HEALTH Integration PROJECT

Emergency Department Diversion, a collaborative community health integration project with outcomes that demonstrate the Triple Aim.

Final Project Report: June 2010 -June 2011

A project of the Central Oregon Health Council

The purpose of the Central Oregon Health Council is to transform the health of our region's residents, making Central Oregon the healthiest region in the nation. COHC creates community alignment in pursuit of ***better health, better care, and lower cost.***


Central Oregon
Health
Council


CROOK COUNTY
Serving You
EST. 1882


DESCHUTES COUNTY


JEFFERSON COUNTY
Public Health Department


LaPine
Community
Clinic


Central Oregon
Independent Practice Association


NAMI
National Alliance on Mental Illness


ABHA
Accountable Behavioral Health Alliance


Lutheran Community Services
NORTHWEST


MosaicMedical
Real People. Real Care.


BESTCARE
TREATMENT SERVICES


VOLUNTEERS
IN MEDICINE
CLINIC OF THE CASCADES


PacificSource
HEALTH PLANS


healthmatters
of Central Oregon


Oregon
Health
Authority


St. Charles
HEALTH SYSTEM

Preliminary Remarks

With direction from Senator Alan Bates and Representative Tina Kotek, the 2009 Oregon Legislative Assembly approved a budget note to the Department of Human Services budget requiring the Oregon Health Authority to create regional pilot projects focused on integrating state and federal funds into single regional points of accountability, and authorizing the development of pilot projects to demonstrate how such regions could improve the health outcomes of the people they serve. The Central Oregon region took on this challenge and created the "Central Oregon Health Council", (COHC) a public/private partnership that includes Crook, Deschutes and Jefferson Counties, the region's health system, the region's Medicaid payer, the region's safety net clinics and the Oregon Health Authority. Over the past 18 months, COHC has overseen the Health Integration Projects, focusing specific attention on high utilizing/high need patients who are disconnected from the regular healthcare system and suffering from the social disparities that impact an individual's overall healthcare. This approach began with the Primary Medical Home pilot at Mosaic Medical, next extended to the Emergency Department (ED) Diversion project, and has now expanded into the Integrated Primary Care project, the Program for the Evaluation of Development and Learning (PEDAL Clinic), and the Affordable Medication project. This report highlights only the Emergency Department (ED) Diversion project, and will complete the commitment to the Oregon Health Authority to provide quarterly updates related to that specific project.

The Central Oregon Health Council will continue beyond the initial pilot project. Through the efforts of Senator Chris Telfer, who in 2011, championed Senate Bill 204 authorizing creation of the COHC as a formal body, the collaborative public/private partnership will continue forward with efforts to transform healthcare in Central Oregon. More projects will be included and their roles formalized to meet the vision of Oregon's proposed Coordinated Care Organizations. COHC members are also engaged in a Regional Health Assessment that will result in the development of a four-year Regional Health Improvement Plan due in March 2012. COHC will report directly to the Legislative Assembly in 2013 and 2015 on those efforts, and will continue to track efforts quarterly and document the transformation toward a system of care that embraces the Triple Aim: better health, better quality and lower costs. Our vision is to improve the health of our region's residents, making Central Oregon the healthiest region in the nation.

Introduction

In June 2010, about 350 patients were identified as high utilizers of Emergency Department (ED) services throughout the St. Charles Health System's (SCHS) region of care which is the same as that of COHC. The only criterion for the initial data pull was the incidence of ten or more ED visits in a twelve-month period beginning June 1, 2009 ending May 31, 2010. The highest utilization discovered for an individual was 56 visits with a close second of 48 in a 12 month period. The average number of visits for those in the group was 14.25 visits in one year.

The initial analysis of patient chart information resulted in a decrease to a target group of 144 patients. Many were removed due to natural attrition, as their continued involvement would

only lead to errors in the outcomes by reflecting decline in visits with no actual intervention. Some patients were deceased or had moved, and children under age 18 were excluded from the project. Following the identification of the 144 patients, a clinical chart review was completed to determine the primary reasons for each emergency department visit. Questions selected were:

- What was the chief complaint for the visit?
- Was the visit for an acute or chronic condition?
- Are there indicators or past diagnosis of a behavioral health condition?
- Does the patient identify a Primary Care Physician?
- Is the patient accessing multiple campuses?

Findings showed that abdominal pain, headaches, cyclical vomiting and unspecified pain were among the significant reasons for initial presentation within the group. As the project progressed, data showed these diagnoses were correlated with other significant findings for this group: a history of emotional, physical and/or sexual trauma. Literature review indicates these types of diagnoses are often referred to as Medically Unexplained Symptoms (MUPS) as the verbalized complaints have no appreciated physical injury nor do additional medical screenings produce any explanation of the etiology of the symptoms.

Approximately one-third of the 144 patients were currently engaged in, or had past involvement with, either private or public behavioral health services. An additional one-half of patients could probably benefit from behavioral interventions including substance abuse treatment, pain management and/or traditional behavioral health services. Over half of the patients were not currently linked to a primary care provider and thus had no outpatient resources to avoid ED utilization. In some instances, patients gave names of providers they had not seen in years as their primary provider of care. Thirty-nine of the 144 patients had been seen at multiple EDs throughout the region (27%).

Development and study of ED diversion projects that aim to reduce high costs and aid patients in accessing more appropriate and lower cost outpatient care is by no means a new idea. The demographics of the 144 patients in fact mirrored the findings of those in many previous project studies across the nation. Many programs have demonstrated outcomes that lowered cost and showed improvement of overall healthcare delivery outcomes, but there were also several that outlined areas for improvement, and COHC's project sought to learn from them. The resulting COHC project design began with 1) development of an individualized plan of care 2) activation of the Health Engagement Team, 3) a patient advocate provided as needed (Community Health Worker), and 4) behavioral health care staff embedded in the primary medical homes. This multi-disciplinary team approach grounded in the individualized care plan has emphasized and supported primary medical homes and provider engagement at every step along the way, increasing collaboration in the care of each patient.

This report, then, reflects the efforts of sixteen different public and private organizations and agencies,(both for- and not-for-profit), as well as multiple private individuals that have worked

together to change the delivery of care throughout a region serving approximately 200,000 people in three demographically diverse counties. These entities remain bound together through the COHC. Funding for the project was directly contributed by many of the partners, with a plan for reimbursement by PacificSource Health Plans through the Shared Savings agreement (See appendix A). This agreement provides for payment of unreimbursed services by meeting the outcomes defined in the agreement—lowering emergency department utilization in the target population and demonstrating high patient satisfaction in the services received. It is anticipated that this agreement will also provide the partners with funds to create future projects, and further, to provide incentives for additional innovation throughout the region.

Program Development

Summary of Interventions

The key to the success of the ED diversion project lies within the individualized treatment plans that reflect ease of access to needed resources. These plans set the stage for the interventions that follow—all uniquely tailored to best reach each of the 144 patients where s/he is, and help each to become successful in their relationship with the regional healthcare system. This section discusses the various interventional strategies used, either individually or in combination with other strategies that have as of August 2011, touched more than 500 individuals in our region.

Patient Population

Each of the original 144 patients were identified as a "high-utilizer" based on having ten or more visits at one of the SCHS regional EDs within twelve months. Of the 144,, 90 are females and 54 are males. The median age is 34. Research suggests these findings are consistent with similar projects across the country, and they also share similar socio-economic factors.

