



envision new mexico

The Initiative for Child Healthcare Quality

Activities, Accomplishments, and Impact

Report on the Implementation of the 2008 – 2009 School
Based Health Center Quality Improvement Initiative

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Background

In 2008, Envision NM (ENM) launched an initiative to demonstrate and evaluate a common methodology and a set of quality improvement interventions to promote best practices within state sponsored School Based Health Centers (SBHCs) in New Mexico. Since 2005, the Governor of New Mexico made SBHCs a priority, vowing to establish a SBHC in every county in the state, an unprecedented expansion of SBHCs. The Legislature funded the project with a \$2 million appropriation and by 2007 NM had 65 SBHCs funded by DOH. Today, the total number of DOH-funded SBHCs now stands at 59. As part of this expansion, ENM received state funding to support the development of clinical services and systems among these SBHCs, a program referred to as the Quality Improvement Initiative (QII). This report presents findings from the 2008-2009 school year, including an assessment of implementation of the initiative and evidence of impact among participating SBHCs in New Mexico.

ENM is a pediatric quality improvement program that provides training, development and evaluation services to improve the quality of health services for children and youth throughout the state. As part of the Department of Pediatrics at UNM, ENM maintains an expert staff, utilizes up to date information technology, and draws upon the resources of the UNM Health Sciences Center to train and support health care providers in employing 'best practices' to ensure effective and efficient care health services.

In the fall of 2008, procedures were implemented to screen all NM Department of Health (NM DOH) supported sites to identify those with the best capacity to participate in quality improvement interventions. These sites were recruited and matched to specific interventions based on their needs and interests. The strengths and weaknesses of each selected site as an organization were further assessed, and an intervention plan was defined and implemented. Data on the response to the intervention was collected at planned intervals. Data collection involved telephone surveys and site visits by ENM staff, and medical record reviews conducted by SBHC personnel for evidence of improvements in targeted practices. Process data was reported by each site to monitor QI progress. A total of 13 clinical 'Teams' representing 18 SBHCs around the state participated during the 2008-2008 academic year. Schools represented included both high schools (14) and middle schools (4).

Three 'best practice' models¹ were addressed by the SBHC QII, and are reflected in this report:

- Pediatric Overweight Prevention, Identification, and Treatment (POW)
- Improved Clinical Practices/EPSTDT exams (ICP)
- Behavioral Health: Student Depression Screening, Assessment and Treatment (BH)

Quality Improvement Methodology

The QII is based on established models for creating improvements in clinical practices and delivery systems developed by the Institute for Healthcare Improvement (IHI), the National Initiative for Children's Healthcare Quality (NICHQ) and Dr. Scott Gee at Kaiser Permanente (Northern California). Conceptually, these developments are embodied in the Model for Improvement², developed by

¹ <http://www.hsd.state.nm.us/mad/HSchoolHealthDetail.html> and see "SBHC/MCO Project Clinical Guidelines" near the bottom of the page.

² The Improvement Guide: A Practical Approach to Enhancing Organizational Performance, *Gerald Langley, Kevin Nolan, Thomas Nolan, Clifford Norman, Lloyd Provost. San Francisco, Jossey-Bass Publishers, 1996*

Associates in Process Improvement³, a simple yet powerful tool for implementing improvement in health care quality. The “Plan- Do- Study- Act” (PDSA) process is an established tool that provides a structured process for providers and practices to plan, implement, and evaluate the impact of changes. The slogan for quality improvement is, simply, “all improvements involve changes but not all changes are improvements.” ENM employs this model and method to teach providers in SBHCs to identify practice changes that will lead to improved patient care and help reduce health care costs.

Methods Employed in the QII

The Quality Improvement Initiative is based on working directly with staff in SBHCs around the state. Participants have the opportunity to utilize the numerous online training programs coordinated by ENM, but also receive key training on-site, and face-to-face. ENM currently uses *Go To Webinar*, which is a secured, hosted, web-based meeting technology. The use of web-based technology allows for training and support without the time and expense of travel for each training event. Experience has shown us that Webinars are an excellent way to impart information to sites (including trainings, group discussions), as a precursor to active engagement in quality improvement.

