Welcome!
Healthy School Environments Across Texas
Garland, Texas
April 23 and April 24, 2012

Leadership Voices
• Dr. Curtis Culwell, Superintendent, Garland ISD
• Mr. Preston Edwards, Mayor Pro Tem of Garland
• Dr. Al Armendariz, EPA Region 6 Regional Administrator

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Action Planning
• What leadership messages did you hear from the opening speakers?
Twitter Information

• We will be live tweeting at the event and encourage those who are on Twitter to follow us @HealthySEAT2012. You can also tag @HealthySEAT2012 in your Tweets to let us know how you’re enjoying the event.

Goal of Training

• To provide information and tools to help you create healthy indoor environments in schools.

Learning Objectives

• Understand the elements of maintaining a green and healthy school.
• Discover how improved IEQ leads to academic success.
• Be equipped to create an effective IEQ management program.
• Develop an action plan.

Hat Trick

• Grounding in a Firm IEQ Knowledge Base
  - Effective Framework for Success
  - Technical Expertise
• Action Learning Approach
  - Peer-to-Peer Learning
  - Action Learning
• Powerful National Network
  - Mentoring
  - Ongoing Support

The IAQ Tools for Schools Guidance
National Network — Connections to Spur Action

Strengthening the National Network through Regional Pacing Events

The National Schools Network: Three Platforms

Knowledge of Best Practices
Network Members
Action Learning System

The Schools Connector

Agenda Design:
Monday, April 23, 2012
12 – 7 p.m.

12:00 – 12:15 p.m. Opening Remarks — Leadership Voices
12:15 – 12:30 p.m. Meeting Overview
12:30 – 1:30 p.m. Children’s Environmental Health and Risk Management
1:30 – 1:45 p.m. Break
1:45 – 3:45 p.m. Cycle of Implementation — Six Key Drivers to Success
4:00 – 5:00 p.m. Exhibitor Expo
5:00 – 7:00 p.m. Reception/Dinner

Agenda Design:
Tuesday, April 24, 2012
8 a.m. – 12:30 p.m.

8:00 – 8:30 a.m. Technical Solutions & Best Practices
8:30 – 9:45 a.m. Virtual Walkthrough
10:00 – 10:50 a.m. Technical Solutions & Best Practices:
- HVAC
- Moisture/Mold
- Asthma in Schools
- Construction and Design
- Energy Efficiency and EQ
11:00 a.m. – 11:50 a.m. Concurrent Sessions Repeat
12:00 – 12:30 p.m. Leaving in Action: Leadership Voice

How to “Be”

- Focused on identifying the defining actions you will take.
- Willing to speak in the language of IEQ success.
- Open to Assuming a Leadership Role in the movement for safer, greener, healthier more productive schools.
- Excited to apply a successful Framework to your work.
- Leaders in Service to One Another.
Leaders in Service

• Seek Permission to Serve.
• Grant Permission to be Taught.
• Use Effective Questions.
• Listen with Authority.
• Create the Future with Powerful Requests and Offers.
• Generate Action and Outcomes with Bold Declarations.

Your Leadership Story

I am in service to helping communities make every school a Pristine Palace of Learning.

What is the IEQ story you are in service to?

Personal testimonial from Victor Melton, CFBISD

Children’s Environmental Health and Risk Management

Speakers

• Irene Nigaglioni, Partner, PBK Architects, Inc. and CEFPI
• Tracy Bramlett, President, Industrial Hygiene Safety and Technology
• Diane Rhodes, Director of Environmental Health, North East ISD

Action Planning

• Please record the leadership strategies and “Call to Action” messages you hear from these speakers. Listen for strategies related to the environment, health and education.
Action Planning

Irene Nigaglioni, Partner, PBK Architects, Inc. and CEFPI

• “I will be a fierce advocate for excellence in student learning environments.”

My role:
• Architect/Planner
• 20 years dedicated to the design, planning, and construction of educational facilities
• Advocate for the connection between learning and facilities
• Mom

Vision:
CEFPI is the advocate for excellence in student learning environments

• NO SURPRISE: Improving the quality of our school environments can have a powerful effect on productivity and student achievement.

