WVDHHR

Diabetes Prevention and Control Program's

Quality Improvement Program:

Comprehensive Evaluation Report

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SCHOOL OF PUBLIC HEALTH
HEALTH RESEARCH CENTER

Comprehensive Evaluation Summary

This report represents a three year evaluation of the implementation and impact of the Office of Health Services Research's (OHSR) activities in support of the Quality Improvement Program (QIP) initiated by the WV Diabetes Prevention and Control Program (DPCP). The immediate goals for the QIP include: increased provider/staff knowledge of the Planned Care Model (PCM), increased implementation of PCM practices, improved clinic staff knowledge of operation of the clinical information system (CIS), improved quality improvement (QI) practices, and improved knowledge of diabetes practice guidelines, with the ultimate goal of preventing the complications, disabilities, and burden related to diabetes.

Contained in this report are:
      (1) List of evaluation measures and descriptions,
      (2) Summary report of three years (11 quarters) of OHSR's activities,
      (3) Summary Results from a survey of clinic administrators
      (4) List of evaluation activities conducted for the DPCP and,
      (5) Summary of this evaluation.

Section 1: Evaluation measures and descriptions

Two measures were developed to assist with the evaluation: (A) a quarterly report of OHSR's activities and directions for completion, and (B) a survey to be completed by community health centers.

A.   Quarterly report: a 20-tab Excel spreadsheet was developed in year 1 and updated throughout the process as needed. This spreadsheet was intended for use by OHSR in providing quarterly reports of their QIP-related intervention activities. There are 14 evaluation components being captured across these 20 tabs (some components are captured across multiple tabs):

1. Training health centers on PCM
2. Conducting pre- and post-PCM training knowledge tests
3. Assessing health center practices with the ACIC
4. Identifying components of the PCM/ACIC to target for improvement
5. Identifying practice/policy changes to implement
6. Establishing protocols to measure practice/policy change and provide feedback for quality improvement
7. Providing technical assistance (TA) to health centers on operation of clinical information systems
8. Providing training to health centers on utilization of data for quality improvement
9. Providing training in Diabetes Practice Guidelines
10. Conducting pre- and post-training diabetes practice guidelines tests
11. Describing other activities of OHSR in clinics including barriers to implementation.
12. Information about the staging and medical home status of the clinics
13. Information about how much providers use outcome data provided by the registry
14. Information related to meaningful use

Three years of activities have been reported by OHSR using the Excel spreadsheets. A summary of these activities is provided in the section that follows.

Key Activity and Clinic by Clinic Reports: During year 2 of evaluation activities, it became apparent that a simple, interpretable and printable template needed to be designed in order for all partners to be able to view progress to date, both across all OHSR activities and on an individual clinic level. To suit these purposes, the HRC created one template that could show a summary of all progress to date and another template that could show the status of each clinic at any given point in time. These templates (one for all progress across all clinics to date, and 16 individual clinic reports) are included in Appendix I of this annual report for reference and clarity of evaluation data.

B.   A survey completed by clinic administrators describing the relationship between the clinics and OHSR. The survey asks administrators about the types of contacts with OHSR, policy change efforts, and progress in applying for medical home status.   It also seeks to determine an overall level of satisfaction that clinics have towards OHSR activities. This survey can be found in its entirety in Appendix I. As per discussions with OHSR and DPCP, this survey was administered in year 1 and year 2 only.

Section 2: Summary of OHSR Activities

Overview: OHSR staff reported on activities with the 16[1] clinics for which they have MOUs to provide diabetes patient data. An Excel reporting template was designed by the HRC evaluators to collect information on OHSR activities in support of the QIP. OHSR staff provided the following information on PCM and diabetes practice guideline trainings and knowledge tests, ACIC scores, practice and policy changes in clinics, follow-up activities, QI trainings, TA contacts, other related activities, medical home status, % of providers using outcomes data from the registry, and meaningful use information for each of the clinics.

Data Collection Timeframe: The reports provided by OHSR during the timeframe covered by this report include activities that occurred in Quarters 2-4 of year 1 (7/1/2010- 3/30/2011), Quarters 1-4 of year 2 (4/1/2011- 3/30/2012), and Quarters 1-3 of year 3 (4/1/2012 – 1/31/2013). Depending on the intervention activity and the appropriate interpretation of evaluation data, tables below are presented in different forms ranging from comparisons of year 1 to year 3, combined year 1-3 results, or simply year 3 results. Carefully note that each table will contain the date of the information.