The Model for Improvement is translated into a practical process through the PDSA tool. Clinical and administrative staff self-evaluate current practices against the ‘best practice’ in terms of their perceptions (using an ENM tool called the CASA, which will be discussed in more detail later in this report) and subsequently by an initial review of student medical records for key evidence of current clinical practices. ENM works directly with staff to demonstrate effective procedures to review SBHC medical records data, to identify and correct barriers to using data, and to apply the evidence from these reviews to specific criteria that constitute best practices. This assessment of staff perceptions and current performance then drives planning for improvements identified and embraced by the SBHC staff: this becomes their quality improvement initiative. The intervention for QII, then, involves training in quality improvement concepts and methods, definition of best practices against which performance is evaluated, and repeated use of data to measure changes leading to improvement.

Underlying the ENM QII is the application of Motivational Interviewing (MI) to improve communication between providers and patients, and between ENM staff and SBHC staff. Specifically, MI is an evidence-based set of communication skills that are used to enhance behavior change. Medical providers are increasingly using MI as a way to more effectively communicate with patients around lifestyle behavior change. Use of MI can facilitate communication between SBHC providers and students, among SBHC Team members themselves, and between the Team and program staff at ENM.

Site Visits and On-Site Training by ENM Staff

At least one ‘lead’ ENM staff member was assigned to a program area reflecting their professional expertise and past experience. The key strategy for engaging SBHC Teams in the QII, and assessing the results over time, involved site visits by ENM staff. These 2-4 hour site visits served to orient SBHC staff to the QII process and initiate activities for the specific QII ‘target’ area selected by the site. These site visits included orientation to:

- The Model for Improvement and the PDSA tool,
- Specifics of the ‘best practices’ model underlying the selected initiative at that site,

³ http://www.apiweb.org/API_home_page.htm

- Review of student medical records to evaluate current perceptions and practices against 'best practice' objectives for each specific initiative.

Baseline medical record review data were gathered by each SBHC Team as a benchmark for subsequent assessment of improvement.

Initial site visits occurred in January and early February of 2009. Subsequent steps in the QII called for use of PDSAs to identify and implement changes to administrative systems and clinical practices designed to improve performance relative to best practices. Depending on the needs of the SBHC Team and the nature of the obstacles to change, a variety of activities were conducted between February and the conclusion of the school year in June.

Depending on need and opportunity ENM staff scheduled additional site visits. A limiting factor was SBHC staff availability because of factors including ongoing heavy clinical responsibilities, lack of support for meeting time, pressure to produce billable hours, etc. In spite of these factors, most sites participated in additional site visits in support of their QII, with all ICP teams, 3 of 4 POW sites, and 2 of 4 BH sites participating in second site visits.

The Model for Improvement calls for repeated observation of evidence about practice and performance. The ENM QII was based on a pre and post intervention review of clinical measures related to the best practices models employed. On some occasions follow up medical record reviews were done as part of subsequent site visits, others were done by the SBHC staff with guidance by the ENM team. Among the 13 SBHC Teams, 10 submitted data from follow-up medical record reviews prior to the end of the school year. Results from these reviews are present later in this report.

Program Implementation and Early Results

Process measures of activity and engagement in the QII were documented through observations and reporting by ENM staff. Field notes and periodic progress reports provided indicators of the progress occurring with each Team. Participation in the QII process, observed obstacles, important assets, and an end of year summary assessment provide indication of organizational factors which may enhance or inhibit success at quality improvement. The success of the QII is dependent on implementation of a challenging program in a variety of settings and often requires addressing systems change and team building before clinical best practices becomes feasible.

Impact measures were obtained through medical record reviews at the SBHC sites. These reviews are designed to reflect provider practice patterns and not patient outcomes. The best practices models employed provide key objectives and related measures that are the impact indicators of clinical quality improvement.