Ventilation, Temperature, Natural Light, Acoustics, Color, Lighting, Maintenance

ASTHMA
• Disease Control and Prevention finds that reducing indoor air pollution could prevent more than 65 percent, or two in three asthma cases among elementary school-age children.
"A healthier environment is also a more equitable one."
"Underserved students are more likely both to attend schools with poor indoor environments. They desperately need more time in school, not less."

Arne Duncan

IT'S NOT FAIR

WHY DON'T WE ASK THE KIDS?

- Create healthy, high performance learning environment
- Demonstrate community involvement
- Incorporate sustainable features
- Support all different learning styles
- Incorporate technology to encourage "learning anytime-anywhere" philosophy
- Foster connections and collaboration

SUBMITTAL CRITERIA

- Project-based learning exercise
- Explore real world problems and offer solutions
- Bridge the gap between conceptual theory and real life skills
- Award-winning green curriculum
- Develop knowledge base
- Conduct research and interpret information
- Utilize 3-D computer-aided design software

Seneca Middle School
IT CAN BE DONE

It is easy…
• Make it part of your daily routine
• Look at each task through healthy colored glasses
• Join others in action
  • EPA
  • CEFPI
• Involve the students!!
  • They get it!

Action Planning

Record any “Defining Leadership Moments” you heard and “Call to Action” messages.

Managing Indoor Air Quality

• Over the past few years, managing indoor air quality has become one of the more demanding challenges facing school professionals.
Healthy School Buildings

• Increase ability of students to learn
• Reduce health issues
• Reduce operating costs
• Increase attendance

Case Study

• Elementary School in Dallas Metroplex evacuated because children became ill in one wing of school.

Prepare today for better school tomorrow

• Most important aspect of Indoor Air Quality (IAQ)
  »Be Proactive

Action Planning
Record any “Defining Leadership Moments” you heard and “Call to Action” messages.

Diane Rhodes, BBA, RRT, AE-C, RCP
Director, Department of Environmental Health
North East Independent School District

Asthma Awareness Education Program
Indoor Air Quality Program
NEISD Department of Environmental Health

Mission Statement:

- The Department of Environmental Health will address the needs of students and staff by creating a healthy environment and by providing technical and educational resources for the students and staff on air quality and asthma management. We utilize a four component approach to achieve a healthy environment for all students.

- Our commitment to classroom indoor air quality and asthma management results in higher student/staff productivity and attendance which benefit the district with increased state funding, lower healthcare costs, and increased student performance.

- Healthier children learn better.

The Air we Breathe affects our health and ability to learn

In one day....
We take 20,000 breaths  
= 3,400 gallons  
= 450 cubic feet

Over the course of the day...
- Breathe in 20 billion particles
- Consists of dirt/dust, volatile organic compounds, irritants, allergies, and microbes.
- The nose traps and filters up to 70% of these particles.
- Particles are too small to be trapped by the nose enter the airway.

Healthier children learn better.

Brain

- The healthy brain is well-protected against toxins by a specialized membrane that usually allows entry only to beneficial substances.
- However, recent studies suggest that inhaled ultrafine particles may be capable of bypassing this barrier, especially in children where their brains are still developing, which then affects their ability to learn.

When we breathe, air enters our lungs and nasal passages:
Effects of ultra fine particulates can enter the brain either directly or indirectly
- May physically enter brain (ultrafine PM)
  - Transported along nerves in the nasal passages to brain
  - Carried from lungs to brain via bloodstream
- May affect brain indirectly (PM2.5 and ozone)
  - Inflammatory factors released in lungs, travel to the brain

Asthma Remains a Serious Health Risk in the US

23 million Americans suffer from Asthma
7 million children

14 million school days missed annually

Every day in America approximately...
78,000 people miss school or work due to asthma
35,000 people have an asthma attack
5,000 people visit the emergency room due to asthma
1,200 people are admitted to the hospital due to asthma
10 people die from asthma

http://www.arb.ca.gov/research/health/healthup/de07.pdf

Asthma is...

