MISSOURI FOUNDATION FOR HEALTH
GRANT AWARD AGREEMENT 14-0885-CF-15 FINAL REPORT
January 1, 2017 – December 31, 2017

OBJECTIVES/DELIVERABLES

OBJECTIVE 1: MHD will partner with FACT agencies in the Southwest Region to coordinate priorities for CHW services with Primary Care Health Home (PCHH) providers. Main responsibilities of Community Health Workers (CHWs) include:

- *Conducting needs assessments*
- *Facilitating appointments*
- *Follow-up on appointments and post-ER/hospitalizations, communicating with health homes on barriers to self-management for patients*
- *Making home visits*
- *Facilitating coordination and access to social services and community resources to address social determinants of health*

Partnership with FACT: MO HealthNet had a unique opportunity by engaging FACT as a partner in our work. FACT is a private/public partnership that has a network of grass roots, community-based organizations called Community Partnerships (CP) across of the state. These organizations were established 25 years ago. Two of them participated in the pilot.

The intent of this engagement was two-fold: 1) to test the added value the CPs could bring to the pilot and 2) to provide some needed resources for transportation-related issues that could not otherwise be covered.

As is true of any pilot/demonstration project some presumptive results are tested but the results are often surprising. This was true of this aspect of our work the CPs.

The original design of the pilot included providing office space for the CHWs to meet with clients and, at the same time, provide a direct resource connection to the local community resources the CPs have developed. This did not occur as anticipated for a host of reasons, including that the practices themselves had worked on developing resources to assist their patients with non-medical needs impacting their patients' health. In providing one key component of the pilot, FACT successfully sought funding to support transportation and other costs that could not be supported through the major funding streams for the pilot. FACT continued this funding throughout the life of the pilot. This funding facilitated the interactions of the CHWs with their clients.

Lessons learned from this aspect of the pilot include:

- More focus on encouraging and facilitating the relationship and exchange of information between the CHW organizations and the CPs would afford better community resource delivery.
- Monthly team meetings of all partners (CHWs, CPs and supervisors) emerged as a best practice that happened organically; it was not designed into the project.

- Provision of a funding source to cover transportation costs for patients, travel reimbursement for CHWs travel as well as other needed mobile office tools is critical.
- Although FACT is a unique organization in Missouri, similar organizational support at the community level should be included in the future design of CHW initiatives in other states.

Bill Dent, executive director of FACT, participated in the periodic CHW provider conference calls throughout the pilot. He maintained contact with the CPs and encouraged communication between the CHW organizations and the CPs. FACT is working with MO HealthNet to produce a video highlighting the CHW pilot and the partnerships. This project is currently in production and we hope to have it available for you to view in the near future.

Hiring CHWs: All participating CHW pilot organizations maintained full staffing throughout the pilot, with the exception of short-term vacancies caused by turnover. The pilot averaged about 8 FTEs of CHWs throughout the 2-1/2 year period.

CHW Training: All CHWs throughout the course of the pilot completed one of the CHW training programs offered. Most attended the program at Ozarks Technical College, but one did the online course through State Fair Community College.

CHW Activities: CHWs reported their activities via a web-based form (using the RedCap platform) that were then aggregated for this evaluation. A total of 1,526 unique individuals were served through the CHW program.

Below is a table showing total individuals contacted and total contacts made each month from July 2016 through December 2017. The same individuals are duplicated in multiple months, so the grand total for individuals does not represent unique unduplicated individuals.

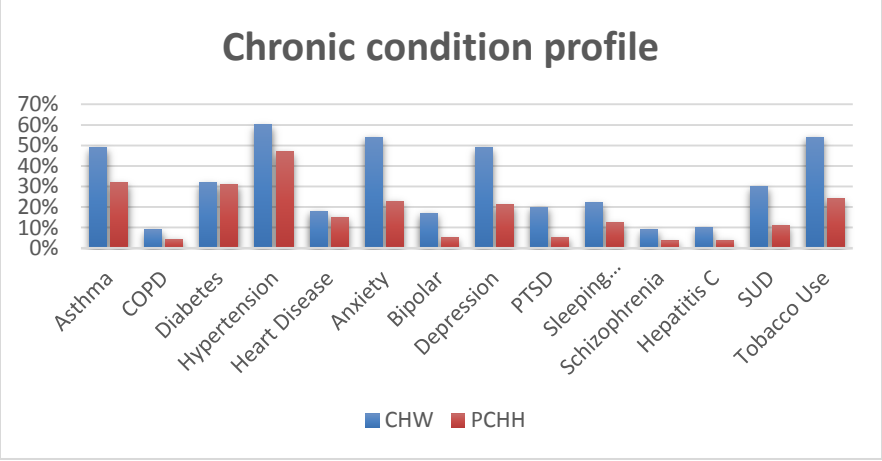
Month	Individuals	Total Contacts			
July 2016	307	520	April 2017	426	523
August 2016	286	274	May 2017	349	424
September 2016	314	389	June 2017	324	407
October 2016	326	395	July 2017	392	527
November 2016	328	409	August 2017	357	436
December 2016	288	368	September 2017	285	355
January 2017	298	385	October 2017	382	455
February 2017	282	383	November 2017	285	328
March 2017	380	469	December 2017	257	294
			Grand Total	**5,866**	**7,341**