Patients reported chronic medical problems coupled with poor pain management and/or substance abuse and/or behavioral health conditions. The top diagnoses were abdominal pain, pain not otherwise specified, headaches/migraines and cyclical vomiting. At the original data pull in the first quarter of 2010, 69% of patients identified were Medicaid recipients. This number dropped to 58% by second quarter 2011.

1) Community Wide Treatment Plans

The need for communication across the region of care was integral to project success, especially for those patients seeking emergency services at multiple SCHS campuses. An alert system was developed utilizing the Electronic Health Record (EHR) that supplies information to ED staff providing care to project patients. This system is available to all regional hospitals and the patient's medical home, and will eventually be connected through the community's Health Information Exchange.

To facilitate and support the desired communication, a "Community Wide Treatment Plan" format was developed in collaboration with hospital, community and clinic input. Each

individualized plan includes patient demographics, primary medical home location, primary reasons for visits, pain contract information (if applicable) as well as preferred treatment options when the patient presents for reasons related to chronic conditions. Notes are also added highlighting what occurred during the most recent episode of care. The information is then reviewed by the appropriate Health Engagement Team (HET—see below) and forwarded to the patient's primary medical home. Adjustments to the treatment plan may occur if the HET or the primary medical home team feels it would benefit, motivate or enhance future outcomes. All directly involved understand that the treatment plan is a guideline and not a required course of action. Every effort is made to also involve the patient's primary medical home, if available. Members of the HET are encouraged to meet with any and all community clinics that provide care to identified patients to assist with development of the agreed upon treatment plan. Patients are informed of the treatment plan either when seen in the emergency department or when a community health worker makes contact with them as part of their plan of care. Patients are encouraged, if interested, to participate in further development of the plan, and their input is then added to the plan.

2) Health Engagement Teams

The Health Engagement Team (HET) concept was initially tested at the SCHS Bend campus but quickly branched out to Pioneer Memorial Hospital(Prineville campus), all three Mosaic Medical clinic locations, Volunteers in Medicine and various other primary care sites. The ideal team has participation from a physician, RN case manager, a psychologist or social worker, community health workers, and when available, representation from the primary medical home. Currently there are ten clinics that have had active engagement in developing and/or providing support for HETs. This model has been quite successful in engaging providers in a collaborative model of care, and patient medical homes are now creating and sending community wide treatment plans proactively to regional hospitals as described in the Community Wide Treatment Plans above. In addition, the local Medicaid health plan is reviewing the care plans for implementation with members receiving enhanced care coordination services.

3) Community Health Workers (CHWs)

After researching various models, community health workers (CHWs) employed through the local non-profit agency, HealthMatters of Central Oregon (HMCO), were determined to be best suited to perform the role of "advocate" or "peer." HMCO provides community care coordination services and has developed a workforce of CHWs to help individuals and families navigate the regional health care system. CHWs are trained at the local community college, and develop competency in cultural awareness, patient advocacy, and motivational interviewing. They work with providers and organizations to ensure client connections to medical and social services and follow-up to a positive resolution of each client's needs.

The CHWs use an evidence-based approach known as the "Pathways Model" of care coordination. Pathways shifts focus from a series of activities (i.e. tests, appointments) which typically take place in health care systems, to a focus on measurable outcomes. Outcomes are tracked on the individual level and require the guidance of a CHW to achieve a defined and

specific outcome. A Pathway identifies a single problem (e.g. Medical Home Utilization) and breaks the resolution of that problem into a series of steps followed by the CHW and the patient to the positive outcome – in this case the appropriate use of a medical home rather than inappropriate use of the ED. Outcomes are concrete and measurable. Pathways are now in place for more than 80 identified problems including medical home connection, health care coverage, chronic disease management, connection to social and behavioral services, and nutrition/physical activity education.

Two full-time CHWs are embedded in the EDs of the three SCHS campuses (Bend, Redmond and Prineville) with the ability to meet and contact clients at the point of service. They are integral to the provision of assistance to many patients so that the patients can adhere to their established plan of care. Initially, each CHW was given a list of identified patients to contact to determine the patients' need for advocacy. Strategies to reach patients included telephone calls, emails, home visits, public meetings and/or interception in the ED. Not all patients enrolled in the project obtained CHW intervention, but for those who did, the service has been essential to their success.

Each CHW contact or attempted contact was tracked for several purposes:

- How much CHW time is spent making contact?
- What approaches appear to work best?
- What might improve and motivate project participation?

Approximately 38% of the participants did not enroll in the care coordination with a CHW. The majority of those (53%) were difficult to locate or contact due to transient living environments and inaccurate contact information. Some did not want to engage with a CHW at all. The CHWs' initial experiences revealed the need for a variety of approaches to engage people in different communities. For example, in Bend, the first point of contact was most successful when it occurred in the ED. In Prineville and Redmond, contact was best established by engaging the patient away from the ED. The flexibility to work with each individual's personal situation has been critical to the success of this component of the project.

4) Behavioral Health Consultants

Many of the individuals identified for the project have concurrent mental health conditions or patterns of symptoms and behaviors that indicated these as potential issues. Very few were initially actively engaged in formal mental health treatment, and coordination of care between provider agencies and primary care was virtually non-existent. To address this problem, partnerships were formed in the tri-county region that supported creation of different avenues of access for patients seeking behavioral health care follow up. One strategy identified was to embed Behavioral Health Consultants (BHCs) in multiple clinics to act in part as a "physician extender" and add an integral component of holistic care in the clinic experience. Again, not every patient enrolled in the project has a BHC, but for those who need these services, this has been significant resource and support toward their success.

BHCs are psychologists with specialized training that prepares them to work as integrated members of the primary care team. This team approach not only allows for increased access to mental health care but also allows patients and providers to address the connection of physical, behavioral and emotional/mental aspects of health. The role of the BHC in the primary care setting is to improve quality of life, reduce symptoms associated with a variety of medical conditions (e.g. migraines, tension headaches, fibromyalgia, diabetes, hypertension, cardiac problems, irritable bowel syndrome, asthma, obesity, sleep apnea). They also develop collaborative health plans with the patient and the primary care physician for issues such as smoking cessation, weight loss, drug and alcohol use, adopting a regular exercise regimen, and stress management. BHCs can also help with emotional and behavioral problems such as anxiety, depression, ADHD, and anger that often affect an individual's physical wellbeing.

Providing behavioral health care within primary medical homes has improved compliance with follow-up care from 15% to 90%. At this time there are five BHCs (adult and child) embedded in primary medical homes or provider clinics, but only two are full time. In second quarter of 2011, BHCs have seen approximately 593 patients in their respective clinics. Because they are in several different clinics utilizing various EHR systems, it is difficult to accurately quantify the percentage of patients seen who were part of the ED diversion project. Based on BHC and CHW reports however, it is estimated that 15% of the patients seen by BHCs in clinics were identified as part of this project, with an average of 3.1 visits per patient.

Qualitative Outcomes

Evaluative datasets for the project include basic patient demographics, number of visits within set time parameter, number of visits by SCHS campus, contact and enrollment data with the CHWs, Pathway initiation and completion, and cost of both medical and mental health care per Medicaid member. Patient satisfaction is assessed via multiple satisfaction surveys through the course of intervention. Improvement related to overall health is measured using the SF12v1which assesses each patient's personal perception of health.

