

# School nurses, partners in addressing asthma:

A collaborative program with the University of CT Health Center, CT Departments of Education and Public Health and US Environmental Protection Agency- New England Region

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*by*

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# Collaborators

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# Much appreciation to:

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- Barbara Lesniewski RN, Thompson Public Schools
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- Barbara Morey RN, Tolland Health District
- Nadine Schwab RN MPH PNP, Westport Public Schools
- Stephen Updegrove MD MPH, New Haven Public Schools
- All the school nurses and school nurse leaders throughout CT who participated in the update survey
- *US EPA Region 1 for support of the Phase 1 feasibility study*



# Today's talk

1. School nurse opportunity in CT
2. Statewide program feasibility project goals
3. Data gathering
  - Background/literature search
  - Interview, survey results
4. General findings



# What is the school nurse opportunity in CT to intervene on asthma?

- Prevention of illness
  - access to children at risk---maybe the only opportunity to intervene early for some children at risk
  - influence 3 of the four major determinants of health: healthcare, environment, behavior with targeted intervention
  - pivotal role on EPA Tools for Schools teams
- Disease tracking/surveillance
  - community scale helpful to link with environment and improve overall understanding
  - feedback to the system
- Disease management
  - on site in schools
  - facilitate communication among provider, school, family and child



# Connecticut

- CT communities reflect great socio-economic disparity, from substantial wealth to large clusters of poverty.
- Hartford has a sixth highest prevalence of child poverty among the nation's cities (43.4% reported in Census Bureau's American Community Survey 2006).
- Asthma rates are highest in urban areas and poorer towns. In 2001, 8.9% of CT children under 18 were estimated to have asthma. In households with income less than \$25,000, this rate reached 13.5%.
- CT - 3.4 million total population, 842,000-17 and under (2000 census)



# CT School Health Personnel

## *Staffing of Health Services in Connecticut School Districts*

### I. Nursing Staff.

**Table 2: Numbers and Funding Sources of Staff**

	Total Number of Staff in Participating Districts (FTE)	Percent Funded by Board of Health	Percent Funded by Board of Education	Percent Funded by Public Health/VNA
Nurse Leaders	80.0	12.5%	76.2%	11.3%
School Nurses	721.7	22.8	69.2	8.0
Nurse Practitioners	23.0	21.7	52.2	26.1
Permanent Float Nurses	15.1	13.2	80.1	6.6
One-to-One Nurses	28.8	3.5	88.9	7.7
Contracted Nursing Staff	29.5	3.4	76.3	20.3
Licensed Practical Nurses	41.5	2.4	97.7	0.0
Nurse Aides	87.0	30.9	46.2	22.9
Nursing Support Staff	38.5	24.3	73.1	2.6

Connecticut school districts employ registered nurses funded through a variety of sources. The majority of nursing staff are funded by the Board of Education.