Summary of Data Reported:

A. Indicators: Planned Care Model (PCM) trainings and test scores: Ten PCM trainings were conducted during the 3-year evaluation period. The mean post-test score increased from the mean pre-test score, reflecting the acquisition of new information during the PCM trainings (note: pre- and post-test scores were not matched for participants). This was a statistically significant increase in scores. The number of providers trained and mean scores for the knowledge tests are presented in Table 1.

Table 1. PCM trainings and test scores (percent correct, combined over the three year evaluation)

PCM Training						
# of Clinics	# of PA/NP	# of RN/LPN	# of DO/MD	# of Medical Assistants	# of Other attendees	Total Staff trained
10	15	18	6	11	32	82
Test			**Group (N)**	**Mean % correct (SD)**		***p***
PCM Knowledge Test			Pre-test (66)	58.2% (15.8)		<.001
			Post-test (66)	71.2% (19.6)		

Note: 16 individuals who were trained did not test.

B. Indicator: ACIC Scores: ACIC scores are provided for all 16 clinics included in the QIP project. ACIC average component scores and standard deviations for the 16 clinics are provided in Table 2, from both year 1 and year 2. Average scores are out of a possible 11 for each component. The following guidelines have been provided by the MacColl Institute for Healthcare Innovation for interpreting ACIC scores:

Between "0" and "2" = limited support for chronic illness care
Between "3" and "5" = basic support for chronic illness care
Between "6" and "8" = reasonably good support for chronic illness care
Between "9" and "11" = fully developed chronic illness care

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[1] OHSR has reported on activities with 29 clinics, but based on the agreement of OHSR, DPCP and the WVU HRC, only 16 clinics are targeted for intervention activities and evaluation and are included in this report. DPCP has consistently been reporting only on these 16 clinics through years 2 and 3 of the evaluation time frame.

Using these guidelines, at the conclusion of year 2, most clinics have reasonably good support or better for chronic illness care on the majority of the components and for the total score. Note that many of the ACIC component scores and the average total ACIC scores improved from year 1 to year 2 in a statistically significant fashion.

Table 2. ACIC scores

Clinic	Health Care Organization		Community Links		Self-Management		Decision Support		Delivery System Design		Clinical Information System		Average ACIC	
	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2
Clinic 31	5.8	6.6	10.0	10.0	4.8	5.8	4.0	6.5	6.0	7.2	4.6	7.0	5.9	7.2
Clinic 21	3.4	5.8	5.0	6.0	4.0	4.3	3.3	4.0	3.5	5.5	5.2	6.4	4.1	5.3
Clinic 04	3.0	5.4	3.0	4.7	3.8	4.0	3.3	4.5	2.2	4.8	4.8	4.2	3.3	4.6
Clinic 23	6.6	7.0	8.7	8.7	7.8	8.0	7.0	6.5	7.0	7.5	8.0	8.6	7.5	7.7
Clinic 29	6.8	7.4	10.0	8.5	8.8	6.5	6.0	5.5	5.8	6.7	5.4	6.8	7.1	6.9
Clinic 32	4.0	6.0	8.5	10.0	5.5	7.0	2.5	3.5	4.0	5.7	5.8	6.2	5.1	6.4
Clinic 28	3.8	5.0	7.0	7.5	6.5	3.8	5.8	4.8	7.0	5.0	4.4	3.6	5.7	5.0
Clinic 27	4.4	6.4	9.5	11.0	6.3	6.8	3.5	6.3	3.8	9.2	2.0	6.0	4.9	7.6
Clinic 30	6.2	8.4	10.0	10.5	9.5	10.0	4.8	7.5	9.2	9.7	5.0	8.6	7.4	9.1