We learned that many participants "graduated" from the need for CHW services. This, plus CHW turnover and adding additional CHWs resulted in many introductory contacts. The tables below show presenting issues and referrals made since July 2016 when we began collecting data through RedCap.

Presenting Issues	
Establish Rapport	2,418
Medical	2,179
Basic Needs	2,037
Social Support	937
Health Literacy	465
Housing	712
Transportation	799
Education	456
Medicaid Eligibility	508
Food	627
Mental Health	294
Pharmacy	183
Utilities	274
Dental	92
Child Care	34

Referrals Made	
None	4,268
PCHH- nurse care manager	676
Other	845
Other health educator	342
Primary care provider	582
Other charity	891
Community Partnership	619
Family Support Division	309
Food pantry	305
Health department	86

With regard to the diagnoses/conditions that were most prevalent in the work of CHWs during the pilot, we found that the most frequently reported conditions were hypertension (noted in 60% of people served; anxiety and tobacco use (54%), and asthma and depression (49%). Among the people who received CHW services, behavioral health conditions such as anxiety, depression, substance use disorder, and tobacco use were significantly more prevalent than in the PCHH population who did not receive CHW services.



The table below shows employment status for individuals receiving CHW services and reason for that status. That table is then further defined by the following one that shows a breakdown of reason for not being in the labor force. The final table below indicates responses when asked about being in a treatment program.

Employment Status	
Unemployed	93%
Not in the labor force	95%
Wanting/needing/looking for job	2%

Not in Labor Force	
Homemaker	3%
Student	3%
Retired	2%
Patient/resident not allowed to work	0%
Sheltered	0%
Disabled	68%
Other	5%
Unknown	20%

In treatment program	
No	76%
Yes	2%
Declined to respond	22%

OBJECTIVE 2: MHD will serve approximately 945 Medicaid patients. CHWs will serve as a member of a healthcare team, but will not provide clinical healthcare services.

Number of Patients Served: Each full-time CHW was responsible for a panel of up to 75 MO HealthNet health home participants who were designated as high utilizers based on their ER usage and hospitalizations, or who were identified via some other reason as having a need for services a CHW could provide. Due to the fact that most participants do not need a community health worker indefinitely, there is "churn" in the panel of individuals, so the 945 number was surpassed in the first year. The total number of unduplicated individuals served during the pilot was 1,526. (See the table presented in the Evaluation section for more details)

CHW Role: CHWs functioned as part of the Primary Care Health Home team. They attended PCHH team meetings, discussed patients with nurse care managers and behavioral health consultants, and

made notes in medical records. Their activities/responsibilities did not include providing clinical healthcare services.

OBJECTIVE 3: MHD will recruit six to eight individuals from participating communities where the targeted PCHHs are located.

The PCHH provider organizations in the project areas were responsible for recruiting and hiring the CHWs. The total CHWs working in pilot organizations at the end of the pilot was 8.25. OCH Health System (formerly Ozarks Community Hospital) paid for the additional staff time with their PMPM allocation.

During the pilot, all four participating organizations experienced turnover among CHW staff. A total of 10 CHWs turned over during the course of the pilot projects. Reasons for turnover included health (1), internal promotion to another position (3), became faculty at CHW training program (1), person not a good fit for the position (2), salary (1), and internal structural issues of the position/project (2). Turnover did decrease as the projects stabilized over time.

OBJECTIVE 4: MHD will partner with MO DHSS to utilize a training curriculum (used at Metropolitan Community College in Kansas City) as a foundation for participants in the CHW project.

MHD participates on MO DHSS's statewide CHW Advisory Committee which has completed work on standards and core competencies, and is now focusing on training and certification requirements.

