Pathways to a Healthy Bernalillo County 4-Year Report July 2009 – June 2013



Urban Health Partners UNM Office for Community Health August 2013

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EXECUTIVE SUMMARY

This is a 4-Year Summary Report for the Pathways to a Healthy Bernalillo County Program, and highlights the halfway point for the current funding agreement between the University of New Mexico Hospital and the UNM Health Sciences Center Urban Health Partners (UHP) office. The Pathways Program is administered through the University of New Mexico Health Sciences Center, Urban Health Partners (under the Office for Community Health) under an agreement signed between the University of New Mexico Hospital (UNMH) and the Health Sciences Center. Under this agreement, UNMH transfers no less than \$800,000 per year for the duration of the mill levy (2009-2017) to the UHP. In turn, approximately 82% (\$660,000) of this amount is contracted out to thirteen (13) community-based organizations in Bernalillo County through a competitive process. The local organizations that received funding over this second funding cycle (July 2011 – present) include:

- A New Awakening
- Catholic Charities Refugee Resettlement Program
- > East Central Ministries
- Encuentro
- > Enlace Comunitario
- > First Nations Community Healthsource
- New Mexico Immigrant Law Center
- ➤ Rio Grande Community Development Corporation (EleValle Collaborative)
 - Casa de Salud
 - Centro Sávila
 - La Plazita Institute
 - PB&J Family Services
 - South Valley Economic Development Center
- Samaritan Counseling Center

Over two thousand, one hundred twenty (2,129) persons participated in the program during the four-year reporting period. Slightly more than half; one thousand seventy nine (51%) unduplicated individuals completed their participation in the program while more than three thousand fifty (3,058) separate pathways were successfully completed. This indicates, at the very least, that participants have engaged in activities that lead to positive health outcomes.

Greater emphasis is now placed on certain Pathways that are strong indicators of health such as education, employment, housing and health care home. The HUB (Urban Health Partners office) has taken several steps to encourage enrollment in such Pathways. The strategies implemented will be discussed later in this report.

Of the 2,129 participants mentioned above, approximately six hundred seventy-six (676) either withdrew from the program or were inactivated due to difficulty following up with them. This equates to an approximate sixty-eight percent (68%) retention rate. With the transient nature of the population participating in Pathways, the retention rate is positive and has actually slightly increased from the first 2-year period: 68.3 vs. 67.3 percent. This is an example of the uncanny ability of the navigators to follow up with their clients and assure that they do not fall through the cracks as they attempt to access and navigate our complex health and social services systems. See Table 1 on the following page for Client Status as of June 30, 2013:

Table 1: Pathways to a Healthy Bernalillo County Client Status - June 30, 2013

	Current Active Clients	Completed Pathways Clients	Inactive Clients	Withdrawn Pathways Clients	Total Number of Pathways Clients
#	294	1,079	506	170	2,129

- Active represents those individuals that are currently participating in the Program and are working toward completing the specific prioritized pathways.
- Completed identifies those clients that have completed all the stages of the determined pathways and no longer require assistance from their navigators. The majority of these clients have completed at least two pathways.
- Inactive include those individuals who have been difficult to follow up with and have not been in contact with their navigator for a period of three months or more. It should be noted that on occasion clients who had been inactivated, reappear and were thus reactivated to continue working on the completion of pathways. Their situations may have changed since their initial enrollment, so their prioritized pathways may have changed too.
- Withdrawn are those clients that have personally chosen to no longer participate in the Pathways Program.

Effective at the beginning of Year 4 (July 2012), the program implemented an Exit Interview to be administered to clients at the time that they are exiting the program. This serves not only to update client contact information, which will result in improved follow-up post-Pathways, but also allows the opportunity to assess client level of satisfaction with their participation in the program. Approximately eight (88) Exit Interviews were conducted and below is a sample of the findings:

- 92% were either 'completely' satisfied, 'mostly' satisfied, or 'satisfied' with the help that they received from the Navigator and their organization
- 86% reported that what they did with the Navigator on specific pathways will continue to help them
- 70% reported that their overall health has either 'greatly improved' or 'improved' since they began participating in the program
- 76% reported having a better understanding of how to access health and social services as a result of their participation in Pathways
- 84% have been able to help others with information and resources/services that they had learned about from participation in Pathways.

In addition, six-month post-Pathways follow up surveys with clients have been conducted twice by the Evaluation Team to assess the longer-term impact that the Pathways Program had on their lives. The survey attempted to assess general health using standardized questions. Combined, these two post-Pathways surveys, conducted in spring 2011 and spring 2012, interviewed 135 clients. The majority of the persons interviewed (73%) reported that their health was "much better" or "better" since they began participating in the Pathways Program many months earlier.

The Urban Health Partners office (the Hub) is encouraged by these preliminary data findings, which demonstrate that the Pathways Program is having a positive impact not only on the participants, but also on the greater Bernalillo County community.

INTRODUCTION

Bernalillo County, New Mexico's most populated county, has grown rapidly in the past two decades, requiring the expansion and adjustments to health systems and other social services infrastructures. Regrettably these systems have not been able to keep pace with the increased demand for services, and have thus marginalized a significant portion of the county's residents. According to the United States Census Bureau, the population of Bernalillo County has increased from 480,577 in 1990 to 556,002 in 2000, to an estimated 673,460 in 2012, resulting in an approximate 21% increase over the past twelve years. Additional demographic characteristics are demonstrated in the table below (Table 2).

Table 2: Characteristics of Bernalillo County

	Bernalillo County	New Mexico
Population, 2012 Estimate	673,460	2,085,538
Population, percent change, April 1, 2010 to July 1, 2012	1.6%	1.3%
Persons under 18 years old, percent, 2011	23.8%	24.9%
Persons 65 years old and over, percent, 2011	12.5%	13.6%
Percent of adults under 65 years without health insurance	20%	23%
White persons, percent, 2011	85.4%	83.4%
American Indian and Alaskan Native persons, percent, 2011	5.7%	10.1%
Black/African American persons, percent, 2011	3.4%	2.5%
Asian persons, percent, 2011	2.6%	1.6%
Persons of Hispanic or Latino origin, percent, 2011	48.1%	46.7%
White persons not Hispanic, percent, 2011	41.3%	40.2%
Foreign born persons, percent, 2007- 2011	11.0%	9.8%
Language other than English spoken at home, age 5+, 2011	31.3%	36.2%
Percent not proficient in English	5%	5%
Percent of population age 16 or above that lack basic prose	13.9%	16.5%
literacy skills		
Median household income, 2011	\$48,231	\$44,631
Persons below poverty level, percent, 2011	16.6%	19.0%
Children living in poverty	27%	29%
Ratio of population to primary care providers	1,104:1	1,409:1
Preventable hospital stays, per 1000, 2013	32	55
Poor or fair health, percent, 2013	15%	17%
Ratio of population to mental health providers	1.582:1	2,557:1