Clinic	Health Care Organization		Community Links		Self-Management		Decision Support		Delivery System Design		Clinical Information System		Average ACIC	
	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2	YR 1	YR 2
Clinic 24	5.6	6.6	9.5	9.0	6.3	8.5	5.5	6.3	8.3	8.5	8.0	9.6	7.2	8.0
Clinic 22	6.8	8.4	6.3	6.0	7.0	6.0	3.0	5.5	4.8	5.5	6.0	8.8	5.7	6.7
Clinic 13	3.4	5.8	5.0	6.0	5.5	4.3	3.3	4.0	4.5	5.5	5.2	6.4	4.5	5.3
Clinic 16	4.4	8.6	9.5	9.3	6.3	7.5	3.5	6.5	3.8	9.2	2.0	8.8	4.9	8.3
Clinic 17	8.0	9.4	7.7	7.7	8.0	7.0	8.3	8.3	8.5	8.0	10.6	10.6	8.5	8.5
Clinic 25	5.8	9.4	10.5	11.0	8.3	9.3	8.0	9.0	8.8	10.0	3.6	9.4	7.5	9.7
Clinic 26	5.6	9.0	8.5	9.0	6.0	7.3	5.5	8.0	4.8	9.3	5.8	7.4	6.0	8.3
Mean	*5.2*	*7.2*	*8.0*	*8.4*	*6.5*	*6.6*	*4.8*	*6.0*	*5.8*	*7.3*	*5.4*	*7.4*	*6.0*	*7.2*
SD	*1.5*	*1.5*	*2.2*	*2.0*	*1.6*	*1.9*	*1.8*	*1.6*	*2.2*	*1.8*	*2.2*	*1.9*	*1.5*	*1.5*
	p < .001		*NS*		*NS*		*p = .002*		*p = .008*		*p = .002*		*p = .001*	

In addition, at the time of this report, a third year of ACIC scores had been provided for Clinic 16. Table 2b summarizes the change from year 2 to year 3 for this clinic.

Table 2b – Year 3 ACIC Scores for Clinic 16

Clinic	Health Care Organization		Community Links		Self-Management		Decision Support		Delivery System Design		Clinical Information System		Average ACIC	
	YR 2	YR 3	YR 2	YR 3	YR 2	YR 3	YR 2	YR 3	YR 2	YR 3	YR 2	YR 3	YR 2	YR 3
Clinic 16	8.6	7.6	9.3	8.7	7.5	6.8	6.5	6.3	9.2	8.0	8.8	8.0	8.3	7.5

Because of staffing turnover and other barriers at OHSR, the remaining clinics ACIC scores will be collected after this evaluation is complete.

Statistical analyses of ACIC scores in relation to clinical health outcomes were performed by the HRC with data provided by the DPCP. No significant relationship was found between average ACIC scores and mean A1C, systolic blood pressure, diastolic blood pressure, LDL, HDL, or triglycerides. There was also no significant correlation between the change in average ACIC scores from year 1 to year 2 to

change in these health outcomes from year 1 to year 2. The sample size for these statistical analyses were very small, however, making it difficult to draw conclusions about these relationships.

C. Indicators: Policy/practice targets, measurement and feedback protocols, follow-up on practice targets:
All 16 clinics identified targets for improvement after completing the ACIC. A summary of these clinic targets, policy changes, measurement criteria, feedback protocols, and follow-up from OHSR is available on both the overall key activities template and the clinic by clinic templates in Appendix I. In general, clinics have targeted a wide variety of policy changes across all the available options. Every clinic has at least two targets with measurement, feedback protocols, and scheduled follow-up and most have multiple – with the exception of clinic 25 and clinic 26.

D. Indicator: Using data for QI: Data use trainings have been conducted multiple times in all 16 clinics. Information about the number of providers receiving training and the type of training offered is presented in the key activities report and clinic by clinic templates in Appendix I.

E. Indicators: Diabetes practice guidelines trainings and tests: Seventeen trainings on the diabetes practice guidelines were conducted in clinics during the evaluation. Mean test scores increased from pre-test to post-test across all modules. All these increases were statistically significant with the exception of the "Art of Diabetes Care" which had a very high pre-test score (80%) and a very small sample size (only six were trained in this module) which likely explains the lack of significance. The number of clinics trained, providers trained and mean scores (percent correct) for each module are presented in Table 4 (note: pre- and post-test scores were not matched for participants). For more details on which trainings were presented at each clinic, please see the clinic-by-clinic templates in Appendix I.

