



## EVALUATION BRIEF



DEBRA HEATH

AUGUST 2007

---

# APS ASTHMA PROGRAM EVALUATION YEAR FOUR • 2006 – 2007

---

### BACKGROUND

Asthma is estimated to affect over seven percent of children in New Mexico and is a leading cause of missed school days. The Health and Wellness department of Albuquerque Public Schools (APS) initiated the Coordinated School Health Program for Asthma in the fall of 2003, with multi-year funding from the Centers for Disease Control and Prevention. The program aims to improve asthma management and reduce absenteeism. In 2006-07, all 84 APS elementary schools participated in the asthma program.

This brief summarizes evaluation results from the program's fourth year of implementation. APS' Research, Development and Accountability department (RDA) evaluated progress related to the following goals: (1) identify students with asthma, (2) improve students' asthma-related knowledge, attitudes and skills, (3) improve health care access, (4) expand health insurance coverage, and (5) reduce absenteeism due to asthma.

### DATA COLLECTION

For every identified student with asthma, school nurses collected health information from the emergency cards parents submitted at registration and from direct parent contacts. Information included students' health insurance and health care providers, medication use and asthma diagnosis sources. Nurses entered the information onto program checklists and delivered them to the district's Health and Wellness department. Throughout the year, nurses contacted teachers, parents and students to verify absences and reasons for those absences, as well as to update other health information.

### RESULTS

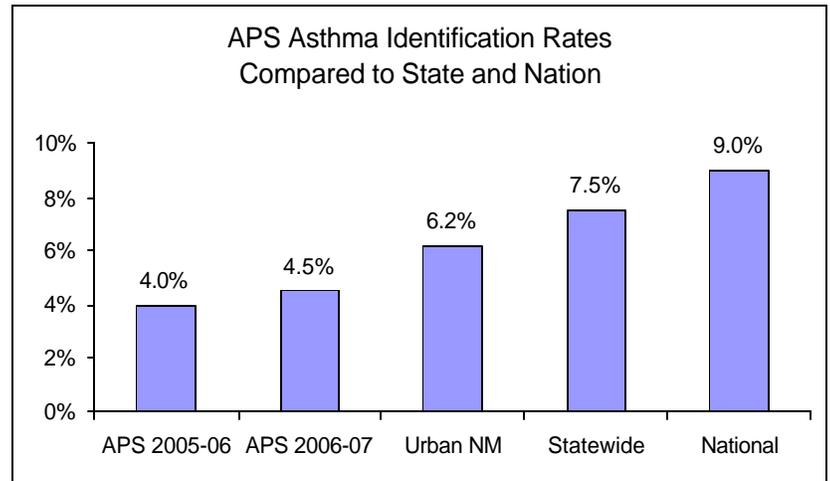
#### Goal 1: Identify Students with Asthma

The asthma program strives to identify all students with asthma so they can be educated, monitored and connected with appropriate services. In 2006-07, the asthma program expanded to 30 additional schools, increasing school and student participation by 60% compared to 2005-06.

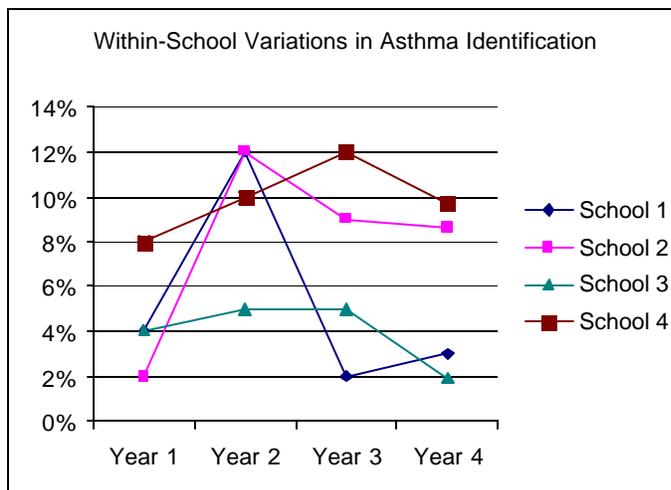
Successfully identifying all students with asthma within a school depends largely on parents and individual school nurses. Parents are asked to report their children's asthma on emergency cards when they register for school. School nurses verify emergency card information, pursue other evidence of asthma, and collect additional information essential for understanding and managing students' health.