References:

- http://quickfacts.census.gov/qfd/states/35/35001.html
- http://www.countyhealthrankings.org/new-mexico/bernalillo/other
- http://datacenter.kidscount.org/data/tables/5024-adults-older-than-age-16-lacking-basic-prose-literacy?loc=33&loct=2#detailed/5/4815-4847/false/14/any/11425

Although many Bernalillo County statistics are better than the State of New Mexico indicators overall, in key socio-economic factors that predict health, Bernalillo County lags behind. There are large geographic sub-regions within the County, primarily in the southern half (i.e. Southeast Heights, South Valley, and Southwest Mesa), where the health indicators are among the worst in the whole state. It is in these

neighborhoods, primarily, where the Pathways to a Healthy Bernalillo County Program focuses its efforts. See map on page 12 of this report for a visual of the top five zip codes from where the clients reside. As expected, these neighborhoods coincide with the poorer health indicators mentioned above and align with many of the identified "hot spots" in a recent report, Bernalillo County Health Assessment, conducted in 2012-13 by the Collective Impact for Neighborhood and County Health (CINCH) Project. This Health Assessment report can be found at:

http://www.bchealthcouncil.org/Resources/Documents/CINCH%20Health%20Assessment%2012-18-12.pdf

BACKGROUND

The Pathways to a Healthy Bernalillo County Program itself resulted from a nearly 2-year planning effort in 2007-2008 that involved numerous community partners, including advocates, the Bernalillo County Commission, the UNM Health Sciences Center and Hospital staff, local health and social service organizations, and others. The Program derived from a care coordination model developed by Drs. Mark & Sarah Redding, a pediatrician and an internal medicine physician in Ohio, and is now modeled by more than sixteen different partners across the U.S. Its primary purpose here in Bernalillo County is to find the most difficult-to-reach (mostly uninsured) populations throughout the county and connect these individuals to a variety of health and social services thus improving their health and well being and ultimately, the health of the County as a whole. This is accomplished through the skills and resourcefulness of community health workers/navigators who first establish a trusting relationship with these hard-to-reach populations and then guide them through our complex health and social services systems resulting in positive health outcomes. In addition, the Program aims to identify, document, and address many of the systems barriers that surface throughout this Pathways process.

Through this extensive planning process, which included four professionally facilitated half-day sessions with numerous community partners in late 2008/early 2009, the four primary outcomes that have built the foundation for the Bernalillo County Program, were defined and are as follows:

- I. People in Bernalillo County will self-report better health
- II. People in Bernalillo County will have a health care home
- III. Health and social services networks in Bernalillo County will be strengthened and user friendly
- IV. Advocacy and collaboration will lead to improved health outcomes

In reference to the sixteen national partners mentioned above, the Federal Agency for Healthcare Research and Quality (AHRQ) had contracted with a national consulting firm, Westat, over the first 2 years of the Bernalillo County Program and created a National Learning Network called the Community Care Coordination Learning Network – CCCLN. This Network created a manual, Connecting Those at Risk to Care – A Guide to Building a Community "HUB" To Promote a System of Collaboration, Accountability, and Improved Outcomes". While funding for CCCLN ended, efforts to design a certification process for the role of a community care coordination HUB has continued, in collaboration with The Rockville Institute in Maryland and the Georgia Health Policy Institute. UNM HSC Urban Health Partners was recently selected to serve as a pilot site to receive technical assistance and participate in testing the HUB certification process.

It is important to note that the Pathways to a Healthy Bernalillo County Program has been highlighted in the Federal Agency for Healthcare Research and Quality's (AHRQ) Innovations Exchange website (www.innovations.ahrq.gov/content.aspx?id=2933) for three years consecutively. As a result of this article, the Bernalillo County Program has been contacted and conference calls set up with numerous organizations from around the country who were interested in learning more about our model. The organizations include, but are not limited to:

- CHOICE Regional Health Network Vancouver, WA
- Buffalo County Community Partners Kearney, NE
- Casa de Salud St. Louis, MO
- ACCEL Program Placerville, CA
- Northeast Oregon Network La Grande, OR
- St. Charles Health System & Health Matters of Central Oregon Bend, OR
- Nature Coast Emergency Medical Service Lecanto, FL
- Minnesota Community Health Worker Alliance Minneapolis, MN
- Health Care Access Now Cincinnati, OH
- Access to Care Stow, OH
- Muskegon Community Health Project/Mercy Health Partners Muskegon, MI
- Community Health Partners for Sustainability Philadelphia, PA
- Indian Health Service Gallup, NM
- Center for Disease Control & Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation Atlanta, GA
- Robert Wood Johnson Foundation Commission to Build a Healthier America St. Paul, MN
- Rappahannock United Way Fredericksburg, VA
- Governor's Office for Health Reform, State of Ohio
- New Mexico Health Insurance Alliance

COMMUNITY HEALTH NAVIGATORS

It would be a huge oversight not to include a section in this report about the Pathways Community Health Navigators (CHNs). The CHNs are all employed through the Pathways partner organizations and are not direct employees of the Hub. Under the current make-up of Pathway partner organizations (listed on page 3), there are approximately twenty (20) CHNs working in the Pathways Program. Six of them have been working with Pathways since it first rolled out in August 2009, and have established an incredible network of resources with whom they collaborate to meet their clients' needs.

The CHNs, many of whom were (and still are) "Promotores de Salud" in prior jobs, are mostly persons who live in the communities that they serve, and have developed a reputation as a reliable resource, mentor, and someone who can be trusted. This reputation is essential in order for them to gain the trust of their clients and then needs to be maintained by assisting the clients and assuring that they receive the services that they are eligible for. The CHN's knowledge of culture, language, community resources, service providers, eligibility requirements, advocacy skills and others makes them uniquely qualified to work with people that have many needs. The Pathways model would not exist without CHNs.

These multiple skills developed by the CHNs do not happen overnight and even when they have developed expertise and experience, continuing education and training is an important part of their

professional growth. Pathways to a Healthy Bernalillo County has not yet established a set training curriculum for the CHNS, but has provided ongoing training opportunities throughout the first four years. All new CHNs who join the Pathways network receive a training that includes an orientation to the Pathways model, setting expectations of the CHNs, familiarity with the web-based password-protected database, provision of a list of resources and contact persons with whom they can ask questions, and a copy of the nearly 100-page Quality Assurance Manual (updated every year). In addition to the general orientation, ongoing trainings on the following topics have been offered periodically:

- Ethics
- Setting Professional Boundaries
- Avoiding Burnout
- Behavior Change
- Motivational Interviewing
- Mental Health First Aid



The Hub strongly encourages the supervisors of the CHNs to support their continuing education opportunities and shares many additional training opportunities with the CHNs through the Pathways email listserv that was set up in 2009.