Connecticut State Department of Education

## Health Services Program Information Survey

Final Report

December 18, 2006



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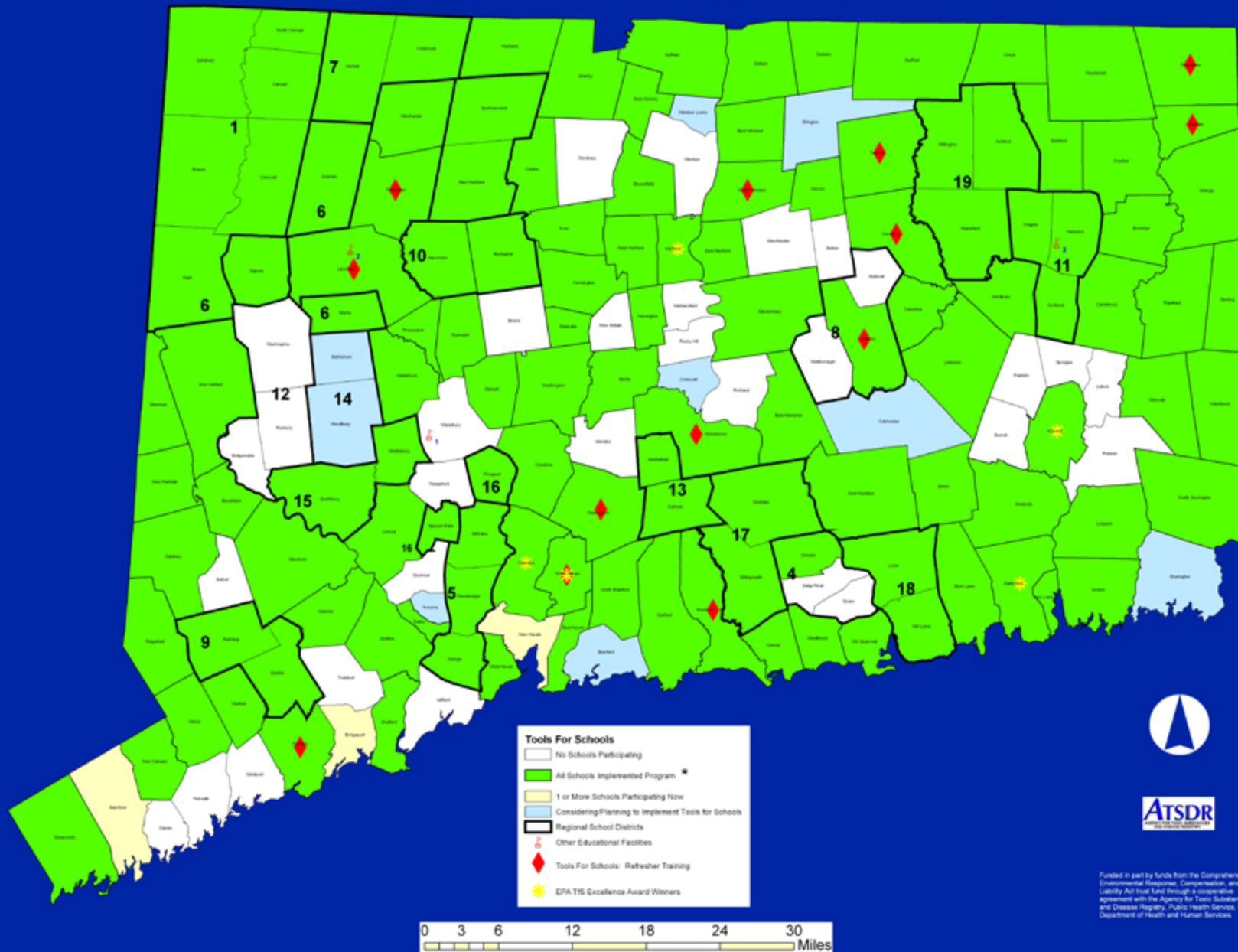
# CT school nurses are involved

- Disease management
  - Within classical school nurse role
  - School-based clinics
- EPA Tools for Schools





# Connecticut School Districts That Have Implemented EPA's Tools for Schools Indoor Air Quality Program as of June 21, 2007



# CT school nurses are involved

- Disease tracking/surveillance
  - CT Legislation requires that Health Assessment Records submitted on entry to the system, 6<sup>th</sup> or 7<sup>th</sup> grade, and 10<sup>th</sup> or 11<sup>th</sup> grade include asthma reporting, effective July 1, 2002
  - The Department of Public Health reports to the Public Health and Education committees of the General Assembly asthma trends and findings based on pupil age, gender, race, ethnicity, school and the education reference group (socio-economic characterization).  
First report on October 1, 2004





Keeping Connecticut Healthy

# Asthma Reporting Form 2006-2007

Department of Public Health - Asthma Program  
 410 Capitol Avenue MS #11HLS  
 P.O. Box 340308  
 Hartford, CT 06134

Return this form to the school  
 nurse supervisor for your  
 district.

<b>School Name:</b>						<b>Phone number:</b>	
<b>School Address:</b>							
<b>Enrollment:</b>	<b>Pre K:</b>	<b>K:</b>	<b>6th:</b>	<b>7th:</b>	<b>10th:</b>	<b>11th:</b>	
<b>Public / Non-public</b> (Circle one)							

Please complete one line for each child with asthma for whom a Health Assessment Record was required for the 2006-2007 school year.