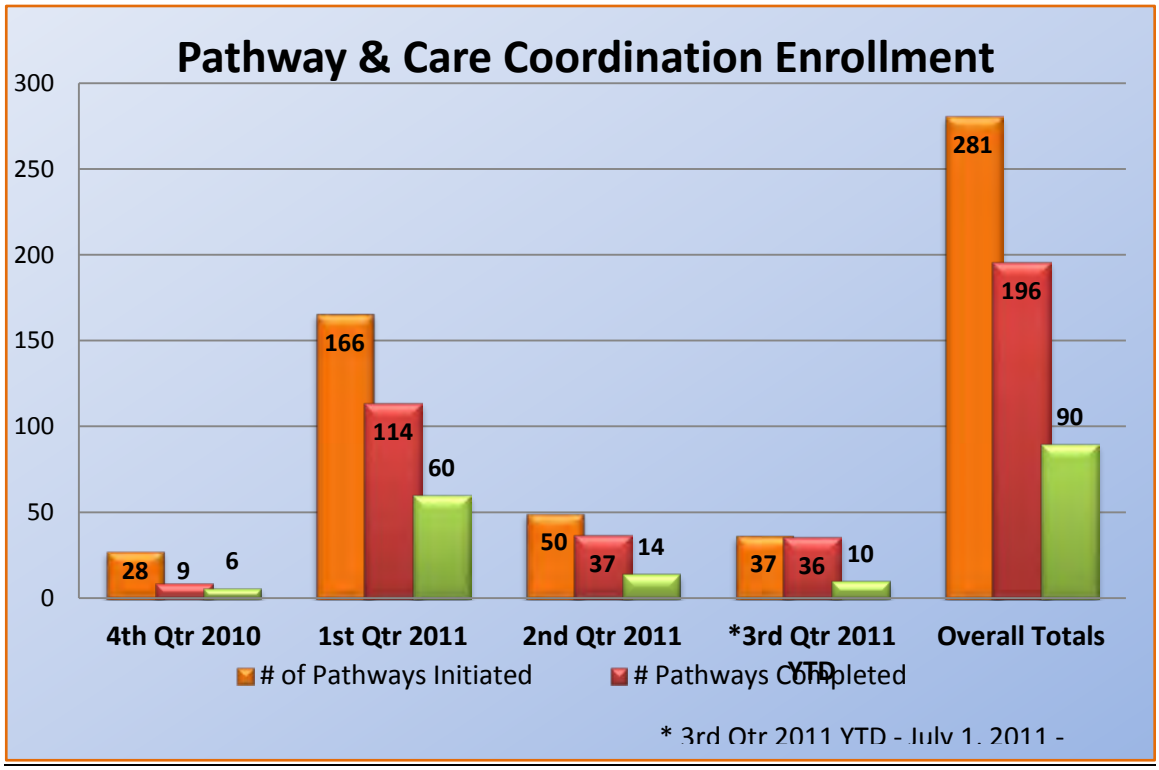
Demographics

Evaluation Group	
Number of Clients	144
Percent Female	62.5%
Percent Male	37.5%
Median Age	34
Percent Enrolled	51.4%
Of those Identified: • Enrolled • <6 Contact Attempts • Not Found/Difficult • Declined • Moved/Institutionalized	 79 7 18 21 8

• >6 Contact Attempts	11
Percent of patients by County of Residence • Deschutes • Crook • Jefferson	 60% 23% 17%
Percent use for each SCHS Campus • Bend • Redmond • Prineville Percent with visit at multiple campuses:	 58% 22% 20% 27%

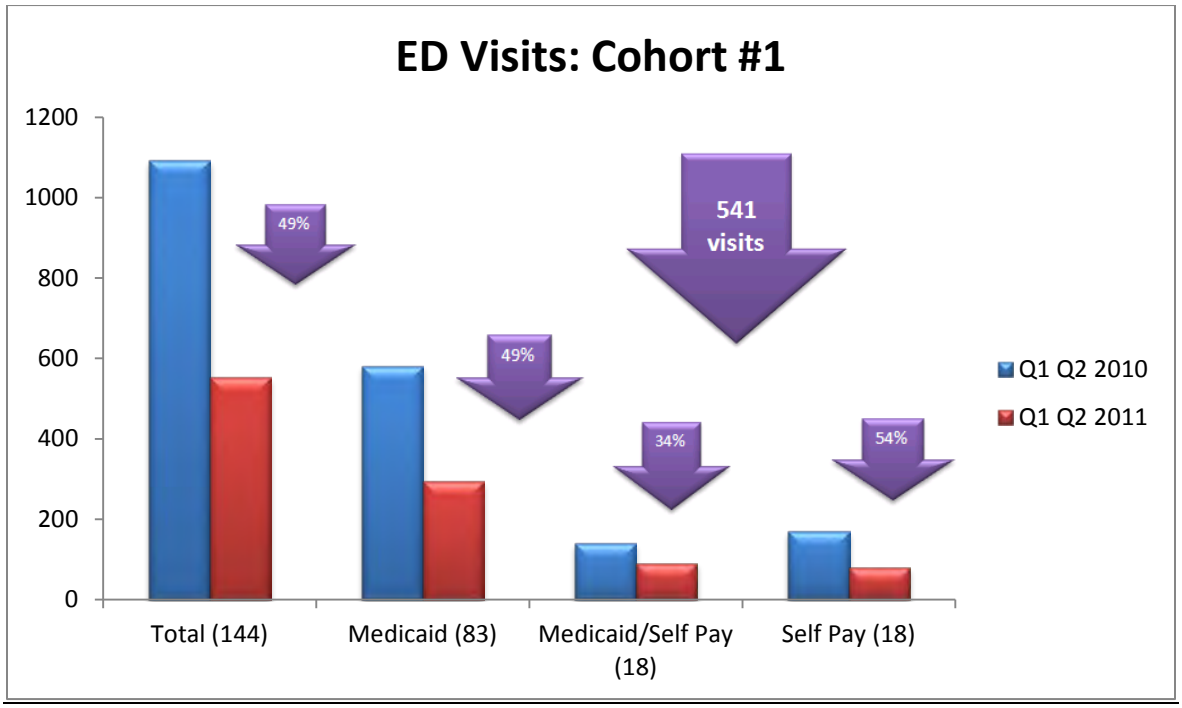
Pathway Outcomes

For the 65 patients who enrolled, the average number of Pathways per patient was 3.12 with a Pathway completion rate of 70%. The below graph illustrates the number of Pathways initiated and completed each fiscal quarter.