The Hub coordinates standing monthly meetings with the CHNs, which they are required to attend per the contractual obligations. These monthly meetings provide the CHNs a regular opportunity to network with each other, share stories/resources, do some group work, such as updating lists of community resources, designing the steps in a new pathway, practicing messaging pertaining to the Affordable Care Act, etc., and to learn about different programs in the community. Speakers are often invited to present, and it is at these meetings where any potential modifications to the program are discussed and agreed upon. The Hub has followed through on its promise to be inclusive and the CHNs have bought into the Bernalillo County model because they know that their recommendations will be listened to and discussed. See Appendix A for a chronological summary of adaptations to the model since 2009.

POPULATION SERVED

Examples of the populations that the Pathways partner organizations focus their efforts on include **low income, uninsured adults** who may be experiencing one or several of the following:

- Multiple or complex unmet needs and reports feeling unhealthy
- A minimum of 3 hospital and/or Emergency Room visits within the last year
- Homelessness and lack of access to services
- Urban off-reservation Native American not connected to or trusting of the currently existing resources in Bernalillo County
- Undocumented and/or limited-English proficient (LEP) immigrant who does not understand how to access existing resources and/or has run into barriers trying to navigate the system
- Hungry and averaging less than two full meals per day
- Any of the above who are parenting young children

While the organizations are not by any means limited to focusing specifically on the populations above, it does appear through conversations with the CHNs that this is an accurate description of the people that they have worked with over these past 4 years. In addition to the above, a significant portion of the Pathways participants have also been individuals recently released from incarceration.

Prior to participation in the Pathways Program, all Pathways candidates are administered a risk score questionnaire that covers a wide array of health and social issues and provides the CHN a much better idea of what may be priority areas to focus on should they end up participating in the program. Below are samples of some of the questions on this risk score instrument and how approximately two thousand twenty five (2,025) participants responded at the time they enrolled in the Pathways Program over this first 4-year period:

- 73% left high school before graduating
- 65% need help getting a GED
- 84% are unemployed
- 88% need help finding work
- 89% reported that they felt sad, empty, or depressed
- 91% had trouble providing food and/or clothing for themselves and their families
- 84% were at risk of losing their home or were presently homeless

In the past year:

- 40% have gone to the ER or been admitted to the hospital 3 times or more
- 84% have been unable to get needed medical care
- 82% have been unable to afford recommended procedures, medications, or treatments
- 88% had dental problems that need attention, including losing a tooth
- 70% thought that they had a nervous, emotional, drug or alcohol problem
- 91% had a family crisis (i.e. death, family member imprisoned, loss of home, etc.)
- 48% had lived in more than 3 different places
- 22% were released from jail or prison

These responses are a clear indication of the extreme levels of poverty and overall vulnerability of the majority of Pathways participants, as this program was designed specifically to find and engage some of the most difficult-to-reach populations in the County. Based on the more than two thousand responses above, it is evident that we have been successful in reaching these populations, and as mentioned on page 7, there is probably no health or social service profession more qualified to work with these County residents than the Community Health Navigators (CHNs).

On the following pages is demographic information describing self-reported race/ethnicity, primary language, age distribution, education level, method of learning about the Pathways Program (Initial Contact), and participant population by zip code. In general terms, these data show that the Pathways Program interacts mainly with:

- Women (72.9%) of which 74.2% self-identify as Hispanic/Latina
- Individuals whose primary language is Spanish (55.2%) or English (40.4%)
- Young to middle aged adults (76.2% fall within the range of 20 to 49 years of age)
- A high percentage of persons with less than a high school diploma (64.0%), and
- Residents living in the southern part of the County (zip codes 87108, 87105, 87121) make up 58.2% of the participant population.

Figures 1 thru 4 below and on the following page provide some basic demographic information on the general Pathways clientele. Figure 1 shows that nearly 75% of the Pathways participants self report as Hispanic/Latino and another 11% self-reporting as Native American. These percentages have remained fairly constant over the first 4 years, with a slight increase in the Hispanic/Latino population and slight decrease in the Native American population since the end of Year 2.

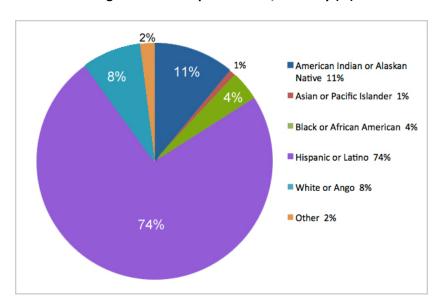


Figure 1: Self-Reported Race/Ethnicity (%)

Figure 2 shows that greater than three-quarters (>75%) of Pathways participants are generally young, between the ages of 20 to 49 with another 12% or so between the ages of 50 to 59. Figure 3 shows that more than half speak Spanish as their primary language.

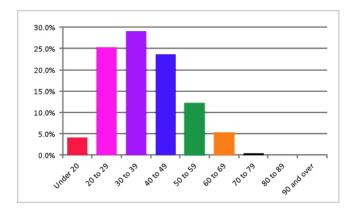


Figure 2: Age Distribution

Figure 3: Primary Language Spoken (%)

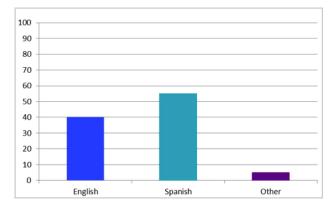


Figure 4 shows that nearly two-thirds (64%) have not completed high school or a GED program, which often correlates with low or very low income. Although we do not ask the participants to share their individual/household income, the Navigators often require that information when applying for income support, W.I.C., the Supplemental Nutrition Assistance Program (SNAP), housing, or many of the other programs for which they may be eligible. Overall, the vast majority of Pathways clients are very poor and struggling to pay their bills.

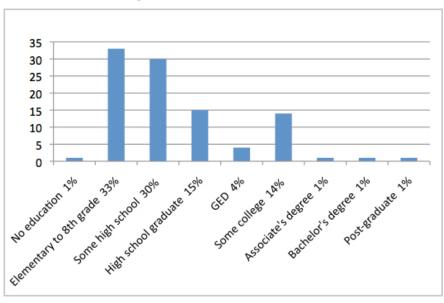


Figure 4: Client Education Level

As the Pathways Program has become established in Bernalillo County, more people are finding out about the Program either through referrals from other organizations, or by word of mouth. Nearly seventy percent (69%) of the participants have been referred by family/friend or other community agencies, with approximately fourteen percent (14%) being identified through outreach.