Grade	Age	Gender (M/F)	Race/Ethnicity						Diagnosis Source (Check all that apply)						Severity					OPTIONAL		
			American Indian	Asian	Black, non-Hispanic	White, non-Hispanic	Hispanic/Latino	Other	Not Indicated	Provider Diagnosis on HAR	Provider Medication Order	Provider Asthma Action Plan	Symptoms Observed	Parental Note	Other	Mild	Moderate	Severe	Exercise Induced	Unclassified	Part I #2: Child has asthma? (Y/N)	Part I #7: Child has wheezing or coughing? (Y/N)

# “Training school nurses to track, prevent and intervene on children’s asthma.” Phase 1

- Feasibility-Statewide program
- Goals
  - **improve statewide asthma tracking**
  - prevent illness/intervene early,
  - effectively involve school nurses and
  - benefit Connecticut school children, especially low income.



# Asthma prevalence picture- national

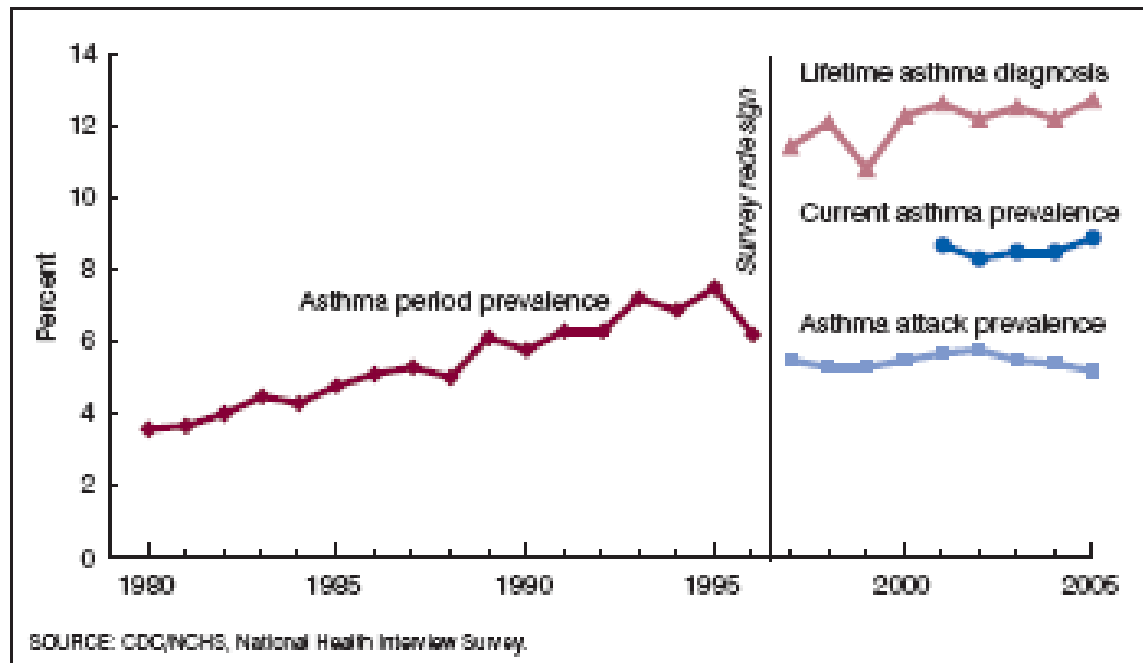


Figure 2. Asthma prevalence among children 0–17 years of age for measures of asthma prevalence available in each year, United States, 1980–2005

Advance Data

From Vital and Health Statistics

Number 381 • December 12, 2006 Revised as of December 29, 2006



The State of Childhood Asthma, United States,  
1980–2005

By Lara J. Akinbami, M.D., Office of Analysis and Epidemiology



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# “Training school nurses to track, prevent and intervene on children’s asthma.” Phase 1

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# Asthma is not an ecumenical illness