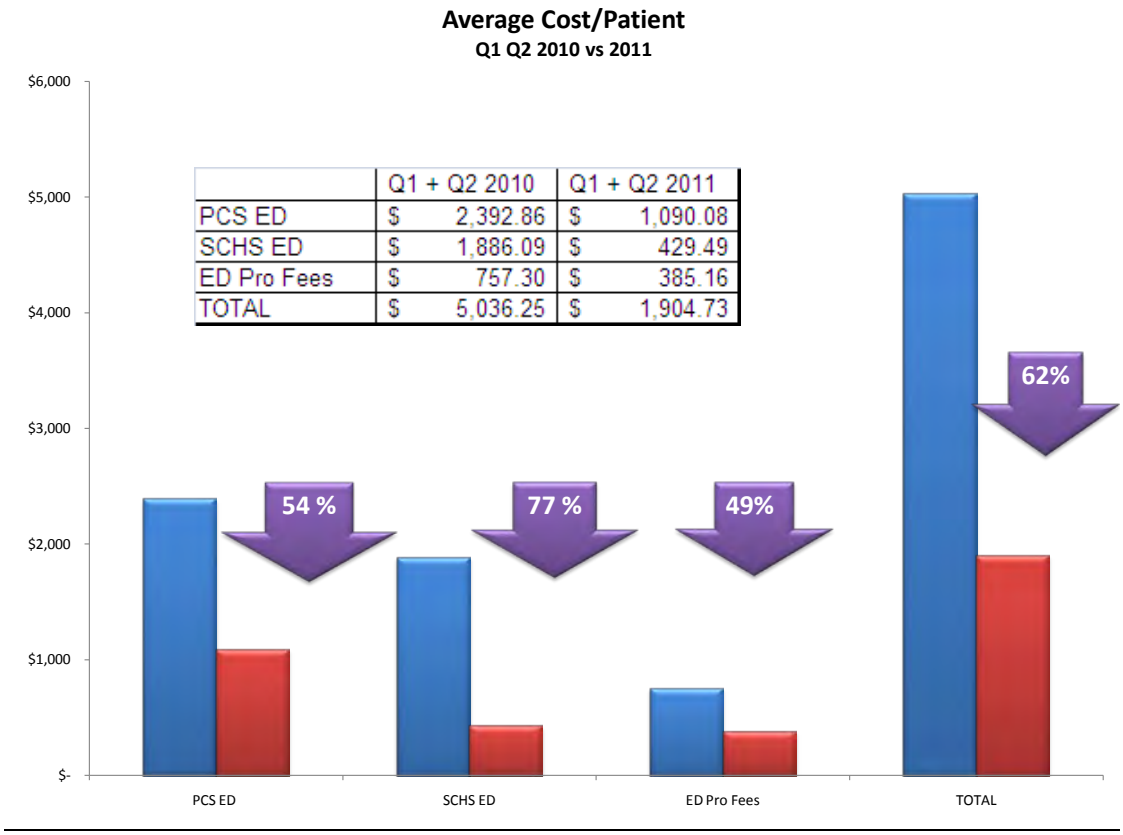
Results

The initial cohort experienced a 49% reduction in the first two quarters of 2011 as compared to the same time frame in 2010—a reduction of 541 visits, averaging 3.75 fewer visits per person. Full qualitative analysis has not been completed to determine exactly what drove the reduction in visits, but the most common factor was the existence of a community wide treatment plan. The chart below details reductions in the various populations served.



The next chart looks at the costs incurred and avoided by the reduction in ED usage. Medical reimbursement, especially for Medicaid patients, is complex at best. Funds currently come through the fully-capitated health plan (PacificSource Community Solutions) for any physical issues, through the mental health organization (Accountable Behavioral Health Alliance) for any mental health issues, and through the Oregon Health Authority for any high cost prescription drugs (ie: psychotropic medications). As such, it is difficult to determine costs per patient, but the analysis below does get us close. Additionally, reduction in costs for the hospital can be very difficult to quantify. Hospital costs include staff time, pharmaceuticals, diagnostic tests (ie: laboratory, radiology, etc.) and ED overhead—costs that may or may not be avoided by eliminating the ED visit. Quantifying cost savings for the hospital can likely be best seen over time, looking at the entire health of the individual and their total interaction with the healthcare system. It is anticipated that these costs will be quantified more accurately at the end of a full year of intervention.

This chart shows the average costs per patient (minus reimbursement) by PacificSource Community Solutions (PCS), the hospital and the ED physicians for the Medicaid and Self Pay patients. Regardless of the exact savings, trends clearly indicate a reduction in overall costs.



Patient Satisfaction

At this time, the only patients surveyed for satisfaction with the project are those receiving the services of CHWs. There are a total of 74 Initial Patient Satisfaction Surveys (IPSS) given at the time of enrollment HMCO and 41 responses for a follow-up 30-day Satisfaction Survey. These responses reflect a 94% return rate for the IPSS. Both surveys utilized a 7 response Likert scale. Patients responded to three statements in the IPSS that were reassessed in after thirty days, though the 30-day survey has 5 additional questions. Full survey results are detailed in Appendix B.

Overall results suggest that patients are only minimally satisfied with the health system even though they lean toward agreeing they have a primary care provider. One task for CHWs was to address patients' needs to feel more connected to, or increase their use of their primary medical home. CHWs now help improve patient-provider communication, remove barriers such as transportation or help patients become acquainted and comfortable with a new provider.

Four additional questions were asked during the initial patient satisfaction survey to determine what barriers each patient felt existed to receiving care, who their primary care provider/home was, issues with medications, and what they personally felt would improve their satisfaction with their health care. The findings were:

- Most patients identified as having a primary care provider

- Multiple patients reported that they tend to wait until their chronic conditions become acute before seeking care
- Many need assistance with transportation for appointments
- Uninsured patients reported having limited options
- Patients would like to see their primary care provider quicker when they call for an appointment
- The vast majority report they do not like using the ED, feel poorly treated when they do and report their ED use is based on inability to enroll in an established or new primary medical home.

Patients were generally satisfied with their assigned CHWs. Similar support models in traditional mental health clinics as well as in substance abuse treatment settings support the principle that individuals are often more comfortable interacting with others who appear to share common characteristics. CHWs created non-judgmental and trusting relationships with patients who frequently lack such significant social relationships, in contrast to many traditional healthcare providers in busy clinics who may not have time to relate in this manner.

Though patients were clearly satisfied with their CHWs, their overall feelings about their healthcare experience did not show significant improvement. There are several factors that contribute to this, including the short amount of time the program has provided actual interventions. Only a small number of patients have been involved long enough to complete the surveys, which also skews the data. In addition, in reviewing data, some enrolled patients improved following their initial connection to a Primary Medical Home. It appears in these "simple" cases, patients were not administered a second patient satisfaction survey. This has been remedied by changing timelines, requiring a survey at the initial medical home appointment and providing incentives to the CHWs through assignment of an applicable Pathway for each patient satisfaction survey or SF12v1 administered.

<u>Health Outcomes: Patient Perception of Health – SF12v1</u>

The SF-12v1 was originally developed in 1994 as a shorter, 12-item alternative to the SF-36 for studies in which a 36-item form was too long. The SF-12 is available in standard (4-week recall) and acute (1-week recall) formats. As a brief, reliable measure of overall health status, administration is effective with both large and small targeted populations. There are some limitations based on its brevity and for the purpose of this report only the initial aggregated number was used.

Preliminary Results:

The average rating of patients' reports on their general health was "fair," which means some patients actually rated their general overall health as "poor", the worst rating possible. Patients reported feeling that engaging in moderate activities or climbing a flight of stairs was limited for them most of the time. This limitation extended to problems with work and other regular activities, and they reported feeling they accomplish less than they would have liked. Patients

also noted that they felt both emotional and physical problems affected their abilities and accomplishments. Most identified pain as the cause for limitations “quite a bit” of the time. Additional questions about feeling depressed and/or calm and how social activities were affected resulted in similar negative responses.

Post 30 day results:

There was no significant change in patients’ reported feelings that emotional problems continued to negatively affect daily activities and accomplishments. Patients did report marginal improvements in the ratings of how they felt their health rated overall and that they were less limited in doing moderate daily activities. More strenuous activity (e.g. climbing stairs) showed no change. There was some improvement in patients’ perceptions of physical and emotional problems that hampered their abilities to engage in social activities. Another positive trend was reported improvement in feeling more calm and peaceful over the past 4 weeks.

