

ALBUQUERQUE PUBLIC SCHOOLS

# APS Asthma Program Evaluation

2004-2005

May 2005  
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# ALBUQUERQUE PUBLIC SCHOOLS

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Executive Summary  
APS Asthma Program Evaluation  
Year 2, 2004-05 School Year

The APS Asthma Program was initiated in the Fall of 2003. The goal of the program is to reduce absenteeism for students with asthma who attend elementary schools in Albuquerque Public Schools (APS) by raising awareness of asthma and ensuring that students have asthma care plans and access to primary care providers. Although these goals sound simple, they require nurses to conceptualize their job roles in new ways and see themselves as part of system-wide change.

The beginning of the 2003-04 school year brought the implementation of the first wave of 20 schools participating in the Asthma Program policy and practice of APS. The plan is to double enrollment in the program each year until all elementary schools in the district are participating. In 2004-05, 22 schools were added. After attrition and difficulties with staffing shortages, 18 new schools completed their first year of the program; this brought the total of schools participating in the program to 36.

RDA analyzed data from program checklists that were used to record basic information about the students with asthma. Results for 2004-05 show that:

- Children in the asthma program miss almost one day a year due to asthma. The range is 0 to 2.9 days.
- Diagnosis rates for schools increased slightly since last year. They range from 2.1% to 11.9%.
- Students participating in the Open Airways curriculum report a significant increase in asthma-related knowledge and attitudes.
- 96% of the participating children are covered by insurance at the end of the school year.

For schools involved in the program since its inception last year (cohort 1), results show that:

- Overall absences did not change from years 1 to 2 for children in the asthma program (averaging 3.5 days absent per year).
- Asthma-related absences decreased slightly - from an average of 1.1 days to .8 days absent due to asthma.
- The *proportion of total absences due to asthma* decreased significantly (from 39% to 22%).

RDA used a new method to augment other planned evaluative activities, the Most Significant Change (MSC) technique. MSC brings information from the field to bear upon the goals and objectives stated by program developers. This method confirmed that:

- Nurses changed the way they interact with the school community, health care community, and the neighborhood community in which they serve by becoming partners in asthma diagnosis and management.
- Students became skilled at managing their own asthma issues including self administration of medications and self advocacy.

These data provide evidence that the asthma program is reaching its goals of reducing absenteeism due to asthma and producing system-wide change. Future evaluation plans will include capturing the challenges faced by nurses, as the program continues to expand and mature.

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## Asthma Program: Evaluation Results Year 2 (2004-05)

### *Introduction*

The goal of the program is to reduce absenteeism for students with asthma who attend elementary schools at Albuquerque Public Schools (APS) by raising awareness of asthma and ensuring that students have asthma care plans and access to primary care providers. To meet these goals, nurses must be trained in best practices for asthma care and then teach students and families how to manage asthma on a daily basis. Although these goals sound simple, they require nurses to conceptualize their job roles in new ways and see themselves as part of system-wide change.

The beginning of the 2003-04 school year brought the implementation of the first wave of 20 schools participating in the Asthma Program policy and practice of APS. The plan is to double enrollment in the program each year until all elementary schools in the district are participating. In 2004-05, 22 schools were added. After attrition and difficulties with staffing shortages, 18 new schools completed their first year of the program; this brought the total of schools participating in the program to 36.

Data collection and evaluation are integral to the APS asthma program. The evaluation assesses the extent to which program staff implement the program as intended (process evaluation) and the impact the program has on students (outcome evaluation). Process evaluation includes information about students being served by the program (number diagnosed, insurance coverage, access to care, medications used). Outcome evaluation assesses change in asthma-related knowledge and attendance of students in the program.

Program staff utilize a program checklist to record basic information about students and to document which students have asthma. Health room staff at each school track absences on identified children and follow up after absences with teachers and parents to record the reason(s) for absence. Data are recorded on the back of the checklist and reported to project staff periodically throughout the school year. The checklist includes an assessment of the student's insurance status, primary care provider, and education requests by parents. Using these data, nurses are able to follow through with appropriate assessments, interventions and documentation.

Effectiveness of the asthma education and awareness component of the program was evaluated using the American Lung Association's (ALA) Open Airways for Schools Questionnaire. Participants completed this questionnaire at the start and end of the six-class program. The following section details findings from the program checklist and ALA pre-post questionnaire.

### *Limitations*

The checklist data is recorded by nurses and handed in periodically to district-level staff, but as much as 25% of the student-level data is missing for certain questions. Thus, the analyses presented here are based on the data available at the time of analysis. To reduce error in data entry, district-level staff perform quality checks prior to each data download, and efforts to improve data collection at the school level are ongoing. Because the data analyzed here are collected specifically for the asthma program, another limitation is the lack of comparable data

from non-intervention schools and students without asthma. When comparable data are available, we present these in the text.

There is a difference between attendance data reported by the district and the asthma program. Daily attendance rates (DAR) published by the district are collected by classroom teachers. The asthma program nursing staff record *number* of days a student is *absent*. For absentee data presented here, RDA divided the total days absent recorded on program checklists by the number of students in the asthma program at that school to derive the mean number of days of absent for each school. This method does not account for number of days in the reporting period (108 days in 2004-05 and 118 days in 2003-04), and is not a *rate*. It is unknown which method is a more accurate account of student attendance. To address this issue, RDA plans to triangulate program data on absenteeism with similar data collected by the district on all students (daily attendance rates and cumulative days absent).

### *Methods & Results*

#### *Asthma-Related Behaviors and Attitudes*

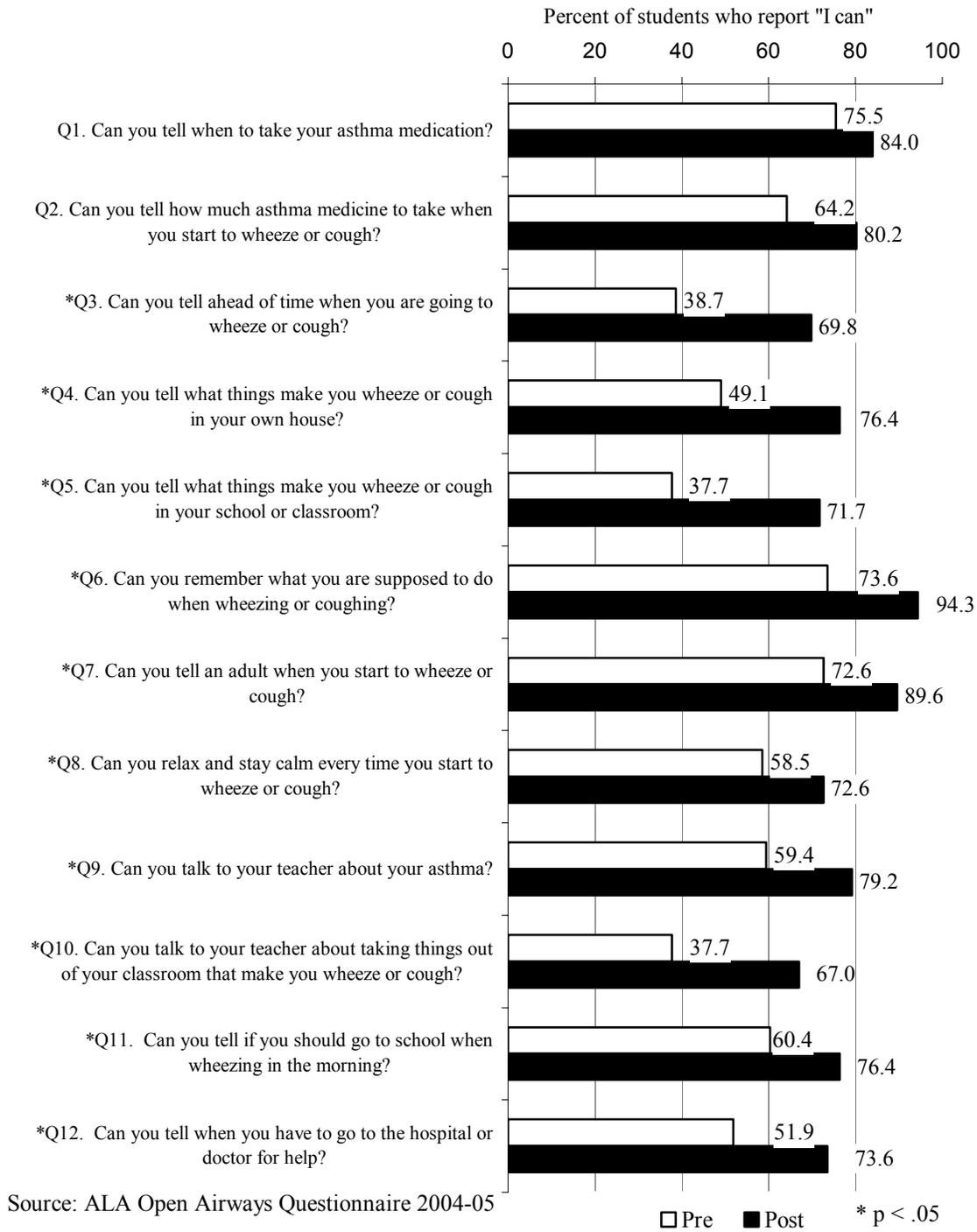
The ALA Open Airways questionnaire contained standardized, quantifiable responses to questions designed to inventory changes in asthma-related personal health care behaviors and attitudes. Open Airways was administered to 192 children. Figure 1, “ALA Open Airways Questionnaire Results” displays results for the 100 students completing the ALA pre-post questionnaires at the time of this report.