Table 4. Diabetes guidelines trainings and test scores (percent correct)

Diabetes Trainings: Years 1-3 Combined					
Training	# Clinics	# Trained	Ave. Pre-test	Ave. Post-test	p
Science of Diabetes Education	2	33	56.8	77.8	.000
Healthy Eating	2	30	72.7	88.6	.013
Carbohydrate Counting	5	47	56.5	71.9	.000
Art of Diabetes Care	1	6	80.0	90.0	NS
Science of Diabetes Care	3	31	72.9	94.1	.000
Cardiovascular Disease	2	20	54.6	77.5	<.001
Blood Pressure Training	1	12	62.3	78.6	.001
Advances in Diabetes Medications	1	26	43.8	80.7	.000

F. Indicator: TA contacts: A total of 530 TA contacts were reported across the 16 clinics. Several of these contacts occurred on the same date, with the same type of request listed, suggesting that multiple communications took place to complete the TA request. Communications most typically came in the form of e-mail. The most common TA request pertained to resource/information sharing. The number of each type of TA request and manner of contact are provided in Table 5.

Table 5. Summary of TA activities

Technical Assistance (Provided to 16 Clinics)	
Manner of Contact	**n (%)**
Email	308 (58.1%)
Telephone	84 (15.8%)
Site	47 (8.9%)
Remote	85 (16.0%)
Other	6 (1.1%)
TA Request	
Resource/information sharing	317 (59.8%)
General computer consulting	37 (7.0%)
Registry update	26 (4.9%)
Networking	24 (4.5%)
Fixes for CIS malfunctions	12 (2.3%)
Download/installation of registry updates	7 (1.3%)
Hardware/printer problems	3 (0.6%)
Demonstration of registry	2 (0.4%)
Medical staff meeting	1 (0.2%)
Modifying Existing Reports	1 (0.2%)

G. Indicator: Clinic staging: OHSR reported the clinic scores for CIS staging and Education staging in each quarter of the evaluation period. All clinics had an established registry that was not fully integrated by the beginning of year 2. Clinics as an aggregate showed progression towards higher levels of CIS and Education Staging over the evaluation period. The number of clinics in each staging category at the end of the evaluation period is presented in Table 6. Please see the clinic by clinic reports in Appendix I for more information about each clinic's staging.

Table 6. Final Clinic Staging

CIS Staging								
	No contact (0)	Some contact/no data sharing (1)	Increased contact/ getting started (2)	Registry est., limited use (3)	Registry est., not fully integrated (4)	Registry moderately integrated (5)	Motivated, registry used for QI (6)	Self-sufficient registry used for QI (7)
Q3 Y3 (n=16)	0	0	0	0	2	8	4	2

Education Staging							
	Not offered (A)	No response/ declined (B)	Considering (C)	Scheduled (D)	In process (E)	Completed (F)	Maintenance (G)
Q3 Y3 (n=16)	1	0	5	2	3	1	4

In addition to compiling these staging tables, during the year 2 evaluation period the Health Research Center also looked at potential correlation between CIS staging and the "clinical information systems" section of the ACIC at the request of the DPCP. The relationship between education staging and the ACIC decision support score component were also analyzed. A statistically significant correlation was

found between CIS staging and CIS ACIC scores in year 1, but not in year 2.   There was no significant correlation between education staging and the decision support ACIC score in either year. Because of the low sample size, however, it should be noted that there was very little statistical power in the analyses and these results should not be interpreted to say there is no correlation between the staging and scoring.

H. Leveraging Resources: Over the evaluation period, seven centers received eight grants to help facilitate QIP. These included:

- Clinic 4
- Clinic 16
- Clinic 17
- Clinic 22
- Clinic 24
- Clinic 25 (2 grants)
- Clinic 26

I. CIS Function: During the three year evaluation, OHSR staff reported 157 activities related to CIS function across 16 clinics. These activities included process mapping and data flow (89), data accuracy (24), capturing data in correct fields (21), and capturing data in a readable format (23).

J. Other Activities: In addition to the intervention activities pertaining directly to the QIP, OHSR staff were engaged in a number of other activities during the evaluation period. The types and details related to these other activities evolved over the years and were reported on a quarter by quarter basis. These are outlined in Table 7.