Data from 2006-07 suggest that parent underreporting continues to pose a significant challenge to asthma identification. A 2001 study at three APS schools suggested that asthma prevalence may be as high as fifteen percent.<sup>1</sup> APS' average asthma identification rates in 2005-06 (4.0%) and 2006-07 (4.5%) were much lower than this and than other rates found in the larger community:

- 6.2% among public elementary school students in urban core areas of New Mexico;
- 7.5 % for children statewide;<sup>2</sup>
- 9% for children nationwide.



Asthma identification rates continued to vary widely, across schools, within schools across years, and for every program cohort.



For example, at one school four percent of students were identified with asthma in 2003-04, 12 percent in 2004-05, two percent in 2005-06 and three percent in 2006-07. School mobility alone is unlikely to produce such marked variations. Furthermore, each program cohort had schools with asthma identification rates as low as 1% or 2%, as well as schools with rates as high as eight to ten percent. Program staff attribute rate variations to varying levels of program implementation by school nurses. RDA recommends studying this in the 2008 evaluation.

**Goal 2: Improve students' asthma-related knowledge, attitudes and skills.**

APS nurses and American Lung Association (ALA) staff delivered the six-session Open Airways asthma education curriculum in 84 schools in 2006-07. They reached 433 third through fifth grade students, almost double the number of children reached in 2005-06 (236).

<sup>1</sup> Albuquerque Environmental Health Department, 2001.

<sup>2</sup> Hubbard G, The Burden of Asthma in New Mexico – 2006 Surveillance Report, New Mexico Department of Health, Epidemiology Bureau. 'Urban core area' is defined as continuously built-up areas with populations of 50,000 or more.

Results from the ALA Open Airways pre- and post-test questionnaires showed statistically significant increases in students' knowledge and ability to:

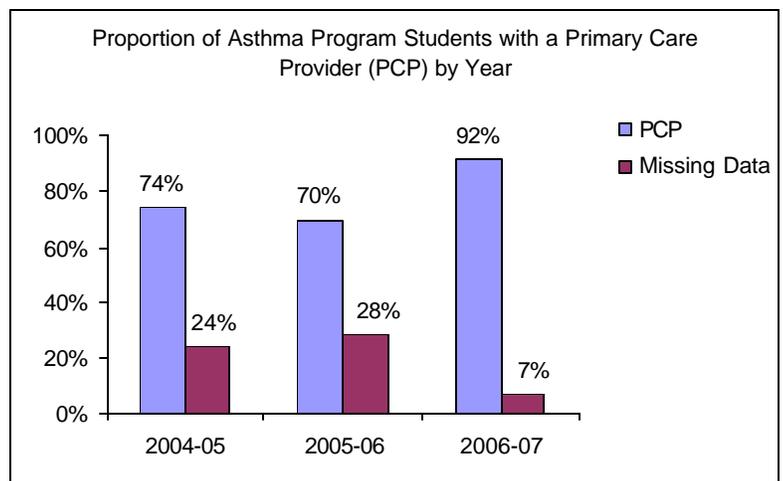
- Take asthma medicine appropriately;
- Handle asthma episodes;
- Recognize asthma triggers;
- Judge the severity of asthma episodes; and
- Talk to teaches about asthma and removing triggers from the classroom.

About three-quarters or more of respondents reported possessing the knowledge and ability to manage their asthma by the end of the Open Airways program. The proportion of students who indicated they were happy or very happy about having asthma increased to 53% at post-test from 33 percent at pre-test ( $p < .05$ ).