The most promising change was in the area of pain. Patients reported initially that pain interfered “quite a bit” with activities both at home and at work. After 30 days the average response indicated patients felt pain interfered only “a little bit” of the time. The number one diagnosis for patients in the project has been some form of pain, whether abdominal, headache, or unspecified. Most of the time, this pain is unappreciated both subjectively and objectively. With the overall change in degree of 1.3 on a scale of 5 the results are trending positively. However, there are currently insufficient 3rdadministrations of the SF12v1 questionnaires completed to ascertain whether or not this trend has continued.

Qualitative Summaries

Following are a few of the stories of the patients enrolled. Key identifying information has been changed to protect the identity of the individual, but the stories themselves provide anecdotal evidence of real change.

- Sara is a 24 year old single, obese female who has frequently presented to the local ED requesting help with migraines. A quick glance at her records from previous visits showed this was her 11th visit in the past six months, and that she was on target to have another year with over 20 ED visits. In the acute care setting of the ED, her symptoms are treated with IV narcotics; she is referred to her primary care provider, and sent home. She leaves relieved of pain, but continues to feel hopeless. She reports feeling labeled a “drug addict” and leaves with the impression that “it is all in my head.” Sara has been cycling through the ED with an annual cost to Medicaid that is 10 times that of the average member. Her average cost to the health plan, the hospital system, her primary care clinic and the Department of Human Services is estimated to be at least $66,000 each year. Since connecting with a CHW nearly nine months ago, she has had four visits to the ED, three of which were related to an injury sustained in a fall, and one that was related to flu-like symptoms and inability to gain quick access to her primary care medical home.

- Judy is a 54 year old female who readily enrolled in HMCO. A gregarious person, she was well liked by the ED staff, reinforcing her pattern of care. Her primary complaints are abdominal pain, headaches and unspecified pain. The CHW and the BHC came up with a plan for this patient that included the BHC leaving his primary clinic and using flex time to provide the behavioral health services at her primary care clinic. At the time the intervention began, the patient had presented to the ED43 times, her primary care clinic was contacting her on an almost daily basis, and there was concern the clinic would become exhausted and disengage with the patient. Following selection for this project, enrollment in HMCO and contact with a BHC her number of visits dropped to 12 visits, 1-2Q 2011 and the CHW involvement has decreased the inappropriate use of valuable clinic staff time. About four months into enrollment, Judy experienced a major life tragedy and project staff fully expected a relapse in behavior, including an increase in visits to the ED. In anticipation of this, the CHW contacted the patient and set an appointment with the BHC as quickly as possible. Judy was able to engage with the BHC and stabilize, with only 1 of the 12 ED visits occurring since the tragedy.

- Mary comes to the ED with a different injury or problem each time; these injuries are well researched and all the symptoms are there, and there is no identifiable chronic condition. Each time, she is given narcotics and told to see her PCP for follow-up. The ED has no way of knowing if she follows up, but each incident appears to be with new injuries and symptoms. She is more than willing to come to the hospital and talk to the CHW. Her first meeting is at 9am, and she arrives accompanied by two police officers. She tells the CHW she was previously forced to come to the ED by her boyfriend, a narcotics addict. He had been initially identified as a high-utilizer of services, but had declined to participate in the project. Instead, he had planned to continue to access narcotics by forcing Mary to use the ED. Now he is jailed on multiple charges of domestic violence and will be unable to use force on her.

Provider and Medical Home Satisfaction

Medical clinics are clearly an important set of partners, and they became early participants and key collaborators integral to the success of various aspects of the project in such areas as:

- Embedding BHCs in primary medical homes
- Embedding CHWs into primary medical homes
- Patient involvement and reliance on CHWs in making and attending appointments
- Creation and implementation of individualized Community Wide Treatment Plans

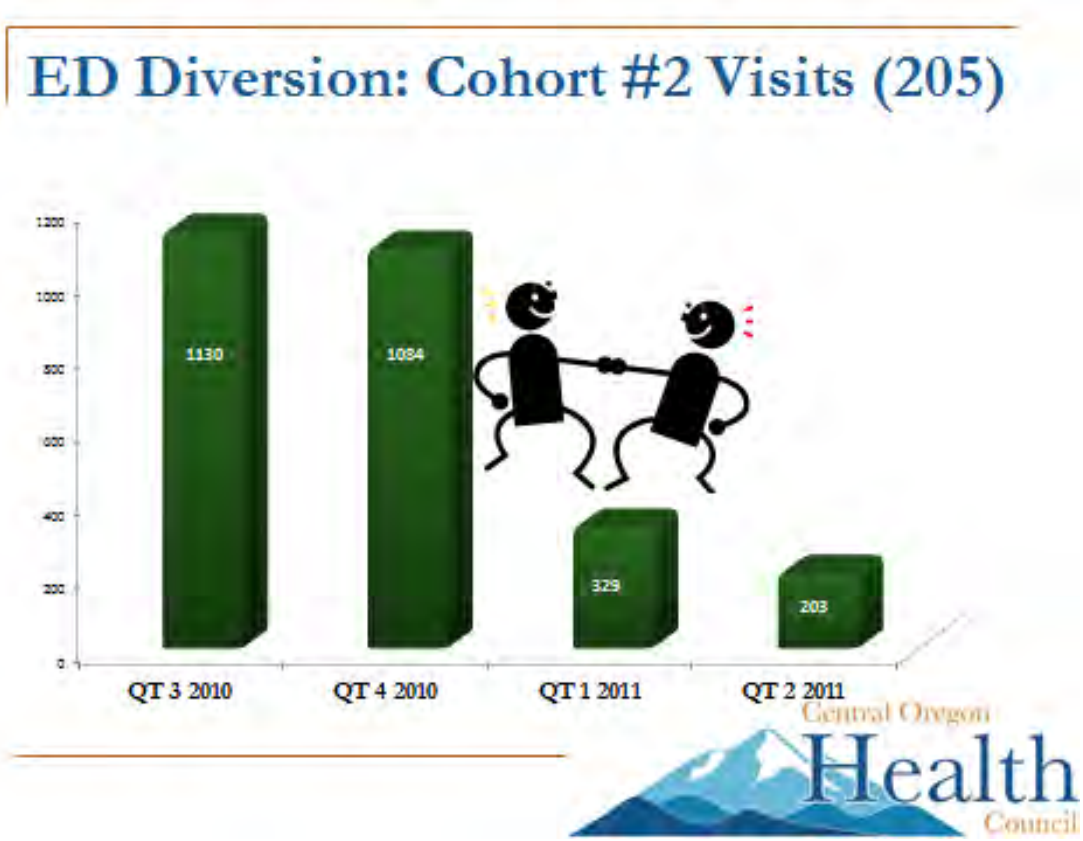
Initial review of their outcomes was not qualitative in nature, though a data workgroup is in development to create and implement formal measures. Clinic staff are engaged in discussions about the project through 1:1 meetings and ongoing County-specific Stakeholder meetings. Providers in clinics with a full time BHC express higher satisfaction and a broader understanding of the BHC model (staff of one clinic even attended a week long training in Alaska to learn about

integrated care). The concerns of clinics whose embedded BHCs are not full-time include lack of clarity of office hours, lack of BHC availability for "in-the-moment consultation" due to scheduled appointments and less understanding of the brief nature of the model. Some clinics have expressed an interest in embedding a more traditional mental health provider to address a patient population that needs, but does not comply with, routine referrals to County behavioral health clinics. This option is being explored.