Examples of QII indicators abstracted from the medical records include:

POW

- Documentation of BMI percentile
- Key Messages (evidence-based educational messages supporting prevention and treatment of pediatric overweight)

ICP

- Documentation of completed student health questionnaire (on the 1st visit to the SBHC, or by the 3rd visit if it is medically inappropriate on first visit)
- All 13 EPSDT exam components documented

BH

- Documentation of completed student health questionnaire (SHQ)
- Documentation that risk was assessed on the SHQ, indicated by completion of high/medium/low risk check box in the “Mood” section of the form

Initial baseline audits were performed by SBHC personnel with instruction from the ENM staff who were present for the review. Information abstracted from patient records did not contain identifying information such as name, birth date or zip code. Subsequent record reviews were conducted on site by SBHC staff and the de-identified information was submitted to ENM.

Process Indicators

SBHC Staff Participation: Initial Site Visits

Site visits were scheduled with the intent of providing all SBHC staff the opportunity to participate, to be identified as a member of the QII team, and to initiate activity as inclusively as possible. For ICP, the QII is focused on EPSDT exams, and behavioral health providers were not necessarily expected to participate in the training (one did). Staff was responsive and well represented at the initial site visits. There were a total of 65 invited staff among the SBHC Teams, and overall 57 (88%) participated in the initial sites visits.

School Based Health Center Staff Participation in Initial Site Visits

Staff Type	BH			ICP			POW		
	Number Attended	Total Staff	Attendance Rate	Number Attended	Total Staff	Attendance Rate	Number Attended	Total Staff	Attendance Rate
Coordinator	3	4	75%	8	8	100%	3	4	75%
Other Support Staff	7	7	100%	10	12	83%	1	1	100%
Medical Providers	3	4	75%	10	10	100%	6	8	75%
Behavioral Health	5	5	100%	-	-	N/A	1	2	50%
Total	18	20	90%	28	30	93%	11	15	73%

Prior Quality Improvement Experience

Some members of the 13 SBHC teams had prior experience with quality improvement activities, primarily from previous training activities offered by ENM. ENM QII staff characterized the prior experience of each Team as moderate, some experience, and no experience. Teams engaged in the POW initiative had less prior experience while ICP Teams had more. In previous years ENM piloted a

quality improvement initiative that included some of the current ICP sites. Prior experience may have benefited some teams as they engaged in new quality improvement work this past year.

Staff at School Based Health Centers with Prior Experience with Quality Improvement

QI Experience	BH	ICP	POW
None	1	1	2
Little	1	1	2
Moderate	2	3	0
Extensive	0	0	0

Organizational and Community Environment

The settings in which SBHCs exist likely affect performance and potential success with QII. Sites may vary considerably in their level of interaction and perceived support with local school officials, school health advisory committees, and parent groups. These differences may affect the site’s response to the QII independent of the efforts of ENM, and need to be accounted for in the analysis of the effectiveness of the quality improvement interventions, overall. Two factors were rated by ENM staff, retrospectively, as characteristics of the working environment for these SBHC Teams:

1. Collaboration within the school setting and with other interested groups
2. The existence of a functioning School Health Advisory Committee (SHAC)

ENM staff characterized the status of local collaboration and the SHAC as positive, negative, or unknown.

School Based Health Centers with Local Collaboration and Functioning SHAC

	Collaboration			SHAC		
	BH	ICP	POW	BH	ICP	POW
Positive	3	4	2	1	3	0
Negative	1	1	1	1	0	2
Unknown	0	0	1	2	2	2

These measures are based on observations and communications with the SBHC Teams. In the coming year a more systematic approach will be used to assess these factors and their impact on the SBHC and its performance in QII.

Ongoing Contact

One of the main challenges for ENM in conducting QII with SBHCs around New Mexico is to maintain communication, provide training at a distance, and keep SBHC staff engaged in the process in the face of competing demands on time and energy. ENM staff made specific effort to keep in touch with SBHCs, usually through contact with the Coordinator. From progress notes, ENM staff estimated the average frequency of contacts with sites, with at least monthly contact being the most common result.