Environment

"Inducers"
- Dust mite, cat dander
- Cockroach, mold
- ETS

Genetics

Asthma Development

Asthma Symptoms

"Our genes may load the gun, but the environment pulls the trigger."

Ellen Silbergeld, Ph.D.

Medication

Asthma Development

Environment

Asthma Symptoms

Reduction of Triggers

Asthma/allergy

Asthmatics should have....

- Normal activity level
- Ability to engage in desired activities
- No school days missed
- Reliever inhaler use less than twice per week
- Night-time cough less than twice per month
- Normal (or "near normal") pulmonary function

- No Emergency Room / Urgent Care visits
- No Hospitalizations

Symptom Threshold

Cumulative Effect of Environmental Asthma Triggers

Prevalence - Allergy

An estimated over 50 million Americans suffer from all types of allergies (1 in 5 Americans)

- Allergy prevalence overall has been increasing since the early 1980s across all age, sex and racial groups
- Allergy is the 5th leading chronic disease in the U.S. among all ages
- 3rd most common chronic disease among children under 18 years old
- Approximately 10 million people are allergic to cat dander, the most common pet allergy
- The most common indoor/outdoor allergy triggers are: tree, grass and weed pollen; mold spores; dust mite and cockroach allergen; and, cat, dog and rodent dander
- An allergic reaction can produce the same symptoms in response to substances that are generally harmless, like dust, dander or pollen
Symptom Threshold: Allergy

- Situation 1: No symptoms
- Situation 2: No exposure reduction, third allergy exposure causes symptoms
- Situation 3: ‘Tips for Healthy Classroom’; exposure reduction measures taken, third allergy does not provoke symptoms

Campus E Walk Through Assessment:
- Clutter, unable to clean effectively... DUST filled environment

Did you know that...
- Cockroaches
- Dust Mites
- Cat Dander
- Is in classroom dust?

Closer Look at Campus E’s clinic visits for PRN inhaler usage.

- Benefit seen after applying ‘Tips for Healthy Classroom’
- Greater than 50% decrease in PRN usage for symptoms
- In February and an additional 40% decrease in March

Benefits possible when Asthma/Allergy Control

Environmental measures applied:

- Reducing average number of schools days missed due to asthma by 50%...
- Improving all asthmatics attendance by only ONE day...

Attendance Funding → Gains / Benefit

Number of asthmatics in NEISD schools: 11,735

- Average number of school days missed due to asthma (CDC): 8
- Attendance daily rate by state: $32.00

Potential revenue LOST: $2,063,616.00

Benefits possible when Asthma/Allergy Control

Environmental measures applied:

- Replacing average number of schools days missed
- Improving all asthmatics attendance by only ONE day

Potential revenue LOST: $1,031,808.00

Potential revenue LOST: $257,952.00
Create an environment conducive to learning

Healthier children learn better... and come to school

Action Planning

Record any “Defining Leadership Moments” you heard and “Call to Action” messages.

Action Planning

• Please record your own leadership story in your Action Planning Guide.

Cycle of Implementation - Six Key Drivers to Success

Framework Overview

Break 1:30 – 1:45
The Framework for Effective School IEQ Management: Six Key Drivers

- Evaluate
- Assess
- Act
- Plan
- Communicate
- Organize

Applying the Framework

- Peggy Caruso, Assistant Environmental Director, Katy ISD
- Victor Melton, Environmental and Energy Manager, Carrollton-Farmers Branch ISD
- Diane Rhodes, Director of Environmental Health, North East ISD
- Frank DiNella, Director of Operations, Keller ISD
- Tiffany Delcour, Director of Environmental Quality, Louisiana Recovery School District
Applying the Framework: Action Planning Guide

As you listen to these school districts, record strategies about each of the Key Drives in your Action Guide.