- Students participating in the Open Airways curriculum reported a significant increase in asthma-related knowledge and self-management skills<sup>1</sup>.
- Specifically, students reported statistically significant improvements ( $p < .05$ ) in their ability to recognize asthma triggers, identify severity of asthma episodes, and seek asthma management help from adults (questions 3 to 12).
- Students reported increased knowledge about when and how much asthma medicine to take (questions 1 and 2), but the changes did not achieve significance ( $p > .05$ ).

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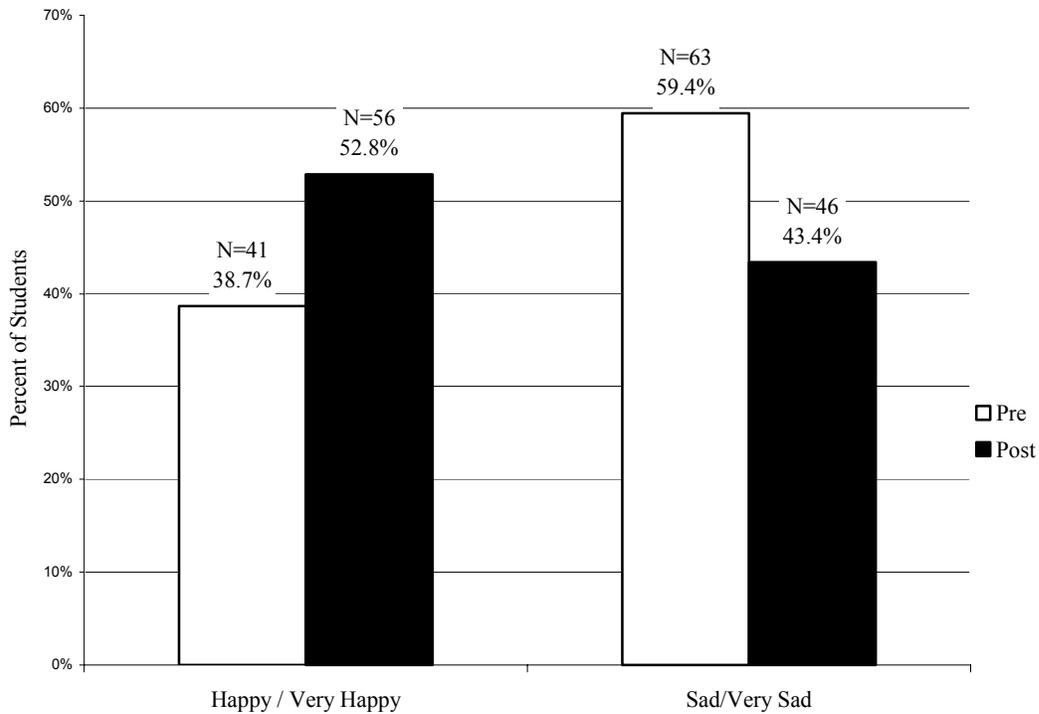
<sup>1</sup> Cross-tabulations were applied in SPSS 13.0 to each question on the ALA questionnaire. Two-way tables were generated for each of the 13 questions to determine if statistically significant differences were present using Pearson chi-square statistic.

Figure 1. ALA Open Airways Questionnaire Results



Additionally, answers from question 13 suggest that the documented improvements in self-care practices (questions 3 to 12) may be of sufficient magnitude to favorably impact the students' overall attitude about having asthma. As seen in Figure 2, the number of students indicating they were either "happy" or "very happy" about having asthma increased from 41 (38.7%) to 56 (52.8%).