Estimated Frequencies of Contact with School Based Health Centers

	BH	ICP	POW
< 1 Month	1	1	0
> 1 per Month	2	4	4
1 per Week	1	0	0

We also tried to characterize the nature or purpose of these contacts, with the most common purpose being a “1” and least common being a “5”. Much of the contact was considered “touching base”, followed closely by technical items (medical record review techniques, data reporting methods, etc.) and logistical contacts (deadlines, meeting schedules, etc.). Fewer contacts were made around the basic topics of quality improvement methodology and the specific clinical improvement models in use in the QII. Also, it should be noted that the vast majority of all contacts were initiated by ENM staff, again reflecting the challenge in implementing a far flung program involving busy clinical providers.

Primary Purpose of Contacts with School Based Health Centers

	BH Rank	ICP Rank	POW Rank	Overall Rank
Touching base	1	5	1	1
Technical Questions	3	1	3	2
Logistical Questions	4	2	2	3
Content Area specific	2	4	5	4
Model for Improvement	5	3	4	5

Loss of Staff in SBHCs

Recruiting and retaining staff in SBHCs is generally recognized as an ongoing challenge to the system. For ENM, loss of a key staff member in the midst of a QII process often meant that momentum was lost until a new staff member was hired and became oriented to the SBHC team and the ENM QII. In the short run this slows progress and over the long run is a critical issue for SBHCs in general. Quality improvement, and the close support of an organization such as ENM, may help support providers in SBHCs. Five of 13 (38%) SBHC teams lost key staff, of various disciplines, during the early phases of the QII. Loss of staff apparently led to 2 sites temporarily suspending participation in the QII.

Webinar Training

One avenue for engagement and continuous learning for SBHCs is participation in the Webinar program organized by ENM. A wide variety of training programs are offered and all SBHC staff are free to participate in as many events and as many topics as they choose. There were 46 Webinars offered by ENM projects between July 2008 and June 2009. The table below summarizes the number of training units provided. ENM sponsors additional training opportunities (COMM-TC and PNT, shown below) that are also available to SBHC QII participants. A training unit is participation by any individual SBHC team member, and team members may participate in multiple Webinars, so the number of units exceeds the number of individuals participating. CEUs/CME credits were offered whenever possible for all Webinar programs, and free of charge to SBHC team members.

Webinar Participation by School Based Health Center QII Team Members (Number of SBHC Participants X Number of Events)

Project	Staff Type			Total
	Behavioral	Medical	Support	
BH	1	4	7	12
COMM-TC [†]	1	29	11	41
ICP	2	7	16	25
PNT*			1	1
POW		5	10	15
Grand Total	4	45	45	94

[†]COMM-TC is the Childhood Overweight Medical Management – Telehealth Consultation Project

*PNT is the Pediatric Nutrition Telehealth Community of Care Project

In addition to the Webinar programs aimed specifically at the 3 QII program areas, SBHC staff utilized COMM-TC, which provides ongoing clinical consultation on a range of topics associated with pediatric overweight. In all, 38 individual SBHC QII Team members participated in one or more webinar training events.

Evidence for Quality Improvement: CASA and Medical Record Review

During the initial site visit a tool developed by ENM, called the “Content Area Specific Assessment”, or CASA, was used to measure perceived performance to provide a point of comparison with data from actual review of medical records. The CASA was loosely based on the Strengths/Weaknesses/Opportunities/Threats” (SWOT) analysis model frequently used by the National Assembly on School-based Healthcare (NASBHC). A key lesson in quality improvement is that actual data are needed because perceptions about clinical performance are often unreliable. In the tables below are comparisons of CASA scores, first record reviews and follow up reviews for each SBHC initiative.

Pediatric Overweight (POW)

Shown below is a comparison of responses to the CASA with medical record review results on two key items in the POW best practices model: Documentation of Body Mass Index percentile (BMI%) and Key Messages. (Key Messages are evidence-based interventions for prevention and treatment of pediatric overweight.) The CASA reflects SBHC staff self-perceptions of performance, while medical record reviews represent objective measures of QII performance.