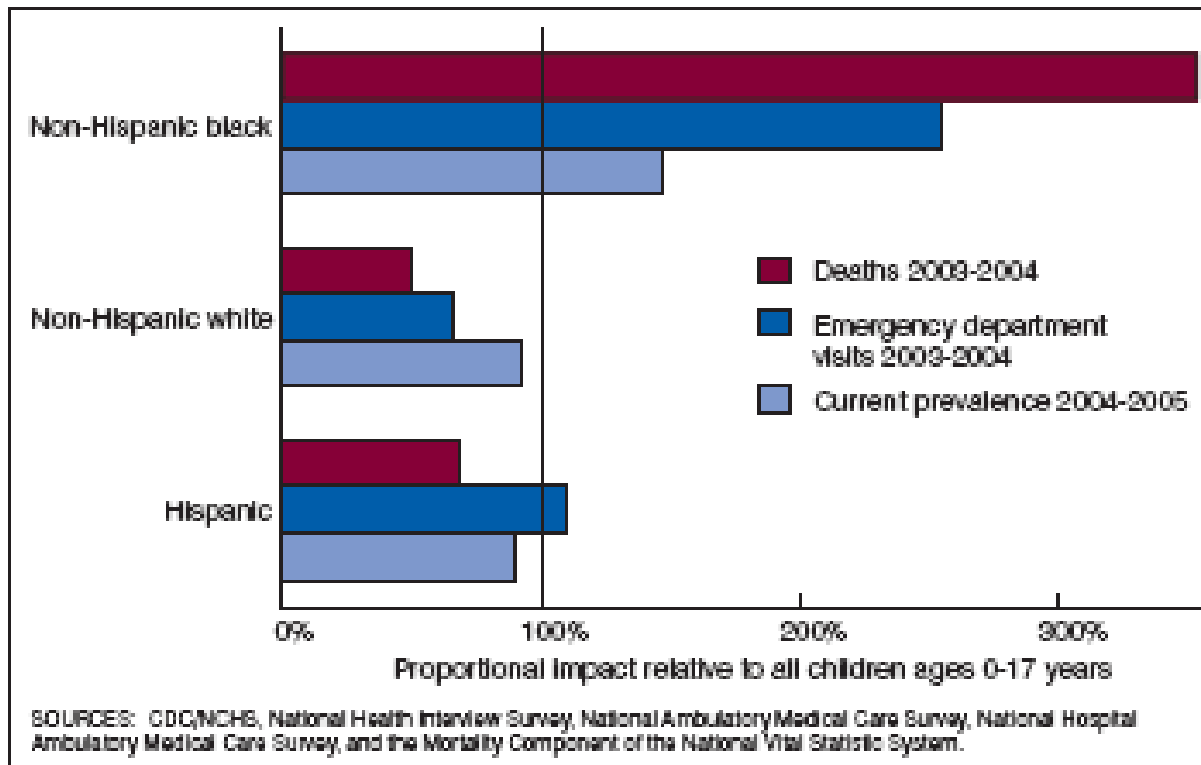


Figure 8. The proportional impact of asthma prevalence, health care use and mortality among children 0–17 years of age, by race and ethnicity, United States, 2003–2005

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# How feasible is the program partnering statewide with school nurses to intervene on asthma ?

## *Methods:*

- Catalog existing initiatives
- Review literature and published reports
- Survey nurse leaders
- Interviews/visits
  - CT school nurses representing diverse communities, from wealthy to very poor
  - New Haven pediatrician and Hartford Public Schools nursing supervisor
  - School nurse software vendors





# Data gathering :Partners' initiatives

- *State Department of Education*
  - *School nurse manual- Managing Asthma in Schools*
  - *Health promotion services*
  - *“Ready by 5, fine by 9”*
- *CT Department of Public Health*
  - *School nurse annual reporting*  
[http://www.ct.gov/dph/lib/dph/07Legislative\\_Report.pdf](http://www.ct.gov/dph/lib/dph/07Legislative_Report.pdf)
  - *Asthma surveillance -Asthma in Connecticut October 2005*  
[http://www.ct.gov/dph/lib/dph/Asthma\\_in\\_CT\\_2005.pdf](http://www.ct.gov/dph/lib/dph/Asthma_in_CT_2005.pdf)
  - *Asthma Program*
  - *Environmental Public Health Tracking*
- *EPA-Region 1*
  - *Tools for Schools*
  - *Healthy Community Initiatives*
  - *Air Toxics programs*
  - *Asthma/environment*
- *University of CT Health Center*
  - *Center for Indoor Environments and Health school activities-trainings, problem solving, research*
  - *Occupational Environmental Medicine Clinic*
  - *Center for Public Health and Health Policy*



