers in the classrooms for long periods of time, and to limit the number of plants kept in the classroom.

Larger and more costly to fix IAQ problems were placed on a list for future attention and will be addressed as money becomes available. According to Jim Stefanik, former Director of Maintenance for Chicopee Public Schools, costs to correct IAQ problems ranged from \$1,000 for minor repairs to \$350,000 in one school where windows had to be replaced.

Long-Term Practices and Policies

Chicopee Public Schools instituted many long-term practices to improve the IAQ in their schools, including:

- Regular replacement or cleaning of all air filters (quarterly for most classrooms; more frequently for vocational classrooms) and documentation of the event.
- Scheduled (annual) cleaning of unit ventilators.
- Purchasing an additional carpet cleaner for the school system.
- Proper use of pesticides.
- Filling drain traps to prevent sewer gas leaks.

Involvement with the *IAQ TFS* Program has fostered an increased understanding of the environmental issues present in the school system and the sensitivities of building occupants. The Program also brought issues such as pest management to the forefront; the school system is currently considering an Integrated Pest Management program. The Director of Maintenance began holding seminars for the custodians and maintenance staff on topics such as carpet maintenance and cleaning, proper washroom cleaning and disinfection, indoor air quality, and filter maintenance. Chicopee plans to hire outside contractors in the future to provide additional training.

After completing the first round of walkthroughs and improvements in the entire school system in 1999, the IAQ Team received a Certificate of Achievement from EPA for being the first school district in the nation to participate in the *IAQ TFS* Program. Since 1999, various Team members have spoken at IAQ trainings and conferences and shared information with other school districts about their experiences with the *IAQ TFS* Program. The IAQ Team intends to visit each Chicopee school on a regular 2- or 3-year rotation to check for new or ongoing problems. They are currently preparing for the second round of visits to each school.

Jim Stefanik was instrumental in encouraging school staff to take a proactive approach to improving indoor air quality. The *Indoor Air Quality Tools for Schools* Program would not be as successful as it is without champions like Jim Stefanik. This case study is dedicated to his memory.

For more information, contact:

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