Table 7. Summary of other OHSR activities by year

Other Activities – Year 1	
Other Activity	**# Times Reported**
Scheduling visit/support	94
Needs assessment	26
Administrative	25
Request for de-identified data	12
Other	10
Education	8
Once/month call schedule	8
African American Project	7
Health system change	7
Assisted with NCQA medical home application work	4
Obtained MOUs for participation/partnership	2
3 month f/u Dining with Diabetes class for 9 clinics	1

Other Activities – Year 2	
Other Activity	**# Times reported**
Nell Stuart and Marie Gravely presented "Counting Carbs the Easy Way" at the WV MEDCORP Summer Summit.	9
Sent "Save the Date" for the 2011 Diabetes Symposium	8
Facilitated CDSMP training	3
Technical assistance for NCQA Medical Home	3

application	
Attended the provider meeting and gave presentation called "A Balanced Life, What your Patients Need to Know". Presentation included update on AACE guidelines, Exercise Guidelines for type II diabetes, and 2010 Dietary Guidelines as well as review of carb counting. Last half of presentation was providers brainstorming what their patients needed to know about monitoring blood sugars. This lead into great discussions among providers regarding having clear expectations of the patients and communication.	1
Began process of co-authoring an article with Emma White, Cecil Pollard, Gina Wood and Marie Gravely on successful/sustainable partnerships in primary care/public health. Article will be submitted to the American Journal of Public Health by 8/1/2011.	1
Collaborating with other researchers looking at environmental impact on chronic disease	1
Corresponded with policy leaders urging expansion of community health workers in WV	1
Met with CDC leadership to demonstrate registry functions. Received recognition from Ann Albright. Received support from NACDD	1
Met with designated clinic staff to review Medical Home standards and how to begin collecting documentation for application	1
Met with faculty to research improved decision support	1
Met with WV CHIPS and WVHII to discuss project to help with early screen and detection of chronic disease risk factors. Will receive small grant.	1

Other Activities – Year 3	
Other Activity	**# Times Reported**
Nell attended Diabetes Care and Education Practice Group Leadership Retreat	1
Nell facilitated Dining with Diabetes	1
Started monthly QI call with Jennifer Boyd	1
CVH/CDC site visit OHSR participation	1
Adam and Nell participated in Free Clinic Annual Meeting	1
Nell's Article "Fundamentals of Diabetes Management" published in Nutrition Today	1
OHSR/DPCP article	1
OHSR worked to assist in pilot funding WVU CTSI application	1
OHSR accepted to give oral presentation at 2012 Rural Health Conference	1
OHSR presented a poster at Family Medicine Conference	1
OHSR gives oral presentation at Rural Health Conference	1
OHSR and DPCP drafted an article on identification of patients at-risk for diabetes using EMR data	1

K. Medical Home Status

At the request of OHSR and DPCP, the reporting template now collects information related to the medical home status of clinics. Ten of 16 clinics (62.5%) have now applied for medical home status and eight clinics have been recognized (50%). For more information on each clinic including their chronic disease focus areas, please see Appendix I.

L. Provider Outcome Data

Clinics reported various numbers of providers who were receiving diabetes outcome data from the registry, along with the total number of providers in the clinic and how often they are receiving reports. This information is in table 8 below.

Table 8 – Providers Receiving Diabetes Outcome Data from Registry

Clinic	# of Providers receiving diabetes outcome data from registry	#Providers total in clinic	How often, on average, do providers receive data on their patients with diabetes?
Clinic 31	0	Not reported	
Clinic 21	0	2	
Clinic 4	2	2	quarterly
Clinic 23	9	13	other
Clinic 29	0	3	
Clinic 32	0	not reported	
Clinic 28	1	1	other
Clinic 27	0	7	
Clinic 30	0	not reported	
Clinic 24	0	not reported	
Clinic 22	10	10	quarterly
Clinic 13	0	not reported	
Clinic 16	8	8	quarterly
Clinic 17	7	7	monthly
Clinic 25	0	not reported	
Clinic 26	12	21	quarterly

M. Meaningful Use

Four health centers used at least one diabetes-related clinical quality measure to report for stage 1 Medicare meaningful use:
- Clinic 23
- Clinic 22
- Clinic 16
- Clinic 26

Section 3: Results of Clinic Satisfaction Survey

During March 2012 (the end of year 2 of the evaluation), a survey was sent to 15 clinic administrators in the 16 clinics (two clinics were listed as having the same administrator) in order to determine clinic level satisfaction with the work of OHSR. Nine responded for a response rate of 60%. The following sections describe the findings.