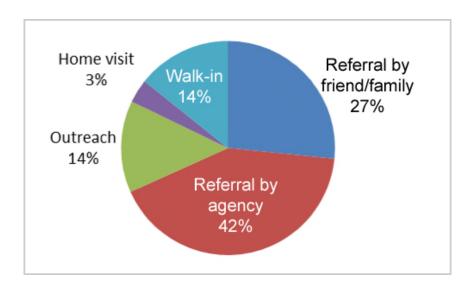


Figure 5: Client Initial Contact

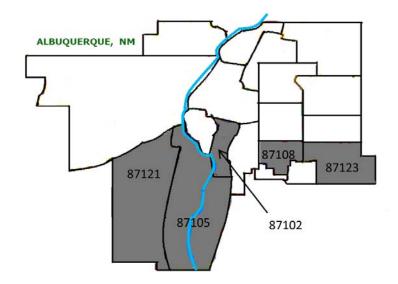
Greater than three-quarters (78.7%) of the Pathways participants come from five geographic areas: the International District, South Valley, Southwest Mesa, the Far Southeast Heights (Singing Arrow/Desert Skies), and the Downtown/Barelas neighborhoods.

Table 3 below illustrates the top ten zip codes from which the Pathways participants report that they reside when entering the Program. Figure 6 shows a map of Bernalillo County with the top five zip codes relative to their location within Bernalillo County. It is evident that the majority of the Pathways participants reside in the southern part of Bernalillo County, which coincides with much of the County data around health disparities and inequities and reflected in the Bernalillo County Health Assessment mentioned on page 6 of this report.

Table 3: Top 10 Participating Populations by Zip Code

Figure 6: Top 5 Zip Codes

Zip Code	#	%
87108	506	26
87105	378	19
87121	304	16
87102	177	9
87123	177	9
87107	91	5
87106	89	5
87109	58	3
87120	55	3
87110	50	3





RESULTS

After four years of program implementation (July 2009 – June 2013), over two thousand one hundred (2,129) unduplicated County residents have participated in the Pathways to a Healthy Bernalillo County Program of which slightly greater than half (50.6%) of the participants had completed the program as of June 30, 2013.

Performance from our partner organizations has varied in the first half of this funding cycle, but overall, each one has made positive contributions toward improving the health of the residents of Bernalillo County. Table 4 below shows a snapshot of the partner organization's Pathways accomplishments.

Table 4: Breakdown by Organization of Pathways Accomplishments

Partner Organizations	Number of Clients	Pathways Started	Pathways Completed	% Pathways Completed
A New Awakening	141	333	290	87%
Casa de Salud Family Clinic	173	357	248	69%
Catholic Charities*	73	210	94	45%
Centro Sávila*	69	238	166	70%
East Central Ministries	168	739	437	59%
Encuentro*	75	243	105	43%
Enlace Comunitario	227	474	295	62%
First Nations Community Healthsource	161	448	208	46%
La Plazita Institute	198	458	211	46%
New Mexico Immigrant Law Center*	66	183	99	54%
PB&J Family Services	168	442	229	52%
South Valley Economic Dev. Center	174	488	271	55%
Samaritan Counseling Center*	64	196	129	66%
Total	1757	4809	2782	58%

^[*] Denotes the five organizations that began participating in Year 3.

Note: The four organizations participating in the first 2-year period, but not refunded, are not included in the above data.

While all of the pathways options contribute toward improving the health and well-being of individuals and families, it was mentioned on page 3 above that the Hub is beginning to put extra emphasis on certain pathways, namely Education/GED, Employment, Health Care Home, Homelessness Prevention, and Housing, all of which have been directly linked to better health (see Appendix B). This is not to diminish the importance of others such as Behavioral Health, Dental, Food Security, Legal, Substance Use, or others, but rather to focus on some of the most critical social determinants that have prevented people and families from moving out of poverty.

On these particular pathways, A New Awakening (86) and First Nations (44) have had the most clients completing the Employment pathway, followed by La Plazita Institute (31) and the Samaritan Counseling Center respectively.

On the Housing pathway, one of the most difficult to complete, A New Awakening (40) and First Nations (39) have been most successful, followed by Enlace Comunitario (16) and PB&J Family Services (14) respectively.

On completion of the Health Care Home pathway, one of the four primary goals of the Pathways Program, East Central Ministries (which includes the One Hope Centro de Vida Family Health clinic) lhas completed the most (121), followed by the South Valley Economic Development Center (53), La Plazita Institute (49) and Casa de Salud Family Health clinic (32).

The Hub pays particularly close attention in its program monitoring to the completion of pathways and the number of participants successfully exiting the program. It is important to point out however, that the Hub encourages the CHNs to let the participants decide on which pathways they are most interested in working on, so although we may prioritize the four or five mentioned above, that doesn't always translate into the same priorities identified by the clients.

However one interprets the numbers above, it is evident that this program has positively impacted a significant number of Bernalillo County residents and with the upcoming studies to be conducted by the UNM Institute for Social Research, referred to on pages 18-20 of this report, the Hub looks forward to seeing the findings, which will reinforce what everyone working within the Pathways Program already knows: that the Pathways to a Healthy Bernalillo County Program is a smart investment of Bernalillo County/UNM Hospital dollars and that many County residents are a lot better off as a result of it.

Figure 7 below compares the number of pathways clients enrolled in Years 1 & 2 vs. Years 3 & 4.

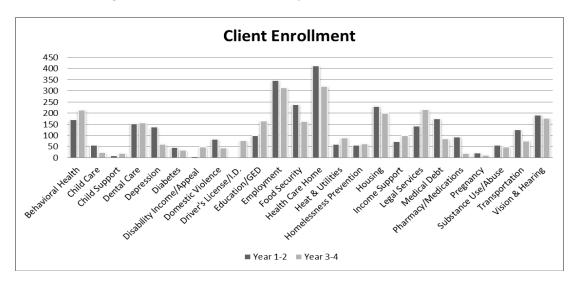


Figure 7: Client Enrollment Comparison: Year 1-2 vs. Year 3-4

It appears that the large increases in five pathways in particular; behavioral health, driver's license/I.D., disability income/appeal, education/GED, and legal, coincide with the new pathways added in Years 3 & 4 (see Appendix A – Adaptations to the Model) as well as with the services offered by the new partner organizations. In Year 3, Centro Sávila and the Samaritan Counseling Center joined the network and provided opportunities for more behavioral health services, Catholic Charities and Encuentro increased the opportunities for education/GED classes, and the New Mexico Immigrant Law Center provided more legal services. It is important to note that at the beginning of Year 4 the depression pathway was merged with the behavioral health pathway, which may also contribute to the increase in Years 3 & 4. There was also a change in reimbursement, from two pathways per individual client to three pathways per client, beginning in July 2011, which explains the slight decrease in the total number of pathways in Years 3 & 4.

Figure 8 compares the number of clients that have enrolled in a specific pathway to the number of clients that have completed the pathway. When examining enrollment and completion rates, lower completion rates are normal and expected, as those who are enrolled are still actively working on completion of specific pathways. The Hub has also learned about many of the external factors that can inflate (or deflate) completion rates, such as the amount of community resources available and the fact that many Pathways organizations specialize in certain services in-house, which would, in most cases, contribute to completion of those pathways.