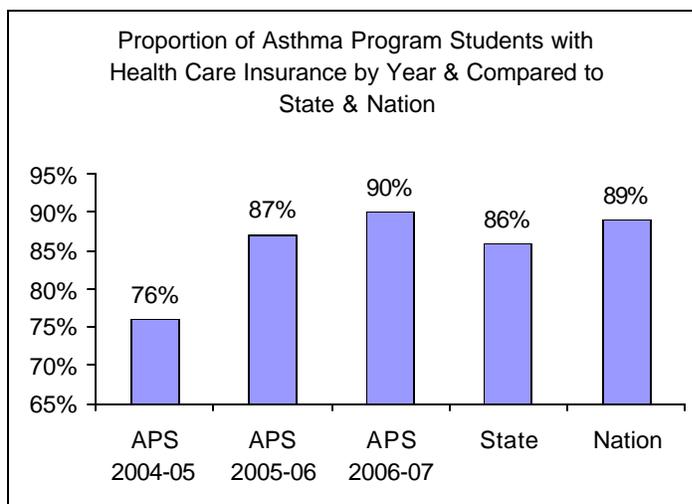
**Goal 3: Improve health care access.**

One of the asthma program's goals is to ensure that all students with asthma have access to health care provided by a primary care provider (PCP). In 2006-07, the proportion of students reported to have a PCP jumped significantly, to 92% from 70% in 2005-06.

Some of the increase may be due to the 21 percentage point improvement in data completion. Just as possibly the increase may reflect real improvements in health care access.



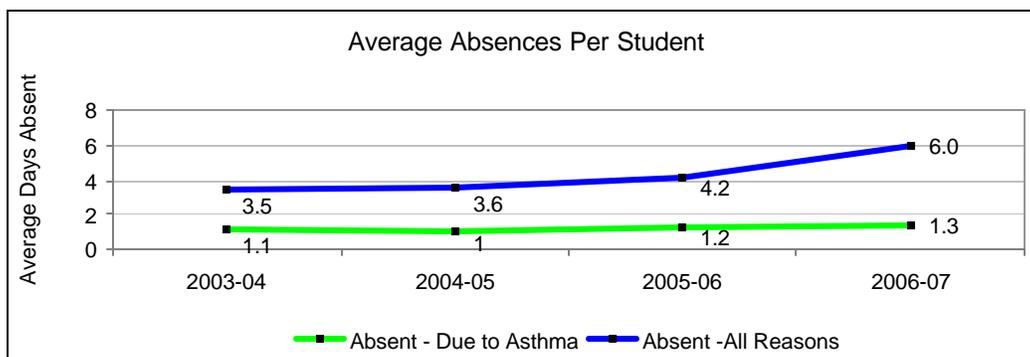
**Goal 4: Expand health insurance coverage.**



The asthma program works to ensure that every student has health care insurance coverage. Analyses of data collected by school nurses suggest that health care insurance coverage improved. In 2006-07, 90% of students identified with asthma were known to be covered by insurance. This was slightly more than in 2005-06 (87%) and markedly more than in 2004-05, when only 76 percent of students reportedly had health insurance coverage.

### Goal 5: Reduce absenteeism due to asthma.

Data collected during 2006-07 suggest that absences due to asthma remained stable, averaging one day per student, while total absences increased from 4.2 to 6 days. Asthma program students missed an average of 1.3 days of school due to asthma in 2006-07, similar to the preceding three years, and lower than national figures (3 to 4 days).



Different analyses of the same data suggest that the proportion of students absent at least one day due to asthma may have increased. However total reported absences increased proportionately.

- 43% of program students had at least one absence attributed to asthma in 2006-07, 14 percentage points higher than both 2005-06 and 2004-05 (29%). Similarly, the proportion of program students with reported absences due to any reason was 85% in 2006-07 compared to 69% in 2004-05 and 70% in 2005-06.

Changes in asthma tracking methods may be responsible for these apparent increases.<sup>3</sup> Additional years of data obtained through consistent methods are necessary for drawing conclusions about the program's effect on attendance.

### Success Factors and Recommendations

The length of a school's participation in the asthma program does not appear to affect either asthma identification or asthma-related absenteeism. Fidelity of implementation by individual nurses may be the most likely predictor of program success. Relatedly, the district's increased monitoring and training of school nurses during 2006-07 may explain high rates of data completion and low asthma-related absence rates even among schools in their first year of program participation.

Program staff suggest other possible predictors of absenteeism, including medication use. If absenteeism is lower among students who use controller medications, education and advocacy to promote medication use may be warranted. RDA recommends investigating the predictive value of these and other factors in the 2007-08 evaluation.

<sup>3</sup> In 2006-07 the APS asthma program office started using the district's new student information system, SchoolMax, to monitor and enforce absence tracking and reporting by school nurses.