**KEY DRIVER:**
Organize for Success

**ORGANIZE**
- Develop Systematic Approach
- Identify Existing Assets
- Design Standard Operating Procedures
- Empower an IAQ Leader
- Build an Effective Team
- Create Champions
- Secure Senior Buy-in

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**Organize**

- Administrative Support
- Strong Leadership
- Develop a Team
- Standard Operating Procedures
- Make use of New Technologies
- Change

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**Where we are 2012**

**Environmental Team 2012**
Strongholds

2006

2012

Clutter

2003

2012

Creating a Healthy Environment

Removed paper and cloth

2012

Mold and Moisture

2003

2012

Where we are 2012

2003

2012
- Standardized Program
- Recognized for Excellence
- Sustainable Healthy Schools
- Culture of Awareness
- District Priority

Applying the Framework:
Action Planning Guide

Rate how your own program shows up for the Organize Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.
KEY DRIVER:
Communicate with Everyone, All the Time

COMMUNICATE
• Share Your Goals
• Make IAQ Meaningful
• Be Transparent & Inclusive
• Communicate Results

Applying the Framework
Communicate
Victor Melton, Environmental and Energy Manager,
Carrollton-Farmers Branch ISD

What we are going to cover
• TIMES IAQ Program
• Framework for Success
  – Key Driver: Communication
• Buy-In
• Results

TIMES Members
• Renee Putter - Athletic Director
• Susan Shipp - Science Coordinator
• Patty Jo Mirate - Safety/PCL Insurance
• Teresa Lyons - Nurse Manager
• Rosalie Getz - Occup Health Nurse
• Johnny Hibbs - Exec. Dir. Facilities/Trans
• Tom Bell - Construction Supervisor
• Wade Lillie - Dir. Security & Operations
• Roland Donnell - Maintenance Director
• Melvin Beckham - Custodian Dept Head
• Terry Vandenberg - HVAC Controls
• Victor Melton - Environmental and Energy
  Special members
• James McClure (Estes, McClure & Associates, Inc)
• Trey Wamble (Commercial Risk Services)

Impacted by using the Framework
• Implemented our framework
• The program had to be holistic
• Myriad of departments had to participate
• The success and failures
The Key Drivers and Technical Solutions

- The TIMES program spilled over
- Staff gain confidence
- Staff can be focused

Making the Case – Funding and Buy-in

- TIMES was not funded program
- Success is the Key
- Build credibility

TIMES Tools for Schools (IAQ)

- What is IAQ?
  - Indoor Air Quality
    - Outside concentrations and inside concentration
    - Mold is everywhere 50 to 150,000
    - V.O.C. (volatile organic compounds)
    - Asthma is the leading cause of school absenteeism
    - Asthma triggering mechanisms in your room
  - Building credibility
  - Don’t ask the kids if they are sick too

- Funding and Buy-in
  - TIMES was not funded program
  - Success is the Key
  - Build credibility

Energy Efficiency

- C-FB Payroll / Utilities
- Who uses Energy? Who can save energy?
- Wasted energy = IAQ problems
- Start a (Green TEAM) an Integrated Waste Stream that creates a balance between waste and recycling service
- Light Fixtures on thermostats
- Educating our Kids / set a good example
- FAQs
  - My doctor says I have environmental allergies. Why do I only feel bad when I am at work?
  - Can you test the mold?

Applying the Framework: Action Planning Guide

Rate how your own program shows up for the Communicate Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.
KEY DRIVER:
Assess Your Environments Continuously

ASSESS
• Walk the Grounds
• Listen to Occupants
• Use Technology
• Determine a Baseline
• Keep Customers Satisfied
• Identify and Prevent Risks

Diane Rhodes, BBA, RRT, AE-C, RCP
Director, Department of Environmental Health
North East Independent School District

Asthma Awareness Education Program
Indoor Air Quality Program

Six Key Drivers at Work

Assessing NEISD’s Asthma Prevalence

Control of Asthma: defined as:
1. No absence from school due to asthma
2. No interruptions of class due to symptoms
3. No use of inhaler more than 2 times per week
4. No symptoms during the night
5. Participation in all physical activities
6. No emergency or urgent care