Several more clinics have expressed interest in this component, and as additional behavioral health support is being developed, staff from those clinics are being encouraged to participate in community work groups, the health council and board as well.

Project Evolution

The original 144 patients continue to receive project services. Through ongoing observation of high ED utilization, additional patients who could benefit from diversion efforts were identified and in January 2011, a second cohort of 192 patients was enrolled and interventions initiated. A third cohort of 195 patients was identified in June 2011. Early outcome indicators from both of these cohorts are very promising, as evidenced by the chart below.



Summary

The Central Oregon Health Council has determined that the ED diversion project has been successful in achieving the goals of the Triple Aim: better health, better care, and lower cost, and as such has become an important intervention in the Central Oregon community. Learnings from this project continue to inform the development of integration projects locally and across the state, using the collaborative care models developed in this initial project. Following are just a few of the positive outcomes for our region to date.

Improved health outcomes:

The most promising area of trending improvements are patient reports that pain issues were less of a hindrance to work and home activities then in the 30 days prior. Minimal though suggestive trends were evident in areas such as increased periods of time in which a patient felt calm and peaceful, decrease in physical and emotional problems interfering with social activities and the general rating given their feeling about their overall health. Also of significance is patients' perception that they no longer feel there are barriers to accessing the care they need. It suggests that if patients feel that access is easier they may seek care more quickly when conditions warrant and access that care at the most appropriate level. Continued use of the SF12v1 at regular intervals will aid in determining how, and whether, these trends change.

Better quality care:

Communication is one of the major anecdotal qualitative areas showing improvement. Patients with a CHW who listens to their perception of needs and barriers are then helped to identify ways to remove these barriers. In addition communication with providers is improved as the patients feel heard. The provider also gains clearer understanding of patients' concerns and can focus staff training and orientation toward improved outcomes. Patients working with BHCs have found more sustainable ways to care for chronic health conditions that involve engaging the whole person in care. People who are now established in primary medical homes are developing positive relationships with providers that will serve them for a lifetime. Care has improved—and will continue to improve.

There are multiple examples of patients whose care dramatically changed after the HET met and developed treatment plans that sometimes seemed outside the traditional method of care. One example is the patient who had chronic pain related to a lifetime career as a pro-athlete. His health insurance restricts his access to specialty care, so he has used the ED for supplemental pain control. The HET met, talked with the prescribing provider and it was decided that one of the members of HET would approach the health plan to discuss alternative options. Following that meeting, the patient was allowed 6 visits with a physiatrist—a life-changing event for him. Since identification for the project and enrollment in HMCO, his use of the ED has dropped to 4 visits in 8 months. His previous use was 14 visits in a 12 month period, a drop that projects a 67% decrease for this patient. The patient's CHW reports decreased need for time with him as the patient will now utilize his medical and specialty provider independently. This is an excellent

example of how a system of care can effectively meet individual patient needs when there is clear communication of all issues.

Increased resources have also improved the quality of care in Central Oregon. HMCO brought CHWs to this region, a component integral to the success of meeting goals in a primarily rural setting. SCHS has significantly invested in the implementation of the BHC program and also to training future BHCs through use of funds from the St Charles Foundation, for training in the Integrated Primary Care Certificate program through Farleigh-Dickinson University. Members of the COHC and other community partners have contributed funding toward CHW, BHCs and RN case management as well. It has taken a community approach to change the healthcare landscape, and every contribution matters.

Lower costs:

Providing alternative care options for patients with high resource consumption clearly has impacted the cost of care for both the health system as well as private and public health plans. Though hospital, Medicaid and State data can be easily captured, at this time there is no clear way to determine private health plan outcomes. As a result, this report contains only those patients who were linked to the Pacific Community Solutions Health Plan for cost savings. Overall though, a 49% decrease in utilization among the original 144 is significant, and lower costs from this one fact are easily implied. However, the group had hypothesized that guiding the patients out of the EDs and into primary care would result in a cost exchange: lower ED costs with a subsequent increase in outpatient costs. It was hoped that providing care within the primary medical home would still result in reducing the overall cost of these high utilizing members. What we found was inconsistent at best, and too premature to draw any meaningful conclusions. Overall health costs through PacificSource increased in some areas and decreased in others, without enough data points to determine what were trends and what were anomalies. Similar patterns were found with the State data. Data received from Accountable Behavioral Health Alliance indicated a significant decrease in costs, which was surprising, as many patients were now engaged in services. Further analysis of this data will be easier after 12 months and will provide more meaningful indicators.

Over the course of the project, St. Charles Health System has experienced a 66% decrease in costs as compared to last year. On the surface, this looks positive, but the reality is, cost savings for hospitals are very, very hard to quantify. In order to experience true cost avoidance, ED visit reductions have to be significant enough to change staffing, one of the most expensive portions of the ED visits. Hard costs for radiology, laboratory and even pharmaceuticals also include labor charges that may not decrease just because the visit number decreases. Hospital cost reductions will come over time by reducing high utilizing patients and improving their healthcare to avoid the lifetime costs of poorly managed chronic health conditions.

Closing Thoughts

In the final analysis, it is clear that the project has been successful because of the availability and use of multiple strategies. These strategies were identified through the experiences of integration and collaboration programs across the country who took the time to identify missing components in their work. COHC has been able to use their experience to put into place the missing components that are now leading to successful outcomes for patients whose needs were not being met in traditional settings. It is the synergy that each intervention has brought to the effort combined with the coordination of care that has led to the success in meeting the goals for this project.

Some might feel that projects such as this are really focused on "lower costs" with additional objectives created to hide this. Simply lowering costs alone would have been much easier. Treatment plans could have been developed, with staff making shaming statements at ED registration like "you're here again," or letters could have been sent outlining the problems of inappropriate use of resources with an explanation of how to better access care. Some patients would have stopped coming. However, when one sees the regional communication network of dedicated professionals ready and willing to make the patient's experience more positive and the intervention of the CHW to personalize and provide advocacy, it is clear that there is a basic commitment to create practices that will promote long term positive outcomes. This kind of durable behavior change will not happen overnight or in a month or two and in some cases, may even take years. It certainly won't happen without bold, impressive efforts such as those found in this project. It is also understood that some of these efforts will need to be flexible as project partners gain more knowledge of the high risk/high need population. These initial outcomes, though, inspire the COHC to continue efforts and expand energies into additional projects with similar objectives.

The success of the Community Health Worker role in care coordination is being realized by other providers of service in the region. HMCO has embedded CHW's in three safety net clinics working with pediatric patients, has contracted with the regional Medicaid provider to assist in targeting change with chronic disease management, works with local agencies to connect the homeless population with social services, and many other partner organizations to extend service and follow-up for clients. The possibilities for HMCO and their care coordination efforts are endless.