A. Identifying Information: 89% of respondents (n=8) were administrative staff and the other respondent (n=1) was clinical staff.

B. Technical Assistance: 67% (6) clinics reported having received technical support from OHSR on the general functioning and operation of their electronic medical registry during the past year. Of those clinics:

   a. 100% reported they were very satisfied with OHSRs response to technical assistance requests.
   b. 100% reported contacting OHSR 1-3 times monthly
   c. The typical method of communication for technical assistance between clinics and OHSR was varied
      i. 50% (3) reported over the telephone
      ii. 17% (1) reported using e-mail
      iii. 17% (1) reported clinic visits
      iv. 17% (1) reported remote support.

C. Quality Improvement: All nine clinics (100%) reported having an established QI team.
   a. Clinics reported meeting either monthly or as needed.
      i. 44% (4) reported that the QI team met monthly
      ii. 56% (5) reported that the QI team met only on an as needed basis
   b. 55.6% (5) clinics reported that OHSR assisted them with QI activities over the last year. Of these:
      i. 80% (4) reported being very satisfied with the help provided by OHSR and
      ii. 20% (1) reported being moderately satisfied with the help provided by OHSR
   c. Clinics reported a number of barriers to quality improvement in the clinics. Six of these clinics (67%) reported time as a barrier to quality improvement. Other barriers included costs (3), technical issues (3), and provider buy-in (1).
D. Electronic Medical Records:
   a. 22% (2) of clinics reported OHSR provided training on the use of electronic medical records or chronic disease registry data over the last year. Both of these clinics reported that this occurred one time.
      i. 100% of these clinics (2) reported being very satisfied with the assistance offered by OHSR.
   b. Time and technical issues were cited as barriers to using EMRs and registries.

E. Planned Care and Chronic Care Model:
   a. 8 clinics (89%) reported having used the planned care or chronic care model to help develop QI plans.

F. Diabetes practice recommendations/guidelines:
   a. 67% (6) clinics reported having received training on diabetes practice recommendations and guidelines from OHSR staff. These clinics reported a range for receiving training from 1 to 8 times over the last year. Of these:

i.   83% (5) reported being very satisfied with the training
        ii. 17% (1) reported being moderately satisfied with the training.
    b. Two clinics reported additional training needs:
        i.   One pointed out needs related to self care management training for staff and
             education on medications.
        ii. The other requested training for a new diabetic educator.

G. Data Review:
    a. 56% (5) of clinics reported OHSR had reviewed diabetes patient data with them over the
        past year. The clinics reported a range of 1 to 4 times that this took place. Of these
        clinics:
        i.   80% (4) reported being very satisfied with this contact.
        ii. 20% (1) reported being moderately satisfied.
    b. 2 of these five clinics reported that the review of patient data resulted in a practice or
        policy change within the clinic (40%).
        i.   One clinic reported a strengthening of current diabetes management initiatives
             and began a review of self-reports.
        ii. The other clinic reported improvements in data usage to change medication
             regimes and scheduling of patients for review of diabetic diet and exercise
             strategies.

H. Impact of Services:
    a. 67% of clinics (6) reported they had not applied for any grants based on collaboration
        with OHSR and 4 clinics (33%) reported being unsure.
    b. Six clinics (67%) reported having achieved medical home status while 33% reported they
        had not.   Of those reporting they had not achieved medical status:
        i.   67% reported they were applying for medical home status over the next year
             while 33% were unsure.
    c. 56% of clinics reported not receiving any funds for QI activities over the last year. 11%
        were unsure. Of the remainder:
        i.   1 clinic reported receiving funding from HRSA.
        ii. 2 clinics reported receiving other funds.

Note: After this round of surveys, it was jointly decided by OHSR, WVU HRC, and DPCP that no
further surveys of administrators would be necessary.