Figure 2. How Students Feel About Their Asthma



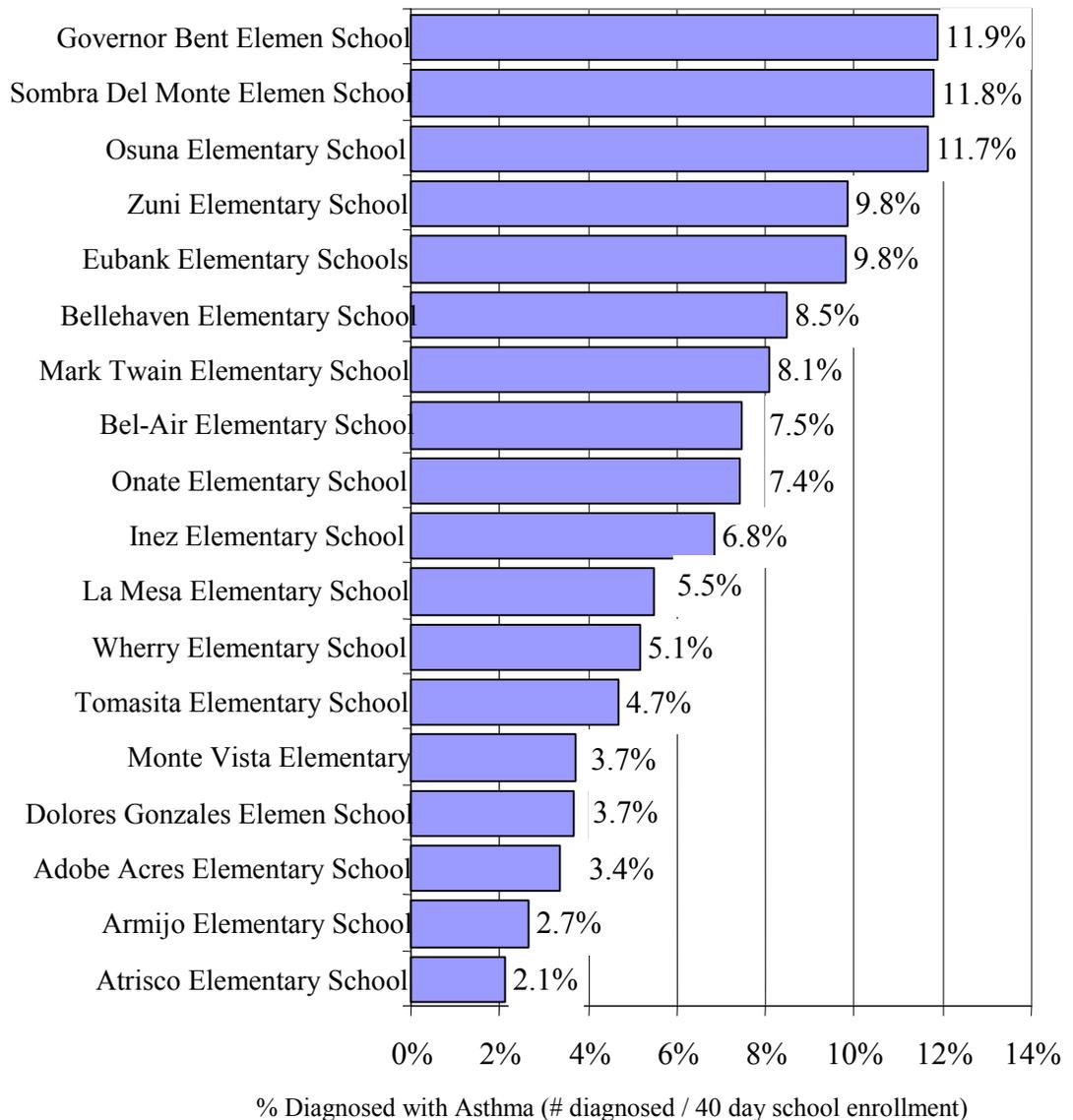
Q13. Circle the face that shows how you feel about having asthma  
Source: 2004-05 ALA Open Airways Questionnaire 2004-05

*Student Diagnosis Data*

Figures 3 and 4 display 2004-05 asthma diagnosis rates for cohort 1 and 2 schools. Cohort 1 schools started the program in 2003-04, while cohort 2 schools started in 2004-05. Diagnosis rates for each school were calculated as the number of students in the asthma program divided by the number of students enrolled at the 40-day reporting period.

- Findings reveal asthma diagnosis rates for 2004-05 ranged from 2.1% to 11.9% for the schools in the program. These are slightly higher than last year's diagnosis rates (ranging from 1.6% to 7.9%), but start-up schools this year display a similar range as last year's start-up schools.

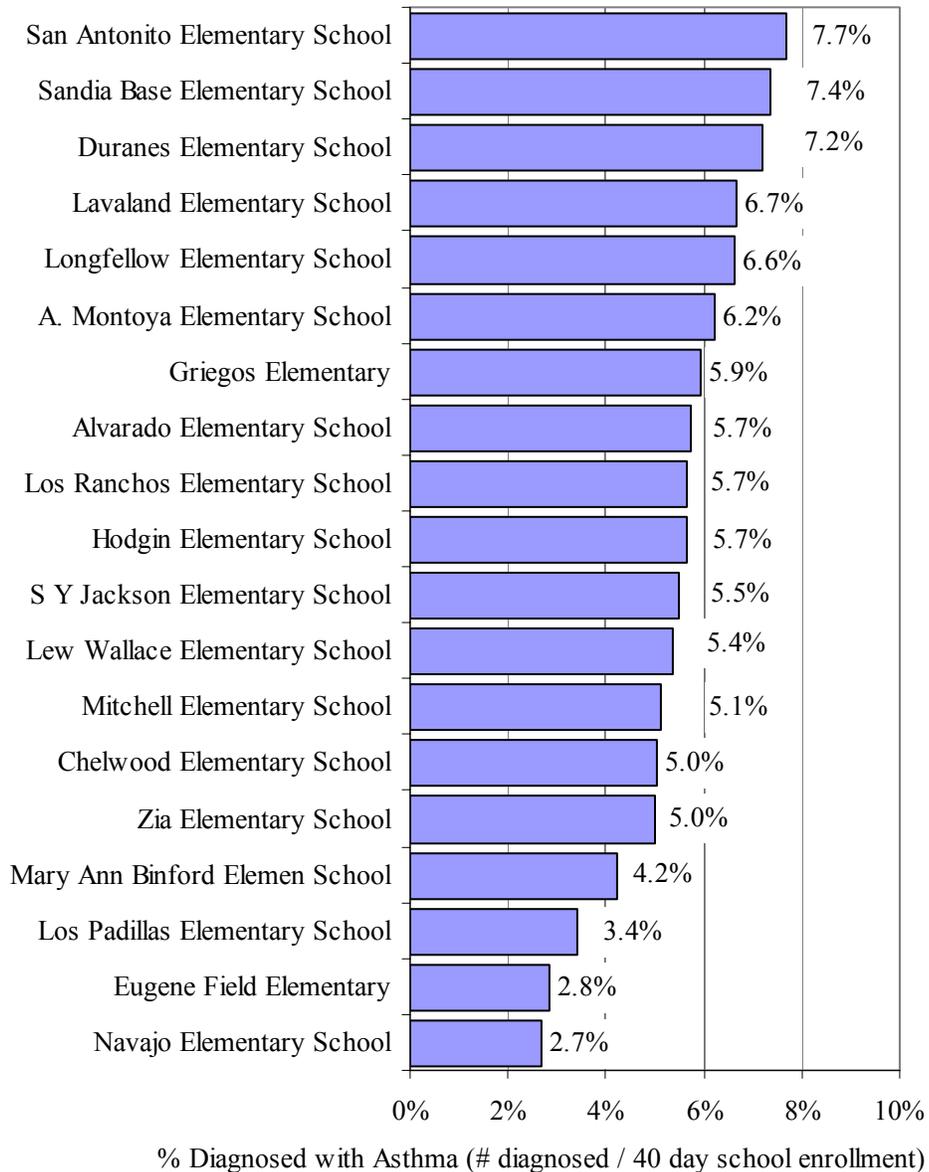
*Figure 3. Asthma Diagnosis Rates for Cohort 1*



Source: APS Asthma Program Checklists 2004-05

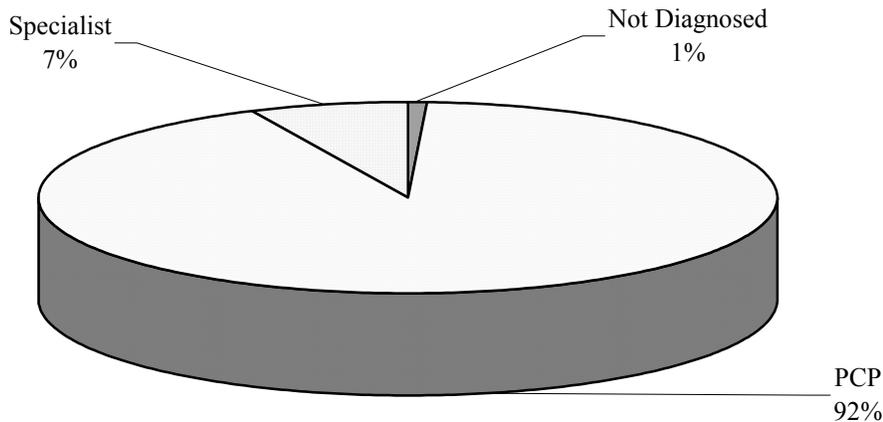
The mean diagnosis rates for this year were 6.14% overall, 6.87% for Cohort, and 5.14% for cohort 2. The rates the second year are consistent with national averages of 8-12% as reported by the National Center for Health Statistics (Dey, Schiller & Tai, 2004). This seems to support our hypothesis that the diagnosis rates would rise to meet the rates seen in our communities as the asthma management expertise of our nurse staff increases over time.