Many of the care providers involved in this project, from ED RN Care Managers to embedded BHCs to physicians, are expressing an interest in developing ED care guidelines for specific presenting problems. Initial efforts have focused on cyclical vomiting syndrome as it was a frequent diagnosis among the first project patients. In quick review it is apparent that vomiting is associated with myriad causes from intraperitoneal, extraperitoneal, medication or metabolic. With that in mind patients could have an array of expensive and timely work-ups in attempts to rule out possible causes. Literature suggests a link between age and diagnostic criteria for a diagnosis of cyclical vomiting that has guided these efforts. The group will continue to move

forward on identifying similar diagnosis that would benefit providers to have as guidelines to aid with ED care.

Literature shows that patients who have behavioral health services on-site at their primary care home will follow up 90% of the time compared to 15% of patients who are referred off site. In fact, patients at one local clinic could access substance abuse treatment by simply crossing the parking lot. Patients still didn't follow through and the treatment provider was moved for a short time into the actual primary medical home in an effort to improve compliance with follow up. The additional need for behavioral health providers embedded in primary care settings is an ongoing discussion. Another BHC has been hired into the community as well as a Licensed Clinical Social Worker (LCSW) who specializes in pain and substance abuse treatment. Continued discussions related to embedding more traditional behavioral health providers in primary care settings are occurring as well.

Future Planning

During the recent 2011 Legislative Session, Senate Bill 204 created the infrastructure that will allow the work of the COHC to continue. As a result of this bill, the COHC has officially formed as a Council and is now appointing future members to continue their work. They are charged to use Triple Aim principles to carry out these and many other Health Integration projects, and report these results to the 2013 and 2015 Legislatures. These projects are early successes in their overall strategy to improve the quality of care for high risk/high need populations. Other pilot projects include:

- Primary Medical Home Project: 120 high cost patients at Mosaic Medical in Bend using RN care coordinators and care plans resulted in a 13% reduction in ED utilization and a 19% reduction in inpatient hospitalization during its first year.
- Program for the Evaluation of Development and Learning: (PEDAL) a multi-disciplinary team evaluating children with special healthcare needs, creating comprehensive community care plans and follow ups for high risk children.
- Pediatric Psychiatry Improvement: embedding child BHCs and a child psychiatrist in key pediatric clinics to provide consultative care in coordination with pediatricians serving some of the highest risk children in the community.
- Affordable Medication Project: targeting high cost medications with lower cost options that are usually unavailable as samples, especially in safety net clinics.

As the COHC development continues there will be work to complete a Regional Health Improvement Plan based on a Regional Health Assessment that at least addresses all state required planning activities including public health, behavioral health and the Commission on Children and Families, then monitoring and overseeing the plan's implementation over the next four years. These efforts will assist in regionalizing the services they provide to increase efficiency and availability of services throughout the Central Oregon Region. These are the statutory obligations—but the COHC has committed to far more.

In keeping with the initial vision of the COHC, they aim to become the Coordinated Care Organization for Central Oregon, an ambitious vision for a community organization whose purpose is “to transform the health of our region’s residents, making Central Oregon the healthiest region in the nation. COHC creates community alignment in pursuit of *better health, better care and lower cost.* COHC partners are proud of the results achieved through the ED Diversion project, and want to give credit to BestCare Treatment Services, HealthMatters of Central Oregon, Mosaic Medical, PacificSource Health Plans and St Charles Health System for their efforts to make this project successful. It is the synergy of efforts of these dedicated professionals that has made these integration demonstrations successful and set the conditions for future achievements that will truly make Central Oregon “the healthiest region in the nation.”

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Ryan Dix, PsyD, Behavioral Health Consultant, Pioneer Memorial Hospital
Maria Gattey, RN, Pioneer Memorial Hospital
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Transitional Board

Commissioner Tammy Baney, Chair, Deschutes County
Megan Haase, FNP, Co-Chair, CEO, Mosaic Medical
Commissioner Mike Ahern, Jefferson County
Jim Diegel, CEO and President, St Charles Health System
Commissioner Ken Fahlgren, Crook County
Bruce Goldberg, MD, Director, Oregon Health Authority
Ken Provencher, CEO, PacificSource Health Plans

Ex-officio
Mike Bonetto, PhD, Chair, HealthMatters of Central Oregon
Tina Edlund, Chief of Policy, Oregon Health Authority

The Transitional Board was supported by the work of the Administrative Council, precursor to the Advisory Council of the COHC. This Council met every two weeks throughout the project to ensure project objectives moved forward, and to remove barriers to implementation of the project:

Administrative Council

Scott Johnson, Chair, Director, Deschutes County Health Services
Dan Stevens, Co-Chair, Senior Vice President/Government Programs, PacificSource Health Plans
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Jeffrey Davis, Health Consultant, Jefferson County
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Wendy Miller, Coordinator, Health Integration Projects

Appendix A

Sample Shared Savings Agreement

Health Integration Project (HIP)
Letter of Understanding for
FOCUSED PATIENT CARE PROGRAM – Emergency Department Diversion

1. What is the Intervention?

The employment, training and utilization of Behavioral Health Consultants (BHCs) and Community Health Workers (CHWs) in community locations which will prevent unnecessary, inappropriate utilization in the high-cost emergency room setting. This is heretofore acknowledged to be the "Intervention".

BHCs will provide brief interactions with patients and consult directly with the patient's primary care provider to help create effective care plans with, and for the patient. They will work with Health Engagement Teams at each of the hospitals in the region, ensuring these care plans are available to emergency room staff.

CHWs will work directly with patients to remove barriers that prevent the patient from utilizing more effective avenues of care than the emergency room.

2. What entity(ies) paid for the Intervention?

(A) St. Charles Health System
(B) Health Matters
(C) Jefferson County
(D) Accountable Behavioral Health Alliance (ABHA)
(E) Deschutes County

3. What are the itemized Intervention costs per entity?

St. Charles Health System

Salary and benefits for four (4) BHCs (each at 30% of an FTE)	$127,642*
Salary and benefits for HIP Emergency Department Manager	$ 45,256
Contribution for funding two (2) CHWs at Health Matters	$ 50,000
TOTAL	
$222,898	

Health Matters

Unreimbursed salary/benefits for staff costs + training	$ 52,797
TOTAL	$ 52,797

Jefferson County

Salary and benefits for BHC practicing at Mosaic(at 30% of an FTE)	$ 31,911*
TOTAL	$ 31,911

Accountable Behavioral Health Alliance (ABHA)

Contribution for funding CHWs at Health Matters	$ 15,000
TOTAL	$ 15,000

Deschutes County

Contribution for funding CHWs at Health Matters	$15,000
	$15,000

TOTAL INTERVENTION COSTS	$337,606

*Intervention costs (above) may be debited by an amount equal to the revenue amounts which accrue to the entity that bills and receives payment for professional services provided by a BHC.

4. Does the Intervention reduce health care costs from which Intervention expenses can be reimbursed and other savings may be derived? If so, what are those costs?

Yes. Emergency room, and other ancillary costs (lab, radiology, medications) directly resulting from a visit to the emergency room.

5. What Triple Aim metric(s) does this Intervention impact? And what is the agreed-upon weighted allocation of the Key Quality Indicators?

The Triple Aim metrics impacted are (1) lower costs and (2) increased patient satisfaction.

This Intervention is mutually agreed by all parties to impact Key Quality Indicator #2 (increased patient satisfaction) and Key Quality Indicator #6 (reduced health care costs associated with ER visits). The agreed upon weighting shall be as follows:

(A) 20% will be earned if mutually-agreed upon patient satisfaction survey (attached) indicates at least 90% of patients surveyed were satisfied with their care upon contact with a CHW and/or BHC, using baseline and repeat survey data over time.
(B) 80% will be earned if the intervention impacts care such that emergency room visits per 1000 decreased by at least 10%.