POW Comparison of CASA Self-Rating and Medical Record Review Results (2 SBHC Teams)

Item Description	Self-Rating	Medical Record Review 1	Medical Record Review 2
		5 staff	20 charts
BMI %s are calculated and recorded on all First Visits and Well Child Checks	60% (3 staff) *	15% (3 charts)	96% (26 charts)

Key Messages are being discussed at all Well Child Checks

60% (3 staff) *	10% (2 charts)	44% (12 charts)
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**most or ¾ of the time*

In order to maintain consistency in analysis, only those sites that submitted the CASA and both medical record reviews are compared here. At least one team member from each of the 4 sites completed the CASA, and medical record reviews were completed by a third SBHC team and submitted to ENM. However, the second series of reviews included only students with BMI $\geq 85\%$, with 100% completion of the indicator among these charts. These data suggest that this Team does very well with students at or above the 85th percentile, but does not provide evidence for performance with the students at the 84th percentile or below. These results are not included in the table, but do serve to illustrate the challenges of implementing QII.

These results are relatively typical of what happens in the QII process. Team members tend to overestimate their use of best practices, which is confirmed by the initial medical record reviews. However, the important point is that once this is demonstrated and quality improvement methods are utilized, the team is able to demonstrate improvement by focusing on the specific practices involved.

Improved Clinical Practice (ICP)

Shown below is a comparison of responses to the CASA with medical record review results on two items: Completion of the SHQ and documentation of EPSDT components. Note that the best practice for use of the SHQ is that it be administered on the 1st visit to the SBHC, or by the 3rd visit if it is medically inappropriate on first visit (for instance, if the student is acutely ill or in crisis during the initial visits).

*ICP Comparison of CASA Self-Rating and Medical Record Review Results
(5 SBHC Teams)*

Item Description	Self-Rating	Medical Record Review 1	Medical Record Review 2
	(15 SBHC staff)	(201 charts)	(128 charts)
Proportion of students that complete the SHQ	80% (12 staff) *	94% (189 charts)	98% (126 charts)
EPSDT components are documented	53% (8 staff) †	8% (16 charts)	47% (59 charts)

**most or ¾ of the time*

†medical record review “pass” required presence of 13 items

In the case of the SHQ, initial perception of completion was in fact lower than actual completion rates. A number of these team members had prior exposure to QII and this may have changed their self-perceptions about their own work. Even with initial high performance on the SHQ objectives, these sites were able to show some improvement between the first and second medical record reviews.

The EPSDT best practice model sets a high bar for performance; a total of 13 critical items must be completed to get a ‘pass’ on this measure. These teams overestimated their compliance with all EPSDT requirements, as demonstrated by the large difference between the CASA rating and the first medical

record review results. However, once the performance issues were identified they were able to demonstrate nearly 40% improvement prior to the second medical record reviews.

Regardless of the direction of the team’s self-perception (either overestimating or underestimating their compliance with chart audit items), these numbers bear out the belief that assumptions about clinical practice are unreliable absent actual data. Moreover, when providers base their practices on data, performance improves.

Behavioral Health (BH)

We compared responses to the CASA with medical record review results for 2 sites combined, on two items: completion of the SHQ and risk assessed. The complexity of the Behavioral Health medical record review data prevents further comparison with the CASA responses.

**BH Comparison of CASA Self-Rating and Medical Record Review Results
(2 SBHC Teams)**

Item Description	Self-Rating	Medical Record Review 1	Medical Record Review 2
	(8 SBHC staff)	(59 charts)	(60 charts)
Proportion of SHQs administered*	75% (6 staff)†	75% (44 charts)	92% (55 charts)
Risk Assessed on SHQ	100% (8 staff) **†	37% (22 charts)	65% (39 charts)

**during 1st visit (or 3rd visit if medically appropriate)*

*** response to “What proportion of completed SHQs are signed, dated, and have risk assessed by a qualified professional?”*

†3/4 of the time or more

Use of the SHQ is central to the behavioral health best practices model. Among other things, it provides a screening of issues related to depression. This information presents an opportunity to identify the need for an immediate intervention with the students, and provides a basis for planning additional services to meet the ongoing needs of the student. For these two teams, the initial perception of risk assessment on the SHQ was lower than the actual rate documented through record reviews. Once again, focusing attention on these performance indicators resulted in improvement by the second record reviews.