Figure 4. Asthma Diagnosis Rates for Cohort 2



As shown in Figure 5, the primary care physician (PCP) diagnosed asthma in over nine out of ten students with asthma. For a small proportion of the students (1%), asthma had not been diagnosed. Findings are based on 807 students for whom information was available and excludes cases with missing information (missing=245).

Figure 5. Asthma Diagnosed by PCP, Specialist, or Not Diagnosed



Q. 9 Asthma diagnosed by: ( ) Not Diagnosed ( ) PCP ( ) Specialist  
 Source: Self report from APS Asthma Program Checklist 2004-05  
 N = 807 (245 missing )

*Health Care Utilization*

Table 1 shows that almost all students had primary health care available to them, a fourth of the students were hospitalized for asthma and almost a half sought emergency or urgent care due to asthma.

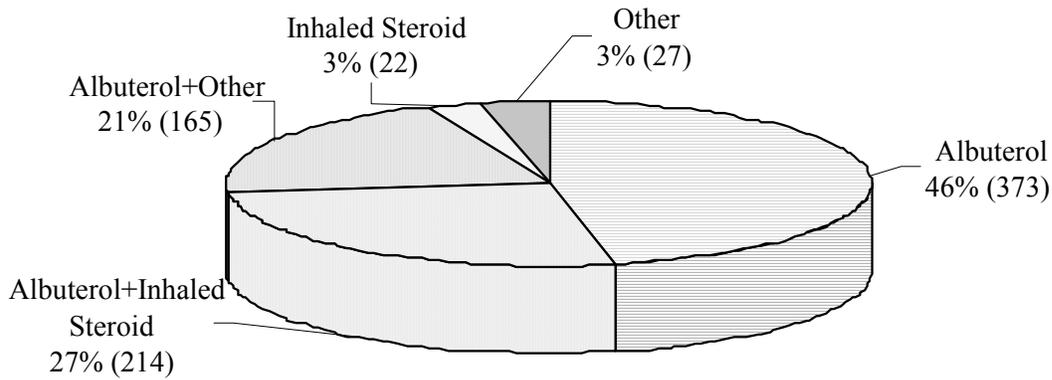
Table 1.  
*Health Care Utilization*

	Numbers			Percent*	
	Yes	No	Missing	Yes	No
Q10. Has a primary care provider	780	25	247	96.9%	3.1%
Q14. Has ever been hospitalized for asthma	201	546	305	26.9%	73.1%
Q15. Has ever gone to emergency room (ER) / urgent care for asthma	362	381	309	48.7	51.3%

\* Percents are based on total responding and do not include missing data.

Figure 6 shows the asthma medications children are taking. Almost half the students used Albuterol while another fourth used Albuterol in combination with the steroid inhaler. About one in five used Albuterol in combination with other medications and a small proportion (less than 4 percent) used the steroids alone. This information is used to help nurses ascertain the level of asthma severity for the child and assist the family as needed in obtaining treatment options.

*Figure 6. Medications Used by Students in Asthma Program*



Q16. What medication does your child take for asthma?

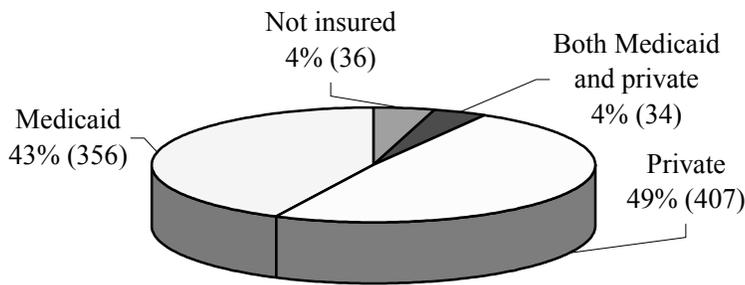
Source: Self report from APS Asthma Program Checklist 2004-05

N=549 (252 missing)

### Health Insurance Coverage

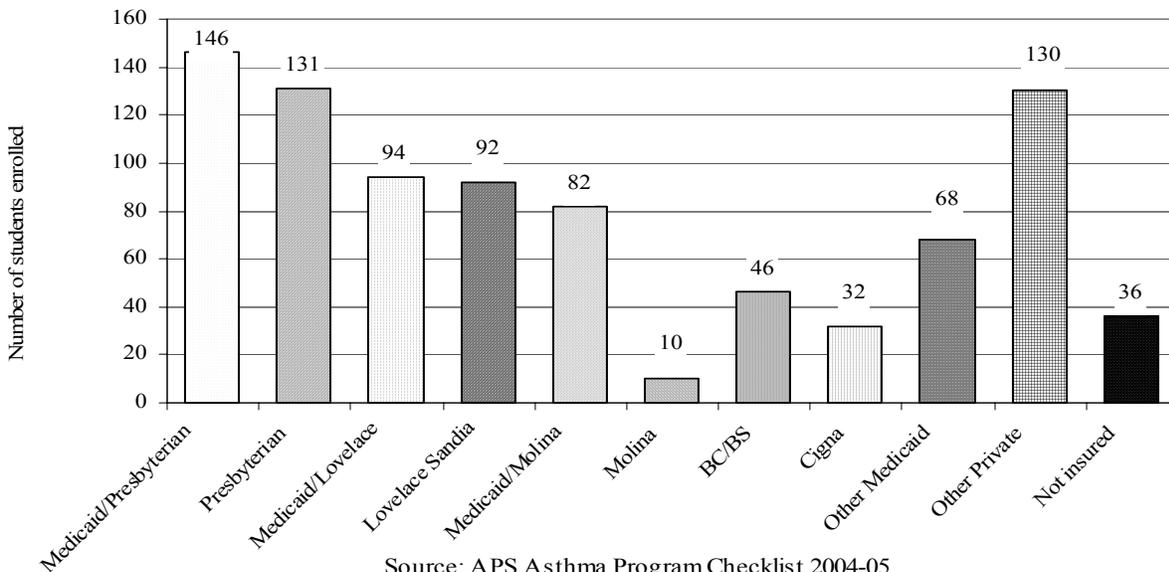
Ninety six percent of the students are covered by insurance<sup>2</sup>. The proportion of students with Medicaid (43%) and Private (49%) insurance is fairly equal (see Figures 7 and 8). Four percent of our population is uninsured, compared to 16% at the state and 9.2% at the national level (Kids Count, 2004; Cohen, Martinez & Hao, 2005). A small number of students indicated both private insurance and Medicaid (4%). This may be because a child was enrolled in one insurance and changed. Likewise, the person completing the checklist may have mis-categorized an entry as private (“Presbyterian”) when it was a Medicaid-funded insurance plan administered by a private company (“Medicaid/Presbyterian”). Findings do not include 219 checklists with missing or incomplete data. RDA will work with program staff to revise the checklist to increase clarity and reduce entry error.

Figure 7. Insurance Status of Students in Asthma Program



Source: Self report from APS Asthma Program Checklist 2004-05  
N=833 (219 missing)

Figure 8. Insurance Enrollment by Provider



Source: APS Asthma Program Checklist 2004-05  
N= 867. This includes overlap of those who report enrollment in both a private and medicaid plans (N=34). This does not include missing data (N=219).