Take Action

NEISD Four Components of Control: Implemented

Stakeholders: students, parents, staff, community

Assessment Driver - 2006 to present

Student Health

Building Health

Targeted Asthma and IAQ symptoms

Software Application

Inhaler usage (separate scheduled from PRN)
Environmental Assessment

Assessment score of each classroom based on predetermined, agreed upon standards by area:

- 100 – (acceptable) no action required
- 90 – (ok) room for improvement
- 50 – (concern) education/action needed (work order generated)

Occupant
- clutter, stuffed animals, plants, furry animals, blocking of ERUs etc
- high touch cleanliness, dust practices, infection control measures, etc

Facilities
- plumbing leaks, HVACs, exhaust fans, grounds, pests, etc

Chemical Storage (NIOSH high school lab standards)

Air Summaries
- Particle counts, CO2 levels, humidity

Five possible areas – average score for each classroom and overall campus score

Administrative email

North East Independent School District

Department of Environmental Health

11202 Convoy St - San Antonio, TX 78249

Phone: 210-341-8367, Fax: 210-341-8369

DATE: March 5, 2012

TO: Bethel Garza, Principal, West Avenue Elementary

FROM: Diane Romer, Director, Department of Environmental Health

SUBJECT: Campus Environmental Assessment

Reported environmental assessments were performed at your campus.

Please find below results:

- Campus: WEA E S
  - Avg Campus Score: 91/100
  - Avg Classroom Score: 92%
  - Avg Chemical Storage Score: 90%

If you have any questions or concerns regarding your assessment, please call the Environmental Health Resource Center at 210-341-8367.

Custodial

Facilities

Chemical Storage

Health Check

Air Summary (Airflow)
**KEY DRIVER:**
Plan Your Short and Long-term Activities

**PLAN**
- Prioritize Actions
- Put Goals in Writing
- Start Small
- Work in Stages
- Plan for the Future

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**THE CHALLENGE**
- Operationalize Excellence with focus on the 5 board strategic initiatives
  - 1. Educational Excellence
  - 2. Excellence in Student, Parent and Community Relations
  - 3. Excellence in Operational Processes and Systems
  - 4. Employee Excellence and Organizational Improvement
  - 5. Excellence in Financial Stewardship

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**THE ANSWER**
- A comprehensive program to improve our Indoor Environmental Quality
  - Voluntary
  - Common-sense
  - Low-cost

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**APPLYING THE FRAMEWORK: Action Planning Guide**
Rate how your own program shows up for the Assess Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.

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**PLANNING**
to improve student performance

Frank DiNella, Director of Operations, Keller ISD
April 21, 2012
Follow a Structured Process

- **IAQ Tools for Schools Framework for Effective School IEQ Management**
  - Defines strategies to establish and sustain a successful IEQ management plan.
  - Provides a flexible and adaptable structure.

**Plan**

- **Plan**
  - **Standardize Maintenance Practices**
  - **Standardize Cleaning Practices**
  - **Standardize Reporting Procedures**
  - **Standardize Communications Procedures**

**STANDARD COMMUNICATIONS**

In alignment with our vision to be an intentionally exceptional district in which to learn, work and live, KISD commits to providing a healthy and safe environment for students, faculty, staff and visitors. KISD will practice environmental stewardship by:

- Implementing responsible environmental processes;
- Increasing awareness and engagement in sound environmental policies and procedures amongst staff, students, partners, and vendors;
- Promoting practices consistent with environmental protection, both within and outside the district, to model societal responsibility;
- Conducting continual improvement assessments and making data-driven decisions to minimize the impact of our facilities and operations on the environment;
- Participating in local, regional, and national initiatives to improve the quality of the environment;
- Researching, developing, and integrating best practices to build capacity and expertise that ensures environmental sustainability.

The superintendent, or his designee, shall effectuate this policy through a comprehensive environmental stewardship plan which includes measurable goals, periodic evaluations, and analysis of performance against the plan.