# Highlights of literature review

- Opportunities/barriers

- Managing Asthma in Schools: Lessons Learner and Recommendations Wheeler LS, Merkle SL, Gerald LB, Taggart VS, Journal of School Health 2006
- Effects of a Comprehensive School-Based Asthma Program on Symptoms, Parent Management, Grades and Absenteeism, Clark NM, Brown R, Joseph CLM, Anderson EW, Lui M, Valerio MA, Chest 2004
- HIPAA-FERPA Revisited, Bergren MD, The Journal of School Nursing 2004

- School nurse role in tracking asthma

- A Survey of Asthma Prevalence in Elementary School Children Storey E, Cullen M, Schwab N, Alderman, N, Environment and Human Health, Inc; [www.ehhi.org](http://www.ehhi.org) 2003
- An Intervention to Increase the Use of Asthma Action Plans in Schools: A MASNRN, Pulcini J, DeSisto, MC, McIntyre CL, The Journal of School Nursing 2007

# Focus group/survey update

- April 05 School nurse leader discussion (Schenck, Resha, Storey)
  - 95 nurse leaders and supervisors at annual meeting
  - discussion topics: communications with parents of children with asthma and with primary care providers, children at risk, web-based reporting
  - at least 50% school nurses represented by these nurse leaders had some computer and internet access
- April 07 Survey
  - 48 nurse leaders ( who supervise ~500 school nurses) returned three page surveys ( out of 80 nurse leaders offered the survey in the state)
  - survey explored: systems, communication with providers and parents and the CT school nurse asthma reporting requirements
  - 80% reported that all their school nurses had computer access and all but one of the remaining 20% reported that most have access.



Asthma Interventions for Connecticut's School Children  
School Nurse Supervisor Survey  
April 2007

How many nurses do you supervise?	<input type="text"/>
Do you have access to a computer?	<input type="checkbox"/> Yes <input type="checkbox"/> No
How many of your nurses have computer access?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
How many of your nurses have internet access?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
If nurses do not have access to a computer, what non-computer systems do they use to organize health information and complete documentation?	Please check all that apply
<input type="checkbox"/> Charting with handwritten notes <input type="checkbox"/> Filling out forms supplied for them by the district <input type="checkbox"/> Health log as sole document tool <input type="checkbox"/> Other <input type="text"/>	
Does your District use [redacted] school nurse software?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, how many schools have [redacted]?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
Does your District use [redacted] school nurse software?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, how many schools have [redacted]?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
Does your District use [redacted]?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, how many school administrative offices use [redacted]?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
If yes, how many school nurses use [redacted]?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
Is there staff in the district to help the nurses with the software programs?	<input type="checkbox"/> Yes <input type="checkbox"/> No
How many school nurses enter their data as they see the child in the office?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
How many school nurses enter their own data periodically?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
How many nurses have other staff who enter the data for them?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none
How many nurses use these software programs to help fill out the State Asthma Reporting Form?	<input type="checkbox"/> All <input type="checkbox"/> most <input type="checkbox"/> half <input type="checkbox"/> less than half <input type="checkbox"/> none

# Survey findings

- System capability
- Communications with parents and providers
- Identifying children at risk (addressing severity and preventing disease)
- State reporting

# School nurse tools

- **Comparison of the two leading school nurse software packages and customization of administrative software**
  - Privacy compliance, security access, data transfer, electronic medical record functionality, expandability, PDA compatibility, quality of user interface, support
  - How the system identifies children with asthma and children “at risk” for asthma.
  - How would information on environment-time and place of asthma occurrences in the school be recorded?
  - How would information in the system be accessible to providers?
  - How easy and how often can the system be up dated with information from the school’s administrative system?
- **Legislation is proposed to provide resources**



# General conclusions

- **Reporting to Department of Public Health in place**
- **Additional school-based needs are:**
  - seamlessly produced reports from multiple school nurse software programs
  - comprehensive and consistent asthma training across the State
  - integration with other health initiatives in the school
  - integration with Tools for Schools
  - plan and resources to improve/support outreach to parents and providers
- **Community level asthma outcomes data would be used for education, public health, and environmental programs**



# Feasible?

## Yes, but there are limitations to address!

- Data quality
  - response
  - lifetime prevalence and/or current asthma
  - comparability /case definition
- Limited resources
  - nurse time to organize information, attend trainings
  - software: purchase, maintenance, updates
- Priority
  - relationship with learning is paramount to schools
- Health privacy and confidentiality
- Timeliness and customization
- Better integration of environment into asthma care



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