<sup>2</sup> RDA combined checklist Q11 and 12 in a two by two table to obtain numbers for each insurance type.  
RDA/abp/05-05

### *Student Absenteeism*

Researchers often judge the effectiveness of asthma management programs by assessing the effects of programs on student attendance. In this report we present attendance results in several ways: summary data for year 2 for all 36 schools and preliminary longitudinal analyses for the 18 schools in cohort 1.

Figures 9 and 10 show average days absent for any reason and average days absent due to asthma during the 2004-05 school year reporting period. Findings reveal average absences ranging from 1 day to 7.4 days per child.

- Children are missing an average of 3.5 days during the reporting cycle.
- On average, almost one (.8) of those days is due to asthma. The range is from 0 to 2.9 days.

This is compared to 7-9 days (for any reason) and 3-4 days (for asthma) found in national samples as cited by the Centers for Disease Control and Prevention (Lakhani, Wang, Schmoyer, Merkle, & Wheeler, 2004). The lower numbers in the asthma program are due in part to the shorter reporting period (108 school days in APS sample vs. 12 months in national surveys). This could also be due to differences in reporting (e.g., actual attendance records vs. self-report survey). Twenty one percent (N=766) of the reasons for absences were unknown. For a more extensive look at the program's influence on absenteeism, one must consider how absences change over time.

Figure 9. Student Absences for Cohort 1

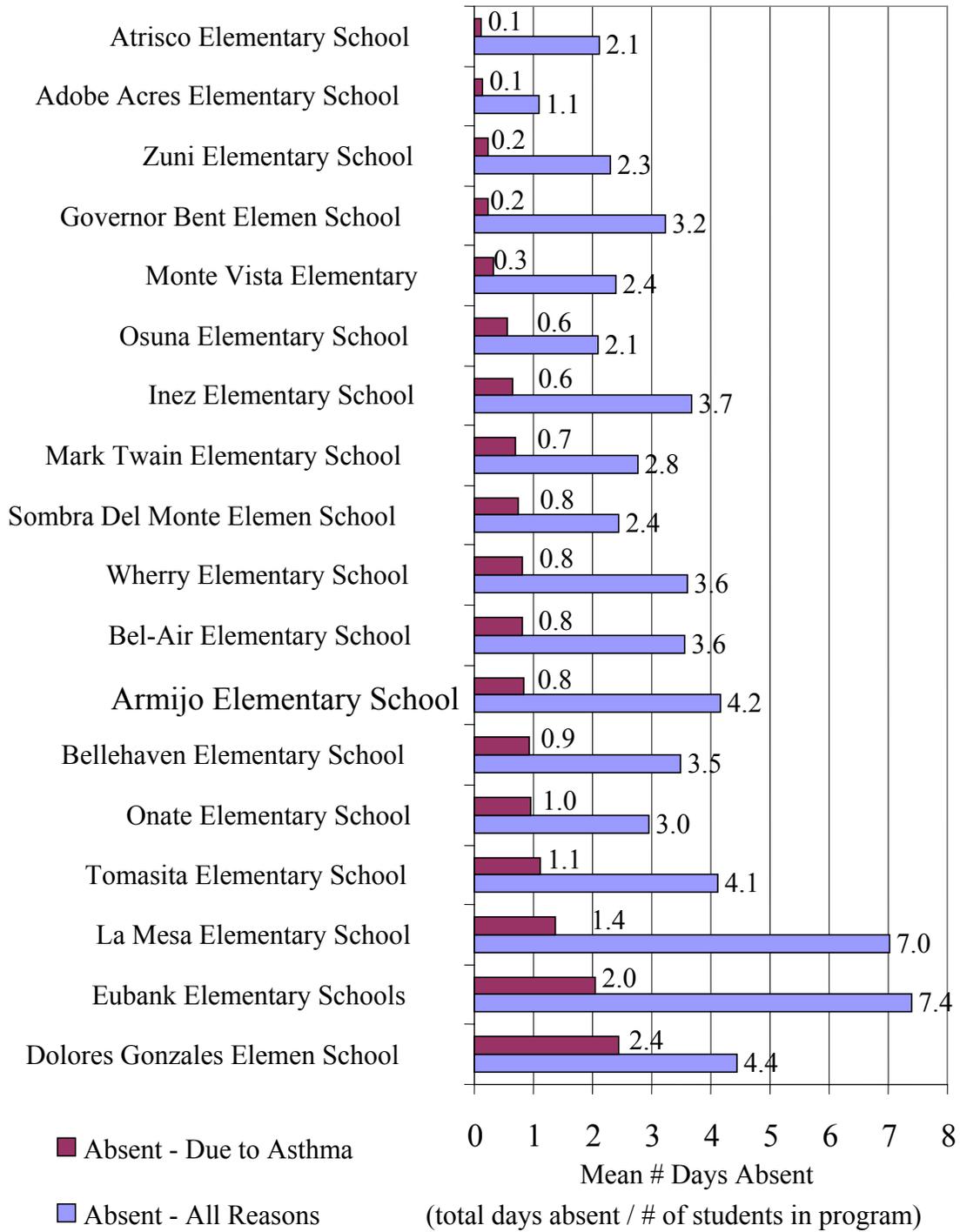
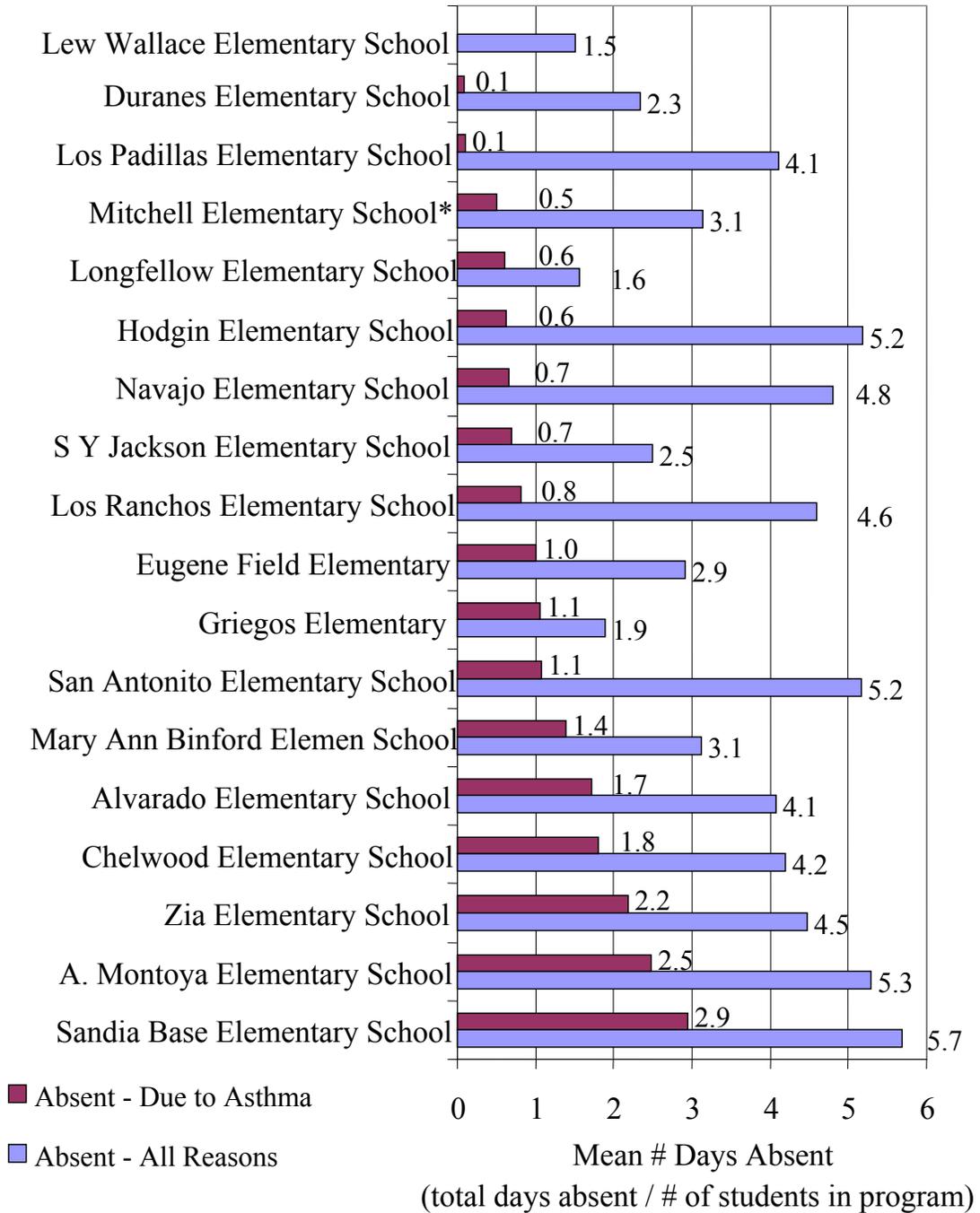


