

School absenteeism and cost savings of asthma management: A nurse demonstration project in San Jose Unified School District

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Background

Poorly managed care can affect student absenteeism rates, which are associated with academic performance, school funding, and other societal costs.

Students in under-resourced schools are at particularly higher risk of suffering chronic conditions such as asthma and diabetes that necessitate proper care and management.

School nurses could be major players in providing and coordinating management of chronic diseases. They could help in establishing a medical home for underserved children, and provide proper follow-up; which could result in health, educational and economic gains.



Community Partner

San Jose Unified School District (SJUSD) is a large and diverse district in Santa Clara County, serving over 30,000 students across 40 schools.

School Health Clinics of Santa Clara County (SHCSCC) is a non-profit, federally qualified health center (FQHC) that provides easily accessible and quality primary and acute care for K-12 youth in Santa Clara County.

Project Description

“Putting Health Care Back Into Schools” is a demonstration project to expand school nursing and improve collaboration with a school health clinic in San Jose Unified School District.

Funding is provided by the Lucile Packard Foundation for Children’s Health and Lucile Packard Children’s Hospital.

The project provides for:

- Four full-time, credentialed school nurses at two elementary and two middle underserved schools
- Nurse Practitioner at School Health Clinics of Santa Clara County

In this study, we examine:

- 1) the extent to which asthma conditions are associated with school absenteeism;
- 2) the change in school absenteeism patterns after full-time nurses were added to the schools; and
- 3) a cost-savings analysis of the economic impact of placing school nurses in underserved schools.



Evaluation & Methodology

Quasi-experimental Design:

Table 1. Student Demographic Characteristics, 2008-09

	Four Demonstration Schools	Five Matched Comparison Schools
Enrollment	2,877	3,204
Students Enrolled in Free & Reduced Lunch	81.9%	71.9%
Hispanic/Latino Students	82%	73.2%
Students with Chronic Conditions	438 (15.2%)	504 (15.7%)
Students with Asthma (% Among Students with Chronic Conditions)	195 (44.52%)	213 (42.26%)

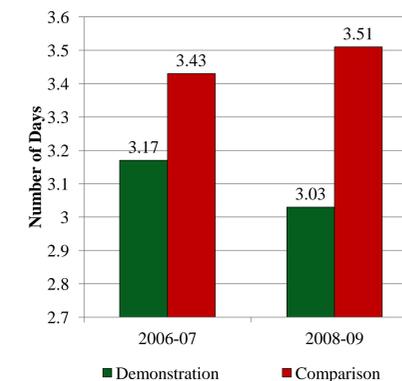
Analysis:

- 1) Logistic regression models to examine differences in absenteeism due to illness between intervention and control schools (controlling for demographic characteristics) before (2006-07) and after a full year of intervention (2008-09).
- 2) Calculation of Average Daily Attendance (ADA) funding lost to the schools before & after the intervention (SJUSD revenue limit data)
- 3) Estimated wages for families with children missing school days due to illness (U.S. Bureau of Labor Statistics data)
- 4) Surveyed 990 parents in demonstration (34.9% response rate) and 1,499 (47.6% response rate) parents in control schools about use of emergency room visits in 2010-11
- 5) Estimated cost of emergency department (ED) visits due to asthma using HCUP-SID data on encounters reported with zero (0) admission days.

Results

- 1) The mean number of absences due to illness dropped in the demonstration schools (Figure 1).
- 2) In the demonstration schools, the reduction in absenteeism due to illness equated to savings of **\$14,380** in ADA school funding, and **\$70,790** in estimated wages for families with children missing school due to illness.
- 3) Children in demonstration schools reported less emergency room visits (ED). For every 1,000 children there were **15.15 ED** visits in demonstration schools, versus **26.68 ED** visits in control schools.
- 4) The estimated average California ED cost for every 1,000 children in the demonstrations schools was **\$39,764** compared with **\$70,027** in comparison schools.

Figure 1. Change in Mean Number of Days Absent Due to Illness, before and after start of Nurse Demonstration Project



Results (cont.)

Figure 2. Estimated emergency room visits due to asthma per 1,000 students, 2010-11

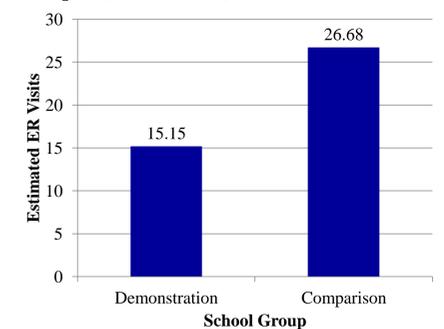
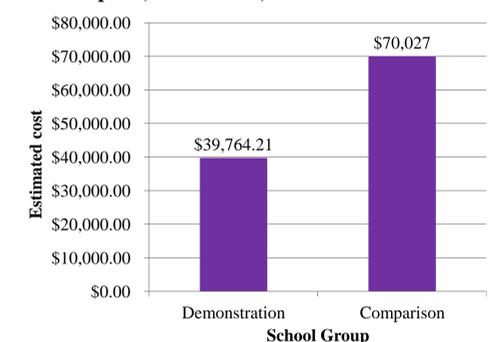


Figure 3. Estimated cost of emergency room visits due to asthma per 1,000 students, 2010-11



Conclusion

Full-time school nurses play an important role in improving the management of asthma and other chronic conditions among students in underserved schools, which can impact school absenteeism due to illness and attendance-related district funding. Absenteeism due to illness may also serve as an important mediator in the relationship between chronic health condition and academic performance.

This study finds that adding well trained nurses to underserved schools improves absenteeism, ADA funding cost savings, and family and health care savings.

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