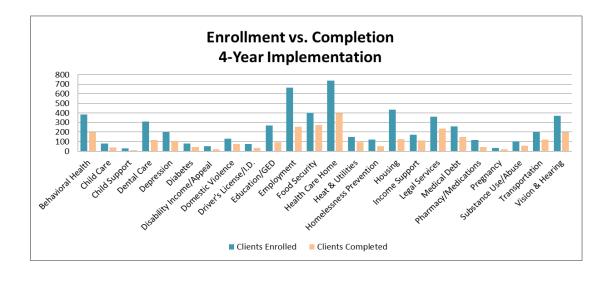


Figure 8: Enrolled Clients vs. Completed Clients by Specific Pathway

Figure 9 below shows the completion rates for each pathway, excluding "active" clients. As mentioned above, active clients are currently engaged in one or more Pathways; therefore including them in the overall completion rates diminishes the effect. Below is a more accurate depiction of completion rates. Analyzing the data in this format has yielded a 17% increase in overall completion rates (63% in total), which better reflects the progress made in the past four years. As active clients complete a Pathway, they will be subsequently added and updated.

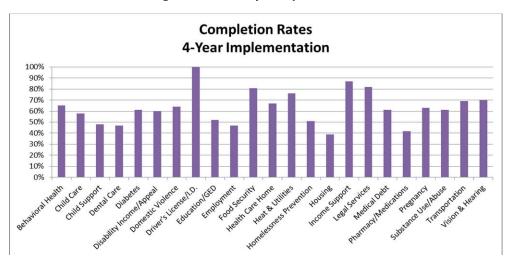


Figure 9: Pathway Completion Rates

Figure 10 below compares the number of completed pathways at the end of Year 2 (end of phase one of program) and then again at the end of Year 4. While there are several significant increases, especially with Education/GED, Employment, Legal Services, and Vision & Hearing, and smaller increases in Behavioral Health, Dental, and Housing, most of the other pathways have remained fairly consistent over the years. The decreases from year 1-2 to Year 3-4 do not necessarily reflect the level of difficulty in completing those pathways, but rather a shifting of pathways as the Hub has put more emphasis on Education/GED, Employment, Health Care, and Housing as mentioned earlier in this report.

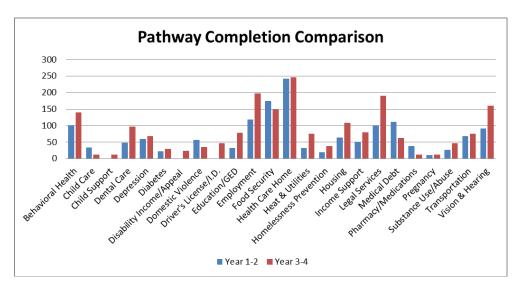


Figure 10: Pathway Completion Comparison – Year 1-2 vs. Year 3-4

The time associated with the completion of each Pathway varies, and can be attributed to a number of different factors. For example, completion of the Housing pathway is defined as, "Navigator confirms that client is placed and has moved into an affordable housing unit for a minimum of 2 months". Even if the Community Health Navigator (CHN) is successful in getting around the nearly 2-year waiting period for Section 8 housing, the manner in which the completion of this pathway is defined extends the completion period sixty days after the person is actually housed. This is to ensure some level of stability in the person's life, which correlates to a healthy outcome.

Other factors include the availability of resources in the community, the client and CHN following through on requirements (i.e. submission of application, necessary paperwork, follow-up appointments, etc.), and a whole host of other factors. Table 5 below shows the vast differences in average time associated with the completion of pathways, as some are much easier to complete than others.

Table 5: Time Associated with Completion of Pathways

Pathways	# of Clients	# of Clients Completed	% of Clients Completed	Avg Days to complete
Education/GED	268	101	52%	180
Housing	433	145	39%	157
Employment	660	273	47%	148
Dental Care	311	119	46%	140
Health Care Home	727	413	67%	140
Driver's License/I.D.	76	41	100%	66
Income Support (ISD)	171	122	87%	57



PROGRAM EVALUATION

As mentioned earlier in this report, the Hub is now contracting with the UNM Institute for Social Research (ISR) as of July 2012 to serve as the primary evaluator. This agreement included a number of tasks including a cost-benefit study, reviewing the Pathways database, assisting with the review and design of program data collection instruments, reviewing information in the on-line data collection system, working with program staff to prepare an evaluation plan, and meeting with program staff to discuss research tasks.

During this reporting period several research tasks have been completed and other research tasks are underway. The following section describes these research tasks.

Database Research Tasks

In August 2012 a preliminary review of program data was completed for the UNMH Board of Trustees (BoT) meetings. This was followed by a more complete review of program data in preparation for the cost study described below. More thorough analyses will be completed in the future for two primary purposes: First, to support the studies proposed below, which include a description of program data and second, to provide descriptive information that will be useful in updating the database.

Separately, ISR staff has been involved in reviewing program instruments. This included mapping the risk score instrument questions with the Exit Interview and subsequent 6-month post-Pathways interview to ensure consistency, avoid duplication, and more accurately measure the first two program outcomes:

- 1. People in Bernalillo County will self-report better health
- 2. People in Bernalillo County will have a health care home

Program Cost Study

This study is designed to measure the use and cost of services, including emergency medical services, inpatient and outpatient medical services, alcohol and drug detoxification and inpatient medical services, ambulance services, arrests, bookings, and days spent in jail or prison for a time period before, during, and after participation in the Pathways Program.

The Pathways Program cost study differs from previously researched programs in the variety of pathways that are available. Other programs that use the pathways model focus on pathways most directly associated with health – for example health care home, insurance coverage, medical debt, pharmacy/medications, and pregnancy – while our Pathways Program focuses on a wider variety of pathways that may be more broadly related to health, such as employment, housing, heat and utilities, and food security.

Currently it is not known if the cost benefits generally shown for programs using similar models and pathways extend to the Pathways Program. This study will increase the national understanding of the cost effectiveness of the Pathways Program specifically, the pathways model in general, and the effectiveness of a broader variety of potential pathways. A human subject's research protocol has been submitted to the University of New Mexico Institutional Review Board and is awaiting review and approval.

Program Implementation Research

The purpose of this study is to determine how well the Pathways to a Healthy Bernalillo County Program adheres to the Pathways model and how the program works in Bernalillo County, New Mexico. While the Pathways program manager has created and implemented various tools for monitoring program activities and results, a comprehensive process evaluation of the program has not yet been done. This study seeks to provide information that will be useful for describing this program and documenting adherence to the model and known best practices. The study hypothesis is that client level outcomes defined as program completion rates will improve based on how completely the program has been implemented and adheres to the Pathway model.

Methodology

The study will be completed in four phases. The completion of each phase is important in helping us better understand how the Pathways Program included in this research works, serve clients in need, and how the implementation of the Pathways model improves client outcomes. Collectively the completion of the four phases tells us more than any phase by itself.