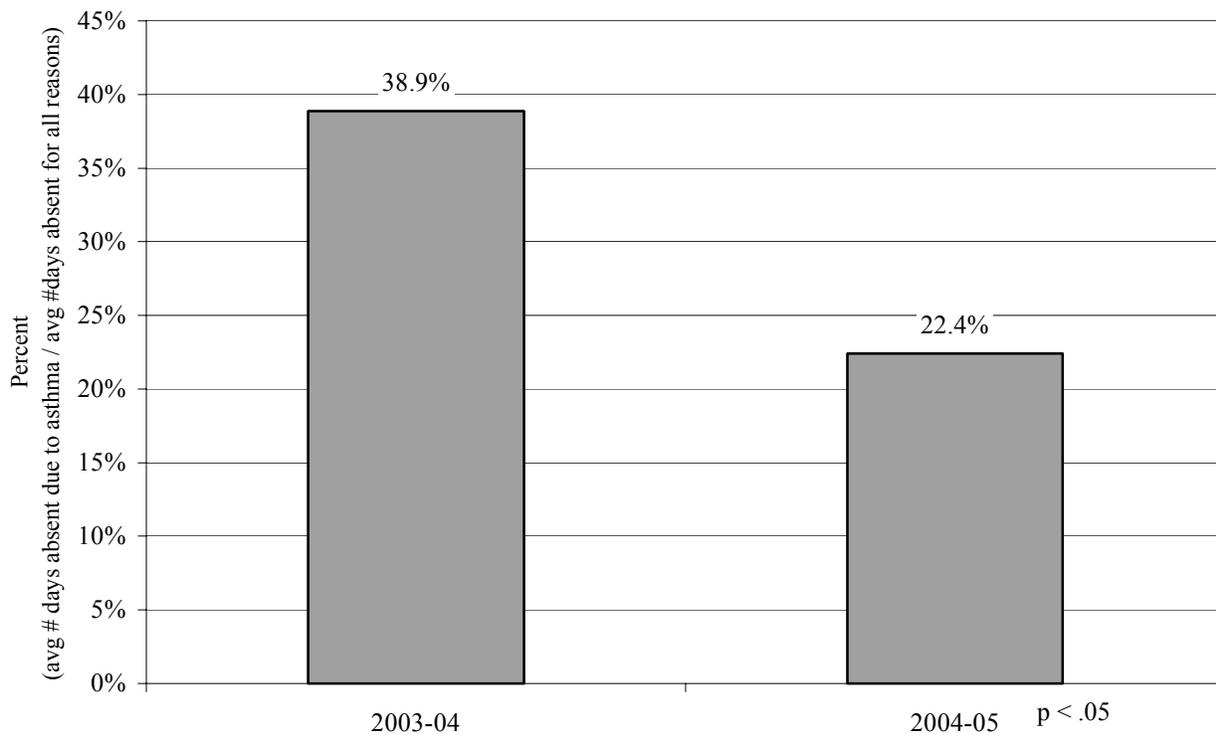
Figure 10. Student Absences for Cohort 2



\* Mitchell collected data for 98, instead of 108 days

For longitudinal analyses, RDA compared mean days absent from year 1 and year 2 for *cohort 1 schools*<sup>3</sup>. Cohort 1 schools report no change in overall absences, with about 3.5 days absent each program year. However, asthma-related absences decreased slightly (a decrease from an average of 1.1 days to .8 days absent due to asthma), but this did not achieve significance<sup>4</sup>. And, of the total absences per student, there has been a statistically significant reduction in the *proportion of total absences due to asthma*<sup>5</sup> (from 39% to 22%). These rates will be monitored over the next three years of implementation.

Figure 11. Percent of Days Absent Due to Asthma for Cohort 1



<sup>3</sup> RDA performed a paired samples t-test (SPSS 13.0) of year 1 and year 2 mean days absent for cohort 1 schools.

<sup>4</sup>  $P > .05$  (not statistically significant)

<sup>5</sup>  $p < .05$  (statistically significant)

In summary, results for 2004-05 show that:

- Children in the asthma program miss almost one day a year due to asthma (range is from 0 to 2.9 days).
- Diagnosis rates for schools increased slightly since last year. They range from 2.1% to 11.9%.
- Students participating in the Open Airways curriculum report a statistically significant increase in asthma-related knowledge and attitudes.
- 96% of the participating children are covered by insurance at the end of the school year.

For schools involved in the program since its inception last year (cohort 1), results show that:

- Overall absences did not change from years 1 to 2 for children in the asthma program (averaging 3.5 days absent per year).
- Asthma-related absences decreased slightly - from an average of 1.1 days to .8 days absent due to asthma.
- The *proportion of total absences due to asthma* decreased significantly.

#### *Conclusion*

These data provide evidence that the asthma program is reaching its goal of reducing absenteeism due to asthma, although the reduction is small and the overall absences remains unchanged. Additionally, the program is meeting its goals of educating students about asthma and linking families up with primary health care providers and insurance coverage. As the program continues to expand, RDA expects absences to decrease and diagnosis rates to rise as the asthma management expertise of the school nursing staff increases.

## Asthma Program: Most Significant Change Stories Year 2 (2004-05)

### *Introduction*

RDA implemented a story approach in an attempt to overcome some of the difficulties associated with monitoring project impact in early stages of program development. Davies adapted this process from the 'evolutionary approach to organizational learning' (Davies, 1996; Dart, 1999; Dart & Davies, 2003). A participatory process, the Most Significant Change (MSC) technique involves project stakeholders in deciding the sorts of change to be recorded. The process involves collecting stories of change, generated from the field, and systematically selecting the most significant of these stories during practitioner and leadership committee meetings.

This approach goes beyond merely capturing and documenting client stories; each story is accompanied by the storyteller and reviewers' interpretations. The purpose is to promote dialog up and down the project hierarchy.

This section describes the MSC technique and highlights some experiences gained during the second year of the Asthma Program at Albuquerque Public Schools. This approach helped promote organizational learning and provided program staff and leadership the opportunity to validate and re-focus the program goals.