**THE RESULT**

- MANAGING IEQ BECAME THE STRATEGY TO SUPPORT EDUCATIONAL EXCELLENCE
- M&O BECAME AN INTEGRAL PART OF THE EDUCATIONAL SYSTEM IN KISD

**Applying the Framework:**

**Action Planning Guide**

Rate how your own program shows up for the Plan Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.

**KEY DRIVER:**

**Act to Address Structural, Institutional and Behavioral Issues**

**Act**

- Educate Staff About IAQ to Change Behavior
- Train Occupants to Address IAQ Risks
- Address the Source of Problems
Applying the Framework

Act
Tiffany Delcour, Director of Environmental Quality, Louisiana Recovery School District

Educate/Train

IAQ 101
- Reach as many groups as possible...
  - Custodians, Maintenance Crew, Teachers, Administrators, Parents...
- Action Planning
  - Do not leave without identifying the next steps.

IAQ Teacher Classroom Survey

Carbon Dioxide Levels Pre and Post Intervention:
- Initial Assessment found high levels of CO2
- Large Fan Units Disabled
- Capital Investment $3,500

Edward Harney Elementary School
Overdue Filter Change
- PM's not followed

Follow Up

- Make changes!
  - (Over) Communicate those changes
- What was the result of change...
  - New policy/procedure?
  - Change in products?
  - Improved IAQ Indicators?
- Show the importance of your work.

Do

- Follow through on next steps...
- Perform walkthrough
- Keep team well informed of the work that is happening.
- Be responsive!

Show proof of success!
Repeat
(Secret- this is the hardest part)

• Put more responsibility at the school level.
• Evolve…
  – Customize
  – Build on success
  – Make Policy!

RSD Evolution

• Decentralized School District
• Contract Management
  – HVAC
  – Custodial-Green Cleaning
• Self Sustaining…
  – Policy Counts!

Applying the Framework:
Action Planning Guide
Rate how your own program shows up for the Act Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.

KEY DRIVER:
Evaluate Your Results for Continuous Improvement

EVALUATE
• Solicit Feedback
• Capture Return on Investment

Applying the Framework:
Action Planning Guide
Rate how your own program shows up for the Evaluate Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.

Panel Discussion about the Evaluate Driver
Applying the Framework

Each speaker will answer the question “How have you utilized the Framework to address specific technical solutions in your school district?”

Applying the Framework: Action Planning Guide

At your tables, share your ratings and collect strategies from one another.

National Network — Connections to Spur Action

Strengthening the National Network through Regional Pacing Events

Exhibitor Expo

Ian Hadden, Energy/Sustainability Services Manager, Fanning Howey

Exhibitor Expo

• U.S. EPA Region 6
  • School Environments
  • Children's Environmental Health
  • Lead Based Paint
  • Pollution Prevention
• Republic Services
• Council of Educational Facilities Planners International
• Region 6 Pediatric Environmental Health Specialty Unit
• Texas Department of State Health Services
• Texas Energy Managers Association
• North Texas Green School Committee
• Asthma and Allergy Foundation of America

Exhibitor Expo

Scavenger Hunt Instructions

• Record requests and offers from exhibitors in your Action Planning Guide handout. Ask exhibitors to initial by the Technical Solution you discussed and stop by the EPA table to drop off your raffle ticket.
Reception, Dinner and Networking

5:00 – 7:00

And then prizes!

Highlights

• Leadership Voices and Call to Action
• Framework for Effective IEQ Management
• Taste of the Technical Solutions
• Hunt for Resources

Reception/Dinner

Dr. James R. Veitenheimer, Superintendent, Keller ISD

Anne Crowther, Program Manager, Children’s Medical Center - Dallas

Healthy Schools

Keller ISD’s Focus on Indoor Environmental Quality

Keller ISD at a Glance

• Serves 9 communities
• 33,000 students
• 3,500 Employees
• 2,100 Teachers
• 33,000 Students
• 39 Campuses and 4 Additional Facilities
• Fast Growth District
  • 18 New Campuses in Previous 10 Years