Phase I Methodology

Phase I focused on completing a literature review of the program types under review to determine best practices. The completion of Phase One provided us with useful information that describes in general how these projects should operate and what components they should include. Importantly, we found that in general there is a limited body of literature on programs that have the breadth that the Pathways Program has and that there is little information on the implementation of the Pathways model. This phase does not involve human subject research.

Phase II & III Methodology

Phase II and III focus on interviewing program administrators and staff who are or have recently been employed to provide client services in conjunction with the local organizations that are funded by the Pathways Program. Phase Two interviews will be conducted with program administrators and Phase Three will consist of interviewing program staff in order to document how the program operates from their perspective. Because of the varying size of each organization, the local organizations will be evaluated for staffing to determine if they are appropriate for Phase Three interviews.

The purpose of interviewing line staff members as well as administrative staff is to enhance and expand the information gathered during the phase two interviews. We expect, for the most part, the administrators' and line staff members' interviews will agree on how the program functions, but also anticipate occasional discrepancies in their responses. Any discrepancies will be noted.

Phase IV Methodology

Phase IV will consist of a review of program client records. The purpose of Phase IV is to provide client level information that will inform our understanding of how the various programs operate and serve clients. This information on clients will include among other variables: client risk score questionnaire; information on barriers to care experienced by clients; demographic information (including age, race/ethnicity, tribal affiliation, education, zip code of record); enrollment information; health care information; client's progression through and completion of the different pathways, referral information, and how the program is completed and/or exited. Most of this information will be pulled

from the centralized database. A human subject's research protocol has been submitted to the University of New Mexico Institutional Review Board and is awaiting review and approval.

UNMH Service Utilization and Costs Patterns Study

The goal of this proposed research is to study the hospital utilization costs and patterns of Pathways Program clients. This will be accomplished through several steps:

- This research will use the UNMH billing database to determine patterns of utilization and costs
 of UNMH clinical services for Pathways Program clients before and after participating in the
 program.
- b. The pre- and post-program utilization and costs will include looking at ER usage rates for ambulatory-sensitive conditions and clinic usage for evidence of continuity.
- c. This research will compare usage patterns and costs of clients and non-clients who are comparable in terms of the clinical indication (e.g., existence of a specific chronic condition, management of pregnancy, or engagement in routine preventive services in a primary care setting) and in terms of demographic characteristics and time period of care.

A human subject's research protocol has been submitted to the University of New Mexico Institutional Review Board and is awaiting review and approval.

Community-defined Outcomes

Outcome 1 - People in Bernalillo County will self-report better health

Six-month post completion surveys conducted in 2011 and 2012, and exit interviews conducted in late 2012 through June 2013 demonstrate that the majority (70%) of Pathways clients report better health after beginning their participation in the program. See Executive Summary on pages 4 & 5 for more detail on the preliminary methods and results used to measure this goal.

Outcome 2 - People in Bernalillo County will have a health care home

Health care home is an integral part of the Pathways Program and is made available to participants in multiple and reoccurring ways. A distinct "health care home" pathway is one of the 23 pathways and a variety of other health-oriented pathways also lead the participant in the direction of a health care home, such as "diabetes", "pregnancy" and "behavioral health". In addition, every pathway includes a step in the process where participants are encouraged to consider embarking on the health care home pathway.

Table 6 below represents where Pathways participants have established a health care home through program intervention. Of persons participating in the program to date, seven hundred thirty-two (732), or 35% of participants, have worked on the Health Care Home pathway. Four hundred twenty (420), or 57% had completed the pathway as of the end of June 2013. The Health Care Home pathway received the highest participation of all of the 23 pathways.

Table 6: Client Site for Health Care Home Pathway

Determined Health Care Home	Number of Clients
University of New Mexico Hospital and Clinics	148
One Hope Centro de Vida Health Center	128
First Choice Community Health Clinics	64
First Nations Community Healthsource	58
Casa de Salud Family Medical Office	44
Lovelace Medical Center	9
Presbyterian Healthcare Services	7
Albuquerque Indian Hospital	6
Veterans Administration (VA) Hospital	3
Albuquerque Health Partners	2
Other*	263
Total	732

^[*] Prior to July 2010, this information was not collected in the database, and is captured as "Other" in this table.

Most Pathways participants are uninsured and many experience negative consequences to accessing primary care services, such as incurring costs and long wait times, according to CHNs. A study, *Health Care Home: Experiences and Criteria in the Pathways to a Healthy Bernalillo County Program (HRPO #12-286)*, was conducted by the Urban Health Partners office to better understand the experiences of vulnerable adults and find common criteria for measuring the health care home goal in the Pathways program. Focus groups were conducted in fall, 2012 with community members that are representative of the Pathways client populations, including formerly incarcerated adults, Off Reservation Native Americans, and immigrants from Mexico; and with the Pathways CHNs. In addition, key informant interviews were conducted with medical directors and clinic administrators of several local primary care sites. The technical report is in the final stages of editing and will be released in August 2013.

In this study, the term "health care home" aligns generally with the patient –centered medical home and is defined as follows: a clinic-based health care setting where vulnerable adult patients have regular health care provider and where the care is accessible, coordinated, comprehensive, delivered with quality and safety, and patient-centered. Focus group results demonstrated that the experience of using or attempting to use primary health care was negative in all elements of the health care home definition. The barriers discussed by focus group participants were, respectively: ability to pay/lack of insurance; discrimination, racism, and stereotyping; lack of legal documentation; literacy level, education level, language; and transportation. Lack of access to mental health services and continuity in mental health follow-up were also mentioned. When presented with the definition of a health care home, participants responded that "patient-centered" and "whole-person care" were the most important elements, followed by "access", "organization" and "communication". When asked what the responsibilities are as patients in using a health care home, participants mentioned taking care of the health care home (getting involved, letting others know it is a good place to go, supporting the team), taking care of oneself, keeping appointments, paying for what one can, and clearly communicating one's needs.

Primary care providers and administrators that participated in interviews acknowledged that they presently fell short of delivering on the goal of health care home for vulnerable adults, and cited staffing challenges, the lack of insurance for patients, the current system of reimbursement, and role changes in the clinic that would be needed to meet a health care home goal are not accepted.

Principal findings of the study reveal that: (1) having access to a health care home is viewed as desirable by participants at all levels of the Pathways program, including primary care providers and administrators, and should be a goal that is pursued for vulnerable adults in Bernalillo County; (2) for most vulnerable adults, the primary care currently available in our county falls short of being a health care home for them; (3) examples of clinical settings exist locally that are better able to address issues that relate to patient centered care, care for the whole person, and coordinated care, in other words, that meet the definition of a health care home for this population; and that (4) having an advocate may be essential for successful health care home connection for vulnerable adults.