### *Method*

As the year progressed, project staff asked nurses to write stories about how their practice had changed during the Asthma program (see Appendix A). The prompts were intentionally vague to allow for reporting of negative significant changes. Additionally, nurses were asked to write stories about how student's school experience changed (Appendix B). During February of the school year, nurses convened at a large group meeting and divided into three small groups arbitrarily formed of 9-10 nurses per group. After each person shared her story, the group chose the story that provided the best example of significant change. In a follow-up meeting nurses broke into two groups and followed the same process to select student stories.

Next, an RDA team member presented the three selected nurse stories and two student stories at an APS Health/Mental Health department leadership meeting for selection of final stories. Leadership committee members reviewed and rated each story on a scale of 1 to 10. RDA intentionally left rating criteria vague, so that each committee member rated stories according to his/her own values and brought these values into later discussion. After committee members shared ratings, the group chose one nurse and one student story that best displayed the goals of the program.

After each level of story selection concluded, discussants reflected on their findings. Specifically, participants discussed why they chose the stories they did (e.g., what were the group's criteria for choosing that story). This process yielded rich discussion about the purpose of the program, how roles had begun to change and how the changes produced positive changes for students and staff.

Based on pilot tests in year 1, RDA made slight modifications to the story prompt in year 2, including working examples of what may fall into each domain of interest. This modification did not appear to affect the quality or quantity of responses.

### *Limitations*

The MSC process highlights organizational and participant changes however subtle. It generated a description of organizational change that could be confirmed through other means. Without the MSC technique, evaluators may only guess at what organizational changes may have occurred. However, the MSC method does not generate an exhaustive list of changes. Therefore, some changes remain overlooked, particularly barriers or negative changes. In response to nurse and leadership feedback, next year's evaluation will capture "negative" stories for use in ongoing program improvement.

### *Results*

#### *Nurse Story Selection*

*Nurse Criteria.* Nurses involved in the asthma program selected three nurse stories and provided criteria for their selection. The story ultimately chosen by the leadership committee (Appendix C) was chosen by nurses because it showed the nurse as part of the larger school community. Appendix D displays the stories not selected by the leadership committee. Nurses chose their story because:

- The actions of the nurse took it a step further beyond the emergency cards.
- It brought out the need to look at the entire community as a whole. As a result, the nurse picked out one child that would have been missed otherwise.

*Leadership Criteria.* This year's leadership committee consisted of Health/Mental Health department leaders and project staff, possessing various levels of familiarity with the asthma program. The leadership committee selected one of the forwarded stories and provided criteria for selection. Appendix C displays the story selected by the leadership committee. The leadership committee chose their story for the following reasons:

- It met the goals of the program, particularly education for students;
- It shows that there are more teachers referring children for asthma;
- It is engaging and comprehensive;
- It shows systems change; teachers are involved and there is change in attendance, getting children into Medicaid, etc.; and
- This is a good example of where we want the nurses to be in their practice.

#### *Student Story Selection*

*Nurse Criteria.* Nurses selected two student stories and provided criteria for their selection as well. The story ultimately chosen by the leadership committee (Appendix E), exemplified a dramatic improvement in quality of life. Nurses chose their story because:

- There was a decreased use of medications.
- It shows that the child may come to the nurse because it gives him positive attention; he may not get this anywhere else.
- He was empowered and showed an attitude change - a complete change of attitude, from being a victim to being empowered and in control, to striving to be successful and self-confident.

- There was an impact on the child to take charge and be in control.

*Leadership Criteria.* The leadership committee selected one story and provided the criteria for its selection. Leadership struggled with choosing one student story because both stories depicted significant student transformations. One story had a more compelling presentation, and the other demonstrated achievement of stated program goals. Appendix E displays the story selected by the leadership committee and Appendix F displays the story not selected. The leadership committee chose their story for the following reasons:

- It shows the role of a nurse as a caring adult, even when there was no other family to help.
- It showed a very significant change in the child.
- The child has to be empowered when inroads can't be made with the families.
- It did not speak to the program goals as well as the other story, but it was more compelling.

#### *Follow-up Discussion*

When asked about program goals, leaders revealed diverse expectations for the program. They had understood the importance of changing the nurses' role to be more interactive with the school, medical and neighborhood community, but some leaders thought the program was trying to achieve more sweeping change than it was (e.g. academic improvement, total environmental change). The original goals were revisited by participants in the leadership meeting: educate students, families and staff about asthma, decrease asthma related absences, and create asthma-friendly environments in schools. During the resulting discussion the group experienced an "ah ha", where they realized that what they had just heard from the nurse stories were the goals they were trying to achieve. The leadership found this kind of initial goal confirmation gratifying and helped them reaffirm their commitment to the initial goals. It also revealed that the expectations of both nurses and leadership were well aligned

#### *Year to Year Differences*

About 5 of the 30 committee members participated in the MSC activity last year. Nevertheless, the activity allowed the group to rediscover and rearticulate the focus of the asthma program. Many commented that the process caused them to re-evaluate the goals for their own programs as well.

RDA analyzed stories and found similar themes in nurse and student stories from year to year. Nurses continue to facilitate system-level changes. Instead of providing services in isolation, they educate and partner with the community (students, parents, school staff, service providers) to better serve students with asthma. Student stories show dramatic changes in the child's self-concept, self-management, and esteem. In addition, stories illustrate how students can have a positive impact on their families. Nurses become more aware of the nuances of the student's family context and the family's impact on the student's health.

Results from the last two years reveal similarities in what stakeholders value. The criteria for selection listed by both nurses and leadership are closely aligned. This agreement shows that both groups are "on the same page" with regard to program expectations and these expectations are in line with stated program goals.

### Conclusion

The MSC approach promotes dialogue up and down the project hierarchy about program goals and provides a checkpoint for leaders to assess if the program is achieving the sorts of outcomes desired by stakeholders. Results from the stories indicate that (1) the asthma program continues to be on track with the goals of the program and (2) is in line with the values of program leadership and staff.

A primary aim of the APS asthma project is to promote and facilitate a systems change. Nurses practice direct service often in isolation from school staff, community resources, and at odds with family behavior. The new vision of school nurse practice came from a need to provide increased health care on limited or shrinking budgets. New Mexico has been slowly building health care capacity for children. The leadership committee agrees that the MSC process provides evidence that system change continues to occur in schools involved with the asthma

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Appendix A: Nurse Story Prompt

Story Title: \_\_\_\_\_ Name of person recording story: \_\_\_\_\_

School: \_\_\_\_\_

Date: \_\_\_\_\_

Domain of Change:

- Change in decision making
- Change in referral practice
- Change in timeliness of service offered
- Change in student monitoring
- Etc.

Where did this happen? \_\_\_\_\_

When did this happen? \_\_\_\_\_

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What happened?

Why do you think this is a significant change?

What difference has it made already/ will it make in the future?

Appendix B: Student Story Prompt

Story Title: \_\_\_\_\_ Name of person recording story: \_\_\_\_\_

School: \_\_\_\_\_ Date: \_\_\_\_\_

Domain of Change:

- Change in availability of records
- Change in number of medical referrals
- Change in number of visits to nurse
- Change in student relationships
- Change in student academic success
- Etc.

Where did this happen? \_\_\_\_\_

When did this happen? \_\_\_\_\_

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What happened?

Why do you think this is a significant change?

What difference has it made already/ will it make in the future?