Section 4: List of Evaluation Activities

A number of activities were undertaken during the three year evaluation. Using multiple face to face meetings and telephone conferences with DPCP program staff and OHSR staff we:
- o Identified evaluation questions
- o Developed a logic model to depict the activities, outputs, goals, and indicator and data sources for the evaluation
- o Produced an overall evaluation document, including the evaluation plan for CDC
- o Created, revised and fielded a web-based survey for participating clinics to provide information about services and interactions with the OHSR program
- o Developed and revised on demand and on a regular basis an Excel-based activity report for OHSR staff to systematically record activities during each quarter;
- o Trained OHSR on the use of the excel-based activity report
- o Created, updated, and provided written instruction manual for use of the template
- o Conducted an annual "retreat" with OHSR and DPCP staff to discuss appropriate reporting and evaluation activities including requested revisions to the reporting template
- o Created and updated on a quarterly basis 16 clinic by clinic and one overall key activities report

Section 5: Summary of the evaluation

The evaluation plan submitted to the CDC identified 10 specific questions to be answered. These questions and findings, based on OHSR activities, are provided below.

Evaluation Questions and findings
1. What health center practices are targeted for improvement?
    a. As described in Sections 2B and 2C, ACIC scores have been provided for all 16 clinics in year 1 and year 2 and for one clinic in year 3. These scores, in general, showed statistically significant improvements from year to year. Additionally, policy and practice change targets, measurement criteria, feedback protocols, and follow-up have occurred at strong rates. These identified changes and measurement/feedback/follow-up have shown great improvement in year 2 compared to the year 1 report.
    b. The implementation of this QIP activity seems to have grown much stronger as time went on.

2. What changes are implemented in health center practices and policies?
    a. As described in Section 2C and in the clinic-by-clinic and key activities reports (Appendix I), policy and practice changes have been identified and implementation begun in all clinics and across a wide variety of targeted practices and policies.

3. What proportion of the health center changes are institutionalized in policy?
    a. Policies were reported, beginning in quarter 2 of year 2 and running through year 3. During year three, policy change began to take off across the sixteen clinics. Every clinic reported various areas where policy change took place in targeted areas related to the ACIC testing. Multiple policy targets and changes took place in every clinic except Clinics 25 and 26.

4. How fully are the changes in health centers implemented?
    a. Each month, OHSR is reporting progress towards policy and practice changes via the follow-up tab on the quarterly report template. Clinics are at various stages depending on the policy and practice targeted, but follow-up visits indicate progress towards total implementation.

5. What changes occur in patient outcomes?
    a. Review of patient-level data by the DPCP will be needed to answer this question.

6. What activities does OHSR provide to support the improvements health centers have targeted?
    a. OHSR has been involved in a number of measurement, feedback, follow-up and technical assistance activities in order to support clinics in improvements. These can be found in greater detail in the clinic-by-clinic reports in Appendix I.

7. How acceptable are OHSR services to health centers?
    a. Surveys assessing satisfaction with OHSR activities and clinic training needs were sent to 15 health center administrators (two clinics were listed as having the same administrative contact) in March 2012; multiple reminders were sent. A total of 9 administrators responded to the survey, and the last response was received on March 30th. A report on the results of the survey found in Section 3.

8. How effective is the PCM training in changing staff knowledge regarding the relationship between PCM and patient outcomes in their health centers?
    a. PCM trainings were provided in 10 clinics with a total of 66 staff trained.
    b. The average percent correct score on the pre-test was 58% and the average percent correct score post-training was 71%.
    c. The change in scores from pre to post reflects an 13% improvement. The improvement statistically significant at the <.001 level.
    d. The training does seem to be effective in raising knowledge among staff who are trained.

9. How effective is the training provided in evidenced-based treatment guidelines in improving staff knowledge?
    a. 17 Diabetes Guidelines trainings were provided with a total of 205 staff trained. See the clinic-by-clinic templates in Appendix I for a breakdown of trainings in each clinic.
    b. The mean scores for the pre-test modules ranged from 44% for Advances in Diabetes Medication to 80% for the Art of Diabetes Care.
    c. The average percent correct scores for all 8 modules increased from pre- to post-test. Statistically significant improvements were found for 7 of the 8 modules. See Section 2E for more details.
    d. Training in Diabetes Guidelines appears to be effective in improving staff knowledge.

10. How well do enrolled diabetes health centers adhere to evidence-based treatment guidelines regarding annual cholesterol assessments, A1C assessments, tobacco counseling, BMI measurements at each visit, BP assessments at each visit, self-management goal?
    a. Review of patient-level data by the DPCP will be needed to answer this question.