The health care home study provides useful information and feedback for Pathways program staff and partner organizations to adapt program interventions for the health care home pathway and for designing indicators of success in achieving this program goal. In addition, findings and recommendations from the study will be shared with local primary care clinic staff and providers, UNM HSC staff and faculty and governmental officials through the development of visual tools and webinars in order to stimulate a community-wide discussion on how to better serve vulnerable adults through primary care services. This is timely and important as New Mexico prepares for full implementation of the Affordable Care Act, where at least one barrier, that of insurance coverage, will be removed for hundreds and thousands of vulnerable adults in our state.



Outcome 3 - Health and social service networks in Bernalillo County will be strengthened and user friendly

Over these four years of program implementation, the CHNs have established a large number of relationships with organizations both within the Pathways network and those who do not receive Pathways funding, but do provide important services to Pathways participants. As Pathways has become more recognized in the community, the CHNs have "increased their tentacles" and work closely with a number of external organizations outside of the network. Some of the more frequent referrals to organizations outside of the Pathways network that were noted in the annual reported just recently submitted by the partner organizations. These include, but are not limited to:

Albuquerque Health Care for the Homeless	Pearl Vision
Albuquerque Housing Authority	Reading Works
CNM	Social Security Administration
Consulado de Mexico	Southwest Indian Foundation
Human Services Department, Income Support Division	St. Vincent DePaul
Salvation Army	Terápia Familiar de Albuquerque
First Choice Community Health	The Storehouse
Goodwill Industries	United South Broadway
NM Legal Aide	UNM Hospital clinics/specialists
NM Motor Vehicle Division	Workforce Connection

The number of external partners seems to increase more each year as the Hub, Pathways organizations, and the CHNs continue to broaden awareness and understanding of the Pathways Program to external entities. The Hub and the CHNs have worked collaboratively to exchange information on new community resources and have been very attentive in finding new opportunities to involve external agencies with the Pathways Program.

Overall, the Hub and its partners feel that they are making progress in this area as we all strive to strengthen the network, reduce competition for and duplication of services/resources, and continue to increase awareness of the Pathways Program.

Outcome 4 - Advocacy and collaboration will lead to improved health systems.

It is a challenge to measure progress related to this outcome because existing health systems have evolved over a period of many years and most are very complex and will likely become more complex, at least initially, as the Affordable Care Act goes into full implementation in a few short months. In this report, program efforts during the reporting period to document, prioritize, and analyze system barriers will be explained, but it is also important to understand barriers from the patient/client perspective and influence potential improvements, particularly as they relate to primary care services, through the Pathways program. This was accomplished, in part, through the Health Care Home study described on

page 20 of this report. Systems that impact health but are not specific to medical services, such as housing and employment, are also addressed within this program outcome.

The Pathways database includes a tab for documenting systems barriers that the CHNs are strongly encouraged to utilize when they run into obstacles in obtaining services for their clients. Over the first 4 years more than two hundred-eighty (289) different barriers have been documented. The Hub and Evaluation Team have used the documentation to more clearly understand general system barriers such as housing and dental services, as well as site-specific barriers that could consist of inconsistent organizational policies, poorly trained front-desk staff, lack of bilingual services, or other factors.

The following lists top barriers that have been documented in the Pathways database:

Housing

- Two-year wait periods
- Rental and Utility Assistance Programs are woefully insufficient
- Chronic shortage of affordable housing units
- Eligibility / Discrimination against specific populations i.e., formerly incarcerated clients, single parent families, undocumented immigrants

Access to Health Care/Difficulty Connecting to Specialists

- Institutional unwillingness to provide specialty care for individuals without insurance and/or with limited financial resources
- Repeated last-minute postponement of scheduled surgery or specialty care appointments for uninsured or undocumented individuals
- Lack of interpreter/translator services this includes many languages spoken by Albuquerque's increasingly diverse refugee population
- Inability to obtain appointment within 30 days/Long waiting lists, even for persons with emergencies
- Affordability / financial difficulties meeting co-pays, and barriers to financial assistance for undocumented immigrants
- · Restrictions in coverage for certain medications as well as high costs of others

Education/GED

- Insufficient number of community-based GED Programs
- Inadequate number of adult basic literacy programs (precedes GED preparation courses)
- Privatization of GED testing and forthcoming increases in costs, required online testing, etc.

Employment

- Discrimination against persons with prior felony charges
- Difficulty in finding suitable positions for undocumented immigrants

<u>Immigration Status / Client Discrimination</u>

- Lack of available and sufficient resources to residents without proper documentation (both legal and undocumented)
- Lack of interpreter/translator services in many community organizations
- No funding for specific populations i.e., Native American tribes

CONCLUSION

Overall, the first 4 years of the Pathways to a Healthy Bernalillo County program has been very successful in serving more than two thousand County residents; connecting more than seven-hundred to health care homes; building communication and networks among health and social service agencies; documenting systems barriers, and building capacity among the partner organizations.

The Community Health Navigators (CHNs) continue to demonstrate their resourcefulness and advocacy skills as they work with their clients to access and navigate the complex health and social services systems. The Pathways to a Healthy Bernalillo County program has consistently shown high enrollment and completion rates, and high satisfaction rates through interviews with post-program participants.

The Evaluation Team has three studies currently being reviewed by the UNM Institutional Review Board (IRB) and should be ready to launch these studies within the next month or two. The Hub is confident that these studies will show that the Pathways Program is a great investment that is actually saving both the UNM Hospital and Bernalillo County significant resources through the remarkable work performed by the CHNs.

During these first 4 years, the model has been continuously refined and improved to better meet the needs of Bernalillo County's most difficult-to-reach residents while maintaining the integrity of the original model developed by Drs. Mark and Sarah Redding. The Hub looks forward to continuous improvement over the next 4 years as it prepares its third and final Request-for-Proposals under this current funding cycle, scheduled for release in January 2014.







Adaptations to the Pathways Model

July 2009 through June 2013



The first 2 years of funding were considered the "demonstration phase" of this program. Since Pathways is a unique model in Bernalillo County, the then Office of Community Affairs (OCA) and its partners expected that the model, as designed by the Pathways Design Team in 2008-09, would require modifications over the first 2 years and beyond. The Project Hub (Urban Health Partners), in collaboration with the Pathways Navigators (CHNs) and the organizations with whom they are employed, has continually improved the program over the first 4 years.

Much of what we have learned will be incorporated into the next Request-for-Proposal scheduled to be released in January 2014.

Below is a chronological sample of some of the revisions made to the program since it first rolled out in August 2009:

YEAR ONE - 2009

Community Contractor Capacity to Adapt to Pathways Model

Two of the original organizations funded under Pathways had their contracts canceled in the first year due to underperformance and the remaining funds were redistributed to more successful organizations.

Fast-Track to UNM Hospital Services

Early in the program, UNMH agreed to use its Care One Program as the conduit into UNMH's system, and the CHNs who were attempting to access services at UNMH were asked to work through Care One. This arrangement was phased out at the end of Year 2.