## Appendix C: Nurse Story Selected by the Leadership Committee

**Story Title:** “Program for School Wide Change”

**Domains of Change:** Increased Awareness; Nurses advocate for student health; Changes in practice activities; Nurses are more engaged in the community

**What Happened:** Since becoming an Asthma Program School I have significantly changed my practice. I now monitor attendance of all students at the school. I have contacted many families regarding attendance, reasons for student’s absences & have been able to make numerous referrals for Medicaid sign –up & well child checks. Also my assessment of all children visiting the health room has improved. One child came in with “cold symptoms”. I noticed a persistent throat clearing-auscultated her lungs and found wheezing throughout. This child was seen immediately because of my referral & hospitalized. She does not currently have an asthma diagnosis, but was treated appropriately because of increased awareness of symptoms.

**Why do you think this is a significant change:** The teachers at the school have an increased awareness of asthma & asthma symptoms after taking Asthma 101. They have been very responsive to this information & have sent referrals to the health room for asthma symptoms. The assessment & intervention skill I have learned. Because as an Asthma program school, we increased the quality of care for all students at the school.

**What difference has it made already/will it make in the future:** Attendance rates have improved school wide.

### **Feedback from nurses’ meeting [nurse criteria]:**

The story was chosen because

- The actions took it a step further beyond the emergency cards.
- It brought out the need to look at the entire community as a whole. As a result, the nurse picked out one child that would have been missed otherwise.

### **Feedback from leadership meeting [leadership criteria]**

- It met the goals of the program; education for students
- It shows that there are more teachers referring children for asthma
- It is engaging and comprehensive.
- It shows systems change; teachers are involved, there is change in attendance, getting children into Medicaid, etc.
- This is a good example of where we want the nurses to be in their practice.

## Appendix D: Nurse Stories Not Selected by Leadership Committee

### **Story A: Nursing Practice**

**Story Title:** “Take the Asthma Quiz”

**Domain of Change:** Nurses are more engaged in the community (e.g. feels part of school faculty and community, feels confident to communicate about Asthma awareness to community)

**Where:** School’s Fall Festival

**What Happened:** The school had a Fall Festival on the evening of Friday 10/29/04. Classrooms were decorated with pumpkins and festival ribbons, ornaments. Parents brought children after school dressed in costumes and made the rounds to various classrooms that had booths and prizes. I set up a booth in the gym/cafeteria and called it “Take the Asthma quiz, roll the dice and win a prize.”

**Why do you think this is a significant change:** Everyone who wanted to take the quiz had to answer five true or false questions about asthma. I had a variety of prizes setup in baskets. So after they took the quiz they rolled the dice and got to pick a prize. (Most of the students wanted a toy teddy bear in a box). We saw over 70+ people (students, parents) who took the quiz and won a prize. Some students took the quiz three times!

**What difference has it made already/will it make in the future:** A week later I saw some of these students in the health room and they were able to answer some questions about asthma. By participating in this event I felt part of the school community and was thankful for the opportunity to bring asthma awareness and education in a fun way.

### **Feedback from nurses’ meeting [nurse criteria]:**

The story was chosen because

- It was “cute”.
- It was simple and interactive.
- The activity mentioned was part of the school activities.
- The activity promoted education and knowledge for all people.
- It had prizes.
- It showcased the nurse as a participant and community partner.

**Story B: Nursing Practice**

**Story Title:** (none)

**Domain of Change:** Increased Awareness

**Where:** School, I took a child with severe scoliosis & asthma to the doctor

**What Happened:** “Johnny” comes in frequently to use his inhaler prior to exercise. I noted that his lungs were not clearing after his inhaler. His mom was at school. I called his primary doctor, got an appointment, drove mom & Johnny to the doctor. He was started on Pulmacort DID and nebs at home and school.

**Why do you think this is a significant change:** I took ownership of his asthma care, the communication between myself, the child and the parent. We are all on the same page. A week later he was put on steroids for an acute episode. I will remind his mom to get periodic follow up appointments.

**What difference has it made already/will it make in the future:** Johnny has a plan. His mom knows what to do and has the equipment. She knows that the School Nurse is a source.

**Feedback from nurses’ meeting [nurse criteria]:**

The story was chosen because

- It showed how both the child and mom were educated.
- There was communication so that all the players were on the same page.
- There was physical assessment with primary care, not the ER where there’s no continuity of care.
- There was also advocacy for the student.
- There was communication about the intervention, coordination of care, family education and medication management.
- My perception of my role has changed. I see my role as being more of a facilitator for students to learn about themselves: e.g. what is a good peak flow for them, rather than me just assisting them to use their inhalers.

Appendix E: Student Story Selected by Leadership Committee

**Story Title:** Healthy Choices

**Domains of Change:** Self care and awareness

**What happened?** Student is a 5th grade boy from a drug using family. Thought it was “cool” to use MDI and have his own drug. He was overusing meds. I taught the student to do a peak flow, know his triggers, know the mechanism of MDI and how to calculate the need for the med. Now, the student routinely does peak flow before PE or exercise or when “I feel tight”. He has decreased use of meds and is empowered to care for himself. He attended Open Airways, which further increased his self knowledge and self-care skills.

**Why do you think this is a significant change?** Student is in special ed class. There was a complete attitude change from 1 yr ago. In a life full of chaos, he now has an area of life he can control and be knowledgeable in.

**What difference has it made already / will it make in the future?** It has caused him to strive to be successful both academically and socially. A major change is seen in both areas.

*Note during nurse discussion:* As a follow-up since this was written, he has exited the special ed program.

**Feedback from nurses’ meeting [nurse criteria]:**

Nurses chose this because:

- There was a decreased use of medications.
- He was empowered and showed an attitude change - a complete change of attitude, from being a victim to being empowered and in control, to striving to be successful and self-confident. Because of the impact on the child to take charge and be in control.
- It shows that the child may come to the nurse because it gives him positive attention; he may not get this anywhere else.

**Feedback from leadership meeting [leadership criteria]:**

Leadership chose this because:

- It shows the role of a nurse as a caring adult, even when there is no other family to help.
- It showed a very significant change in the child.
- The child has to be empowered when inroads can’t be made with the families.
- It did not speak to the program goals as well as the other student story, but it was more compelling.

Appendix F: Student Stories Not Selected by Leadership Committee

**Story A: Student Change**

**Story Title:** No More Hospitalizations!

**Domain of Change:** Self-care and awareness, Asthma knowledge, Student academic success

**Where:** The severe Asthma episode occurred at home-the education took place at school.

**What Happened:** Sara has had asthma for the past 2 years. Her mother always made sure she had an Albuterol inhaler near by, but Sara had never been on any preventatives or ever used a peak flow meter. This school year she missed several days from school in September due to asthma. One night she had a severe episode and had a seizure that required hospitalization. She came back to school with a peak flow meter, and the doctor prescribed Advair bid. Sara still needed asthma education and so did her mother. I spent a lot of time education them both, figuring out peak flows and helping them figure out triggers and early symptoms. Sara comes frequently to check her peak flow and took part in Open Airways. She was a big help and was able to teach the other students in class by examples & demonstrations.

**Why do you think this is a significant change:** Sara has had asthma episodes since September, but she has not had to miss any more school.

**What difference has it made already/will it make in the future:** Sara feels knowledgeable about her asthma. After having a severe episode & hospitalizations she was quite scared of her asthma, but now feels in control and like she can manage it. Her mother feels much more comfortable about it now.

**Feedback from nurses' meeting [nurse criteria]:**

Nurses chose this because:

- There was asthma education for both the student AND the parent.
- This made a huge difference for the family.

**Feedback from leadership meeting [leadership criteria]:**

Leadership chose this because:

- They liked to see the student's absences decrease.
- The child educated her peers (peer education)
- It showed the student was empowered.
- It speaks to the goals of the program.