Keller ISD at a Glance

• 5-Star FAST Rating for Financial Efficiency
  • Two years in a row
• 2010 Texas Safe Schools Award
• TASBO Awards of Merit for Purchase and Operations
• College Readiness Recognitions by ACT
• Two State Teachers of the Year (2007, 2008)
• 10 National Merit Finalists (2011-2012)
**District Organization**

- District Administration divided into 8 “Functions”
  - Business (Maintenance and Operations, Transportation, Child Nutrition, Construction & Planning)
  - Finance (Payroll, Purchasing)
  - Governance (Superintendent, General Counsel)
  - Leadership (Campus/Program Administration)
  - Learning (Curriculum & Instruction)
  - Media Services (Communications)
  - Technology
  - Workforce (Human Resources)

**Continuous Improvement**

- Baldrige Education Criteria for Performance Excellence
  - Adopted 2008
  - Began with senior leadership
  - Maintenance and Operations brought in-house around same time period
  - Renewed M&O focus on Strategic Priorities

**Campus Environment Quality**

- Employed EPA Tools for Schools IAQ Management Program

**District Organization**

- Board of Directors
- Superintendent
- Administration
- Business Services
- Finance
- Governance
- Leadership
- Learning
- Media Services
- Technology
- Workforce

**Continuous Improvement**

- Operations reevaluated role in “Educational Excellence”
  - “How can what we do affect student performance in the classroom?”
  - Monitoring IAQ became important strategy to “Educational Excellence”
    - Healthier environment = better student/staff attendance
    - Better attendance = greater performance

**Campus Environment Quality**

- Developed IAQ Management Program
Campus Environment Quality

- Indoor Air Quality
- Green Initiatives
- Cleaning Products and Procedures
- Building Construction Materials
- Focus on LEED Concepts
- Waste Management
- Energy Consumption

- Timberview Middle School (2010) epitomizes all of these efforts

Sobering Statistics

- 50% of all illness is caused or aggravated by poor IAQ
- About 20% of all schools have problems linked to IAQ
- U.S. children miss more than 14 million days each year because of asthma due to poor IAQ
- Average productivity loss due to poor IAQ is between 3 and 7 percent
- 80% of parents believe that poor IAQ can have a direct negative effect on a student’s academic performance

National Studies

- IAQ is consistently ranked as a top five environmental risk to public health
  - Impacts student/teacher attendance and performance
  - Can strain relationships among school administration, parents and staff
  - Can create negative publicity/liability

Attendance vs. Performance

National Studies

- Improved Health translates into an enhanced educational environment for students
  - 70% reported that student performance improves and there are fewer absences in green schools
  - Related studies show improved standardized test scores and other educational markers
Results

- Increase in Test Scores
  - Over three years, 10.1% Increase in State Assessment scores
- Increase in Scholarships Offered
  - Over three years, 65.4% Increase
- Reduce Cost of Operating Facilities
  - Over three years, .008% Decrease in operating cost per square foot

National Recognition

- 2009 National Great Start Award
- 2009 National Leadership Award
- 2010 National Excellence Award
- 2011 National Model of Sustained Excellence Award
- LEED Silver Level Certification by the U.S. Green Building Council

Asthma Management Program

- In Dallas County an estimated 56,000 children have asthma
- In the state of Texas 1 in 10 children have asthma
- Asthma is one of the top three admitting diagnoses to Children’s Medical Center Dallas
- The estimated annual cost for treating asthma in children younger than 16 is between $2.0 and $3.2 billion.

Statistical Information

- Asthma is the most common chronic disease of childhood affecting an estimated 6.5 million children
- Asthma is the third-ranking cause of hospitalization among children under 15 and accounts for 1/3 of all pediatric emergency room visits
- Incidence of asthma is increasing most rapidly in the under five age group
- One in thirteen children have asthma
- Asthma is the leading cause of school absence

Dallas, Texas

Privileged and Confidential
**Asthma Management Program**

- Enrollment
- Home Visit
- Optional Class
- Re-weekly telephonic contact
- Core Coordination

**Environmental Triggers**

**Child’s Bedroom**
- Window coverings other than blinds
- Ceiling fan are absent or dust free
- Closed doors are closed
- Toys are enclosed
- Clothes are in drawers or enclosed
- Bedroom is dust free
- No live plants
- Cheesecloth or filters over air vents
- No pets
- Pillow encasements in use
- Mattress covers in use

**Other living areas**
- Dust free
- No deodorizers
- No water leaks
- No tobacco smoke
- No mold
- No cockroaches

* Indicates statistical significance in the change from the 1st to the 2nd home visit.