End of Year Status of the SBHC Teams

At the end of the school year, ENM staff rated each site on three indicators of participation in the QII. These indicators were:

1. Degree of orientation to the QI process
2. Degree to which the site functioned as a team
3. Degree to which the site is committed to accomplishing their QII tasks

Shown below are the average rating for sites (on a scale of 0 to 10, 10=best) in each content area, and all sites overall.

End of Year School Based Health Center Teams Status in the QII

	BH	ICP	POW	Overall
Committed	3.4	8.4	4.5	5.7
Functioning	4	7.4	3.8	5.2
Oriented	3.9	7.4	3.3	5

Interestingly, the average level of “commitment to QII” exceeded that for “functioning” and “oriented”, and the ratings for “functioning” and “oriented” were very similar. The sense of commitment observed by ENM staff may reflect the importance of motivation for all Teams as they attempt to incorporate QII into the already demanding work of providing care to students in New Mexico. The ratings for ICP Teams exceed that for other groups. This may reflect to the specific clinical focus of ICP, but also likely reflects the past experience ENM has working with some of these sites. An important challenge for ENM is to help these Teams convert the perceived commitment into a clear quality improvement agenda and a smoothly functioning quality improvement team.

Because of the small number of SBHC Teams involved, there is limited ability to examine the impact of the loss of key staff on the QII, but some differences were suggested by the data. At the end of the year, the Teams that lost staff were rated 4.8 – 5.2 on the measures of commitment, functioning, and oriented to the QII, whereas those sites that did not lose staff were scored 6.8 – 7.8 on these measures. The loss of staff should be seen as a major challenge to SBHCs and to their successful participation in QII. However, ENM staff was able to complete medical record reviews and second site visits with 75-80% of the Teams that lost members as well as those that did not.

Discussion

In school year 2008-2009 ENM recruited 18 SBHCs, operated by 13 staff Teams, to participate in the Quality Improvement Initiative (QII). Three areas were targeted for improvement to be measured against models of ‘best practice’ for each area. These models provided a framework for assessing current practices and measuring improvement over time. ENM staff provided training, conducted site visits, supported SBHC staff, and collected evidence of performance for each SBHC. This report summarizes these activities, accomplishments and the impact of QII over the year.

The data show that among the staff members that made up the 13 SBHC Teams there was strong participation in the QII. At the initial site visit 65 Team members were invited to participate, and 57 attended. Over the course of the year, ENM maintained contact with the Teams on a monthly, if not weekly, basis. Additionally, Team members participated in 94 ENM sponsored Webinar classes. During the year, 5 of the 13 Teams experienced loss of key staff, a chronic problem faced by most SBHCs.

Team performance on the QII was assessed with three measures. First, staff perceptions about existing performance of ‘best practices’ was evaluated using the CASA, a tool developed by ENM. Second, initial site visits included an exercise that evaluated a small sample of student medical records against some key indicators of the ‘best practice’ model for each specific initiative. Third, a second round of reviews of medical records provided a point of comparison following the training and coaching provided by ENM.

Past experience in clinical quality improvement has shown that perceptions of performance generally exceeded what can be demonstrated by the actual review of medical records. Without some systematic

process for monitoring performance it is difficult for clinicians to maintain an accurate sense of how well they are doing on specific practice objectives. The need to develop a mechanism for tracking performance measures over time is a key lesson of the QII. In the end, there were consistent and sizeable improvements in performance on the second record reviews, following the work with ENM. These results are very encouraging regarding the potential to support SBHCs to improve the quality of clinical services provided to students.

Quality improvement strategies are based on the premise that clinicians are motivated to provide the best care possible. At the end of the year, ENM staff summarized their views of where these SBHC Teams stood in relation to the QII. For each clinical initiative, and overall, Teams were rated highest on commitment to quality improvement, closely followed by ratings for orientation to QII and functioning as a team. With the motivation that exists, and the ongoing training and development offered by ENM in the coming year, these Teams can be expected to make strides with the QII and positively affect the quality of services provided in these SBHCs.