Focused Patient Care Program

Intervention: ED Diversion Program

1	Patients with chronic diseases (COPD, CVD, Diabetes) will be screened and treated for depression	> 65%	
2	A patient satisfaction survey will be created and distributed for patients	90% of patients surveyed and satisfied with their care	20%
3	Total admissions per 1000 will be decreased compared to baseline	10% decrease vs. baseline	
4	Total 30 day readmission rate will be decreased compared to baseline	10% decrease vs. baseline	
5	Chronic Pain Management Program (CPMP) developed and implemented	200 patients completed CPMP	
6	ER visits per 1000 decreased compared to baseline	10% decrease vs. baseline	80%

6. What is the patient population impacted by the Intervention, and from which cost savings will be measured?

Those patients that meet the following criteria:

(A) Enrolled with PacificSource Community Solutions and a resident of Deschutes, Crook or Jefferson counties, for six (6) months or more in 2010.

(B) Enrolled with PacificSource Community Solutions, and a resident of Deschutes, Crook or Jefferson counties for twelve (12) consecutive months throughout 2011.

(C) Aged 18 or older.

(D) Claims data shows seven (7) or more emergency room visits in 2010 at any of the following group of hospitals: St. Charles Medical Center – Bend, St. Charles Medical Center- Redmond, Mountain View Hospital (Madras) or Pioneer Memorial Hospital -- Prineville.

7. Describe the process and the timing by which the Intervention's success will be measured.

302 PacificSource Community Solutions members (the "Cohort") were determined to meet all the criteria in Section 6. Total emergency room and directly associated ancillary costs at the above hospitals in Section 6D, for the Cohort, will be calculated for the time period from 1/1/10 to 12/31/10 (the "Pre-Intervention Period") and compared to emergency room and directly associated ancillary costs at the same hospitals for the same Cohort from 1/1/11 to 12/31/11 (the "Post-Intervention Period".) It is acknowledged that, in the Post-Intervention Period, patients and their emergency room and directly associated ancillary costs could be disqualified from the Cohort if they fail to meet the criteria in Section 6B.

If annual emergency room and directly associated ancillary costs for the Cohort are reduced in the Post-Intervention Period in comparison to emergency room and directly associated ancillary costs in the Pre-Intervention Period, then this cost savings (heretofore known as "Shared Savings"), will be available for distribution. If BHCs or CHWs generate claims payment revenue for any of the entities in Section 2, these revenue amounts may be debited from an entity's Intervention costs as indicated in Section 3. Distribution shall occur as per the following:

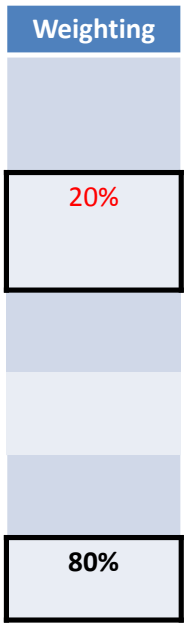
- If Shared Savings are less than the Total Intervention Costs (less revenue amounts) in Section 3, then Shared Savings will be paid as an equivalent percentage of their Intervention Costs.
- If Shared Savings are more than the Total Intervention Costs (less revenue amounts) in Section 3, then all Intervention Costs will be paid to these entities.
- Any Shared Savings remaining after payment of Total Intervention Costs shall be regarded as "Net Shared Savings". Net Shared Savings are mutually understood to be made available by PacificSource Community Solutions for investment in further community patient care redesign as agreed upon by PacificSource Community Solutions and other members of the Health Integration Project in central Oregon, and shall be calculated as per the following example:

EXAMPLE

Focused Patient Care Program

Intervention: Emergency Room Diversion through use of Behavioral Health Consultants/Community Health Workers

Annual Emergency Room costs for Cohort in Pre-Intervention Period	$1,926,569
Annual Emergency Room costs for Cohort in Post-Intervention Period	$1,200,000*
Shared Savings	$ 726,569*
Total Intervention costs	$ 322,606
Net Shared Savings	$ 403,963*
Weighted allocation of Net Shared Savings	**80%**
Amount available for reinvestment in community patient care redesign	**$ 323,170.40***



In this example, the Intervention resulted in $726,569 in Shared Savings. Intervention costs of $369,898 and as defined in Section 3, were paid back to the providers, and 80% of Net Shared Savings were made available for reinvestment in community patient care redesign as a result of one of the two Key Quality Indicators meeting its target. In this example, Key Quality Indicator #2 was not met, as patient satisfaction surveys did not show that at least 90% of patients in the Cohort were satisfied with their care. However, Key Quality Indicator #6 was met, as a ten percent (10%) reduction in emergency room visits/1000 was achieved.
As a result, 80% of Net Shared Savings, or $323,170.40, will be made available for reinvestment in community patient care design.
*Estimated

Appendix B

Survey Results

1=Strongly Disagree, 2=Disagree, 3=Somewhat Disagree, 4=Neutral, 5=Somewhat Agree, 6=Agree, 7=Strongly Agree.

"I am satisfied with my health care."

For our current data set (n=74), the average response is 3.32, which would be slightly better than "somewhat disagree." The average patient somewhat disagrees with being satisfied with their health care. The same statement appears on the 30-day PSS. 30 days after enrollment, the average patient still "somewhat disagrees" that they are satisfied with their healthcare (response = 3).

"I have a primary care doctor."

The average response is 4.49, which would be between "neutral" and "somewhat agree." This would reflect that the average enrollee believes s/he has a primary provider. At 30 days, the average patient still feels a bit better than "neutral" about their new or renewed relationship with their Medical Home (response = 4.5).

"There are problems for me with getting health care."

The average patient feels essentially neutral about having problems with getting the healthcare they need (response = 4.6). At 30-days patient response indicates the patients somewhat agree that there are still problems for them accessing healthcare (response = 4.87).

As stated previously, the 30-day patient satisfaction survey has 5 additional statements

"I understand what a Health Home is."

The average response is 3.75, or somewhat disagrees, which may indicate that patients are still learning how their Medical Home works.

"Behavioral health services at my Medical Home have helped me"

The average response was neutral to somewhat agree (response = 4.5). In reviewing patient information some patients responses are difficult to interpret. If we only review the patients who actually accessed BHC services at their primary home the response average increases to 5.75 (6 = agreement). However, there was some concern that patients may have misinterpreted the meaning of behavioral health services and were, in some cases, referring to the CHWs. This assumption is based on patients rating (NA is an option) the statement who have not accessed services.

"Having a Medical Home has improved my health."

The average response is 4.87, which is very close to "somewhat agree." This is encouraging in that if patients feel their medical home is helping they may be more likely to utilize their medical home.

"My Community Health Worker has helped me use my Medical Home"

Average response was 5.75, which is closer to "agree" than "somewhat agree." Patients seem to agree that Community Health Workers are helpful.

"My Community Health Worker has helped me improve my health."

The average response to the second statement is 5, or patients somewhat agree that Community Health Workers help them improve their health at about 30 days after enrollment.

"There are still problems with me getting the health care I need?"

In the 30 day follow up patients responded that they disagreed that they continued to have problems. This suggests that even though patients continue to endorse only minimal satisfaction with their health care, they feel barriers have been adequately removed.

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