**Key Components**

- Physician Involvement
- Child Specific and In-Home Education
- Teaching Self-Management Skills
- Reinforcing the Asthma Action Plan
- Environmental Assessment and Trigger Mitigation
- Community Involvement
- Care Coordination and Follow-up

**Program Results**

- 88 percent reduction in related inpatient admissions
- 77 percent reduction in related ER visits
- 29 percent increase in asthma quality-of-life scores
- 71 percent reduction in missed school days
- 74 percent reduction in parental missed work days
- 20 percent reduction of triggers in the home

**Taylor’s Experience**

- Taylor diagnosed with asthma at 18 months. Referred to the program at age 11. In the six months prior to program participation:
  - Missed 5 school days
  - One ER visit
  - One IP hospitalization
- Key issues addressed in program:
  - Environmental triggers in home
  - Non-compliant with her medication
- During the 6 month program: symptoms and control improved, missed only one day of school, and had no ER or IP visits

**Advocacy and Community Involvement**

- North Texas Asthma Consortium
- Asthma Coalition of Texas
- American Lung Association
- Association of Asthma Educators
- American Academy of Allergy, Asthma and Immunology
- Camp Broncho
- Community Health Fairs
- Head Start
- School Nurse Education Programs
- Baylor School of Nursing Education Programs
**Asthma Resources**

Children's Medical Center  
http://www.childrens.com/schoolnurses  

EPA  
http://www.epa.gov/asthma  

North Texas Asthma Consortium  
http://northtexasasthma.org

**Get Involved**

- Participate in Asthma Awareness Month and World Asthma Day (May 1, 2012)  
  - Find an event in your community  
  - Plan an event for your school, church or neighborhood  
- Find and support your local Asthma Coalition  
- Join the AsthmaCommunityNetwork

**References**


Republic Services, Inc. is a leading provider of solid waste collection, transfer and disposal services. The Company's various operating units are focused on providing environmentally sound and cost effective service to commercial, industrial, residential and municipal customers.
National Capabilities

We operate in 40 states and Puerto Rico

Our Business Today

- $8.2 billion in annual revenue
- $19.5 billion total assets

Our Business Today

- 376 hauling companies
- 223 transfer stations
- 78 recycling plants
- 193 operating landfills

Our Business Today

- Our 31,000 employees deliver services to our customers nationwide
- 73 landfill gas and renewable energy projects
  - Environmental benefit equal to removing 3.9 million cars from the road
  - The nation's only landfill solar energy cover
Environmental Sustainability

By the Numbers
- More than 1,000 alternative fuel trucks in our fleet including
  - Nearly 500 compressed natural gas (CNG) trucks
- More than 3 million tons recycled annually
- Renewable energy provided for more than 393,000 homes

School Recycling

Here’s where things go...

- Classroom Paper
- Cafeteria Recyclables
- Recycle Container

Products are brought to your school

The materials are shipped to companies to be made and sold as new products

Material Recovery Facility
Recycle Truck

This is called “Closing the Loop”

Benefits of School Recycling with Republic Services

- Program Partnership – We design the recycling program around the priorities you set for your School District.
- Weights & Measures - We will provide the tonnage information for each school.
- Dedicated Account Manager to work with you from the outset to help build and grow your recycling program.

Benefits of School Recycling with Republic Services

- Provide training for your Staff, Janitorial Staff and Students. Set up and train Green Teams if needed.
- Implement a Recycling Kick-Off Campaign.

Our Values
Thank you!
See you tomorrow!