Formation of the Pathways Community Advisory Group (PCAG)

A Pathways Community Advisory Group (PCAG) was formed in response to dissolution of UNM HSC Community Advisory Committee (CAC). The PCAG currently consists of approximately ten community members, none of whom are employed at UNM.

New Pathway

Disability Income/Appeal pathway added, increasing the number of pathways to 23.

Restructuring Budgets

The Hub learned that several navigators were using their own money to assist participants in urgent situations without any recourse for reimbursement. An Emergency Fund line was added to each budget and a protocol established for appropriate use.

Addressing Goal 3 – "Health and social service networks in Bernalillo County will be strengthened and made user friendly"

The Hub contracted with the Lovelace Clinic Foundation Research to begin a study titled, "Structural Assessment of a Community Service

Risk Score Assessment instrument

The original risk score instrument used to determine enrollment eligibility became problematic early on in the project. In January 1, 2010, the point system within the instrument was slightly modified and the overall score required to participate was reduced.

New Pathways

Based on feedback from the CHNs, two new pathways were added to the original list of twenty: Education/GED and Homelessness Prevention. These were designed through participatory sessions with navigators.

YEAR TWO - 2010

Collaboration to Secure Additional Funding

In collaboration with several community partners, the then Office of Community Affairs submitted a Brief Proposal to the Robert Wood Johnson Foundation's Consumer Engagement Initiative to facilitate a process leading to the design of community-defined standards for a patient-centered medical home, focusing on the immigrant population. Regrettably the collaborative was not invited to submit a full proposal for funding. **Note:** This effort did lead to a future Health Care Home study begun in Year 3 with Soda Creek Consulting and completed in Year 4.

Second Request for Proposal

Per the agreement with all of the organizations participating in the first 2-year demonstration phase, a second Request for Proposal was released in January 2011 for Years 3 thru 5.

YEAR THREE - 2011

New Participants to the Pathways Partner Network

Expanding the Model

A pilot program was initiated with the Native American Community Academy (NACA) with funds provided by Chancellor Roth's office to test the Pathways model in a school setting.

Addressing Goal 1 - "People in Bernalillo County will self-report better health"

The Evaluation Team completed the first Pathways post-Program Client Survey in July 2011. The sample population was limited to approximately 55 former participant. Results showed that the overwhelming majority had positive experiences with the Pathways Program. Evaluation activities transferred to the UNM Robert Wood Johnson Center for Health Policy.

Completion of LCF Foundation study

The Lovelace Clinic Foundation Research study titled, "Structural Assessment of a Community Service Network" was completed and a final report submitted. Results showed that, at the CHN level, a great deal of cross-agency collaboration was occurring, and, at the Executive Direct/CEO level, more collaboration had improved as a result of Pathways participation, but not quite at the level experienced by the Navigators.

YEAR FOUR - 2012

Working with a new Evaluation Team

All evaluation activities were transferred from UNM RWJF Center for Health Policy to UNM Institute for Social Research (ISR).

Expanding the Model a bit more

A Pilot Program was initiated with the Rio Grande Community Development Corporation (RGCDC) supported by W.K. Kellogg Foundation funding to test Pathways model with children 0 to 8 years of age.

Restructuring Budget

Due to the level of difficulty in completing two of the most important pathways, Employment and Housing, the Hub attempted to create a financial incentive for the organizations and CHNs by Increasing the reimbursement for the intermediate benchmark from \$125 to \$250 for the Employment and Housing pathways only.

Completion of Soda Creek Consulting study

The health care home study, "Health Care Home: Experiences of Vulnerable Adults in Bernalillo County and Implications Moving Forward", conducted by Soda Creek Consulting, LLC was completed and several presentations already given on the results. A final report can be found on the Urban health Partners website (http://hsc.unm.edu/community/uhp) and several Webinars will be held in the near future.

The RFP process concluded in spring 2011 and five (5) new organizations joined the Pathways network: Catholic Charities Refugee Resettlement Program, Centro Sávila, Encuentro, New Mexico Immigrant Law Center, and Samaritan Counseling Center. Regrettably, four (4) organizations from the first 2 years were not refunded. The total amount for community contracts increased from \$640,000 in first 2 years to \$660,000 in the second phase of funding.

Reimbursement for 3rd Pathway

The CHNs made the case that the Hub should reimburse the organizations for more than 2 pathways per client, as this would improve the quality of the health and social services offered to the client resulting in even better outcomes. Reimbursement for a third pathway went into effect in Year 3 with the condition that one of the three pathways has a health care-related focus. This increased total reimbursement per participant from \$1000 per person to maximum of \$1425.

New Pathway

A Driver's License/I.D. pathway was added, increasing the total number of pathways to 24.

Addressing Goal 2 – "People in Bernalillo County will have a health care home"

A contract was initiated with Soda Creek Consulting, LLC to conduct a study titled, "Health Care Home: Experiences of Vulnerable Adults in Bernalillo County and Implications Moving Forward".

Testing out an Exit Interview

In an attempt to obtain more data from participants at the end of their Pathways experience, and to update their contact information for further follow-up, an Exit Interview was designed in English and Spanish and tested out in FY13. The results of this first year are being analyzed as of this writing.

Risk Score Instrument

The Risk Score Instrument was revised a second time (Version 3) adding several new legal questions per the suggestion from the New Mexico Immigrant Law Center and agreed upon by all of the Navigators.

Reducing the number of pathways

The Hub merged the Depression and Behavioral Health pathways reducing the confusion by the CHNs, decreasing the number of pathways to 23.

Pathways Database Enhancements

It is important to note that throughout the first 4 years and through ongoing meetings between the CHNs and the UHP's database consultant, Mitchell Steinberg from Ruby Creek Designs, a number of improvements and additions were made to the Pathways database that benefited the CHNs and the Hub.

APPENDIX B: Pathways Participants - Evidence Suggests a Positive Health Impact



Education

- 73% left high school before graduating
- 64% need help getting a GED

Each additional year of schooling increases personal income by 11%

Additional education reduces risk of heart disease and diabetes

259

DKemployed

HDL VS. LDL



Employment

- 88% need help finding work
- 91% need additional training or skills to get a job

Lower incomes mean less preventative care such as having a regular doctor and getting blood pressure and cholesterol checks

Laid off workers are 83% more likely to develop a stress-related health condition such as heart disease



Primary Care

411



- 90% rate their health as poor
- 40% used ER or hospital admission in past year



Adults with a medical home are more likely to report their blood pressure regularly and keep it in control



PATHWAYS

Participants
(Number Completing Pathways)

Evidence Suggests a Positive **Health Impact**



Housing

46% moved 3 or more times in the past year



Housing quality can impact physiological health (e.g., lead, radon, mold, extreme temperatures), psychological health (e.g., noise, inadequate light), and safety (e.g., falls, fires)

Unaffordable housing costs affect health by reducing the income that a household has available for nutritious food and necessary health care expenses, as well by causing stress, residential instability, and crowding

