



**MEETING THE NEEDS OF RURAL SOUTHERN COLORADO:
IMPLEMENTING SUSTAINABLE EVIDENCE-BASED ASTHMA CARE**

OUTCOMES REPORT

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EXECUTIVE SUMMARY

The Quality Asthma Care (QAC) initiative was a two-year performance improvement continuing medical education program carried out in the San Luis Valley (SLV) region of Colorado in 2011 and 2012. The QAC initiative was implemented by the Office of Professional Education at National Jewish Health (NJH) in partnership with Valley-Wide Health Systems (VWHS), San Luis Valley Regional Medical Center (SLVRMC), and Conejos County Hospital (CCH). It was funded by an unrestricted educational grant from GlaxoSmithKline.

The SLV region was selected for this initiative because it is characterized by factors known to be associated with health disparities and a high level of asthma burden. These factors include being a rural community, having a large minority population and high rates of poverty, and being a federally designated Health Professional Shortage Area and a Medically Underserved Area. Alamosa and Rio Grande counties in the SLV have among the highest rates of childhood hospitalizations for asthma in Colorado. Age-adjusted rates of asthma hospitalizations in the region are also among the highest in the state.

The purpose of the QAC initiative was to educate primary care health care providers about asthma and to enhance the delivery of evidence-based asthma care in the SLV. The ultimate goal was to improve asthma control, thereby reducing the burden and morbidity associated with asthma in this rural area. To that end, the initiative focused on education and skill development and building sustainable infrastructure so that SLV providers could better assess, treat, and manage patients with asthma.

The program was multifaceted and included several components:

- Three live, interactive, multidisciplinary workshops led by NJH faculty
- Asthma Champions workshop for local clinic site leaders
- In-clinic training visits by NJH asthma educators
- Clinician support tools (patient care checklists and guides)
- Patient asthma education materials (English and Spanish)

- Provider resource website (www.qualityasthmacare.com)

In addition, to further facilitate improvements in asthma care, the NJH program team and asthma educators assisted with set-up of spirometry equipment, distribution of patient and provider asthma education materials, redesign of clinic workflow, and procurement of instructional models, wall charts, and practice asthma inhalers for clinic exam rooms.

Seventy health care personnel participated in the multidisciplinary workshops (14% MD or DO; 14% NP or PA; 21% RN; 14% LPN; 21% MA; 14% other). Comparison of participant surveys before and after the workshops showed large increases in motivation and confidence in performing quality asthma care. At the end of the initiative, 15 physicians received CME credit for participation. Twelve NPs/PAs received participation certificates, and 11 RNs/MAs/office staff received general certificates. In addition, nursing credit was offered for the workshops.

The QAC program affected over 300 health care providers and staff at the partner organizations with aspects of the program additional to the workshops, including the in-clinic trainings and other educational interventions. These health care providers include 59 MDs, 200 nurses, 18 PAs, 15 NPs, and 20 other health care staff.

Program data included chart audits performed before and after the initiative. In total, 767 charts were reviewed (430 at baseline, 337 post-program). **All indicators of quality asthma care demonstrated statistically and clinically meaningful improvements (Table 1).**

Table 1: Documented Provision of Quality Asthma Care Indicators

Indicator	Baseline (n=430)	Post (n=337)	Goal*	P value
Spirometry (peak flow included only for baseline)	3% (13)	14% (47)	50%	0.001
Asthma control PARTIAL	59% (255)	67% (225)	N/A	0.01
Asthma control COMPLETE	1% (6)	20% (67)	50%	0.001
PRN Reliever inhaler	55% (238)	94% (317)	100%	0.001
Controller medicine	39% (168)	71% (238)	60%	0.001
Inhaler technique	1% (5)	18% (60)	100%	0.001
Asthma action plan	2% (8)	29% (99)	15%	0.001
Follow-up visit	20% (87)	37% (123)	50%	0.001

* Goal = the target level of provision for each indicator of quality asthma care set by an interdisciplinary committee in the SLV after reviewing the baseline data.

Prior to the QAC initiative, none of the participating clinics performed spirometry, and only 3% of patients had lung function assessed, primarily by peak flow meters. At the end of the initiative, 14% of patients had spirometry completed at least once. In addition, the percentage of patients who had their level of asthma control assessed increased, as did the percentage of patients who had prescriptions for reliever inhalers and controller medicines. Lastly, the percentages of patients receiving asthma education, coaching on asthma inhaler technique, and who had an asthma action plan provided and reviewed all increased, as did the percentage of patients for whom a proactive follow-up visit for asthma care was arranged.

Chart audit data also showed that the manner in which asthma care was provided shifted over the course of the initiative. The most common approach to providing asthma care was through a mixed-purpose encounter: 54% at baseline and 65% post-program. The 11% increase in mixed-purpose visits suggests that clinic staff are now identifying that the patient has asthma before the encounter and are taking advantage of the opportunity to provide quality elements of asthma care that are consistent with the chronic disease model of care.

The proportion of patients receiving a proactive follow-up visit for their asthma doubled over the program period. In addition, the proportion of visits for an asthma exacerbation decreased from 26% to 18%, which was also reflected in a decline in the proportion of patients requiring a post-exacerbation follow-up visit from 12% at baseline to 2% post-program.

Although the target goals set by the SLV multidisciplinary committee were achieved only for two indicators (provision of a prescription for controller therapy and provision/review of an asthma action plan), substantial advances were made in provider performance and awareness. At the end of the QAC initiative, 18 health care providers completed self-reflection surveys about their asthma practice patterns. More than 60% of providers felt they had improved on each of several key elements of asthma care, either “a little bit” or “a great deal.” Additionally, most providers reported that were better able or more prepared to treat asthma patients, with their clinic using a more team-based approach to asthma care. Of note, 94% of providers said that the asthma care provided to patients had improved following the QAC initiative.

In summary, all indicators of quality asthma care studied in the QAC initiative demonstrated statistically and clinically meaningful improvements. Health care providers also judged themselves to be better able to provide quality asthma care to their patients.