OBJECTIVE 5: MHD will coordinate with MO DHSS to replicate the 6 week CHW professional certificate program at local community college(s) in the Southwest region.

Ozarks Technical College in Springfield inaugurated their CHW training program January 27, 2016. The curriculum is also now being offered in various other community colleges throughout the state. MO HealthNet is especially excited about State Fair Community College's online program, which is now operational. MO DHSS has provided scholarship support for the pilot CHWs.

OUTCOMES AND EVALUATION

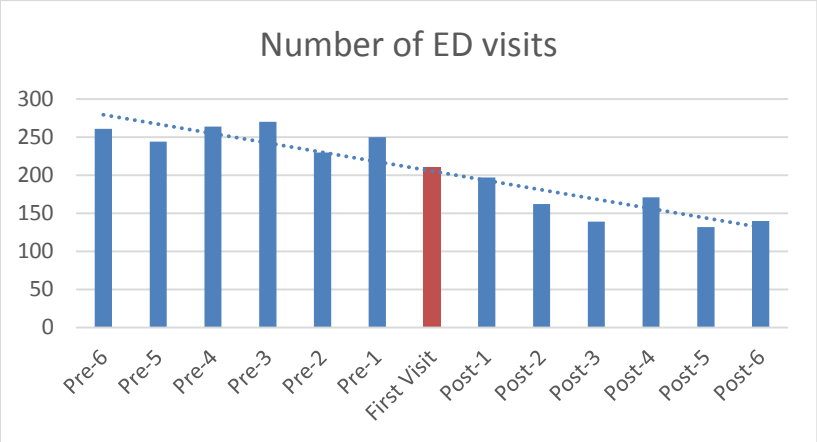
MO HealthNet worked with its Quality Program Manager as well as with Family and Community Trust, and Missouri Institute of Mental Health to develop an evaluation framework. Below are demographics from the pilot:

All Clients July 2016-December 2017	Totals
Number of unique clients	**1,526**
Sex	
M	**29%**
F	**71%**
Race/ethnicity	
White	**91%**
Black	**6%**
Hispanic/Latino	**3%**
Other or declined to respond	**3%**
Avg # Months Served	**3.8**
Homeless	
Yes	**2.7%**
At risk	**3.5%**

Results of the pilot are summarized below:

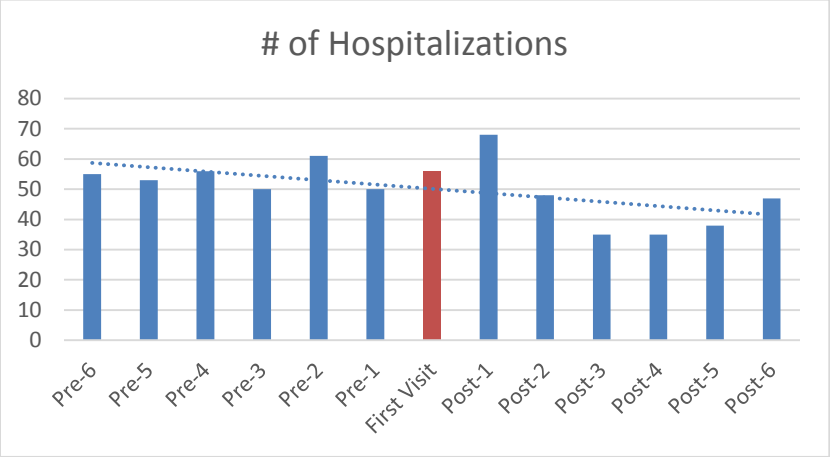
Reductions in Emergency Department (ED) Visits

Based on claims data, we assessed the change in ED usage for 764 individuals who first received CHW services between July 2016 and December 2016. The total number of ED visits 6 months prior to first CHW service, and the total number of ED visits 6 months post CHW visits were compared. We saw a 38% decrease in ED use for these 764 individuals. Over the same time period, individuals enrolled in the PCHH who did not have access to a CHW had an 8% decrease in ER visits.



Reductions in Hospitalizations

Additionally, we assessed the change in the number of hospitalizations from 6 months prior to the first CHW service, to the number of hospitalizations after the first CHW visit. The graph below shows a total 16.6% decrease in the number of hospitalizations within the 6 month prior to, and 6 months after, the first CHW visit. During the same time frame, individuals enrolled in the PCHH who did not have access to a CHW had a 6% decrease in hospitalizations.



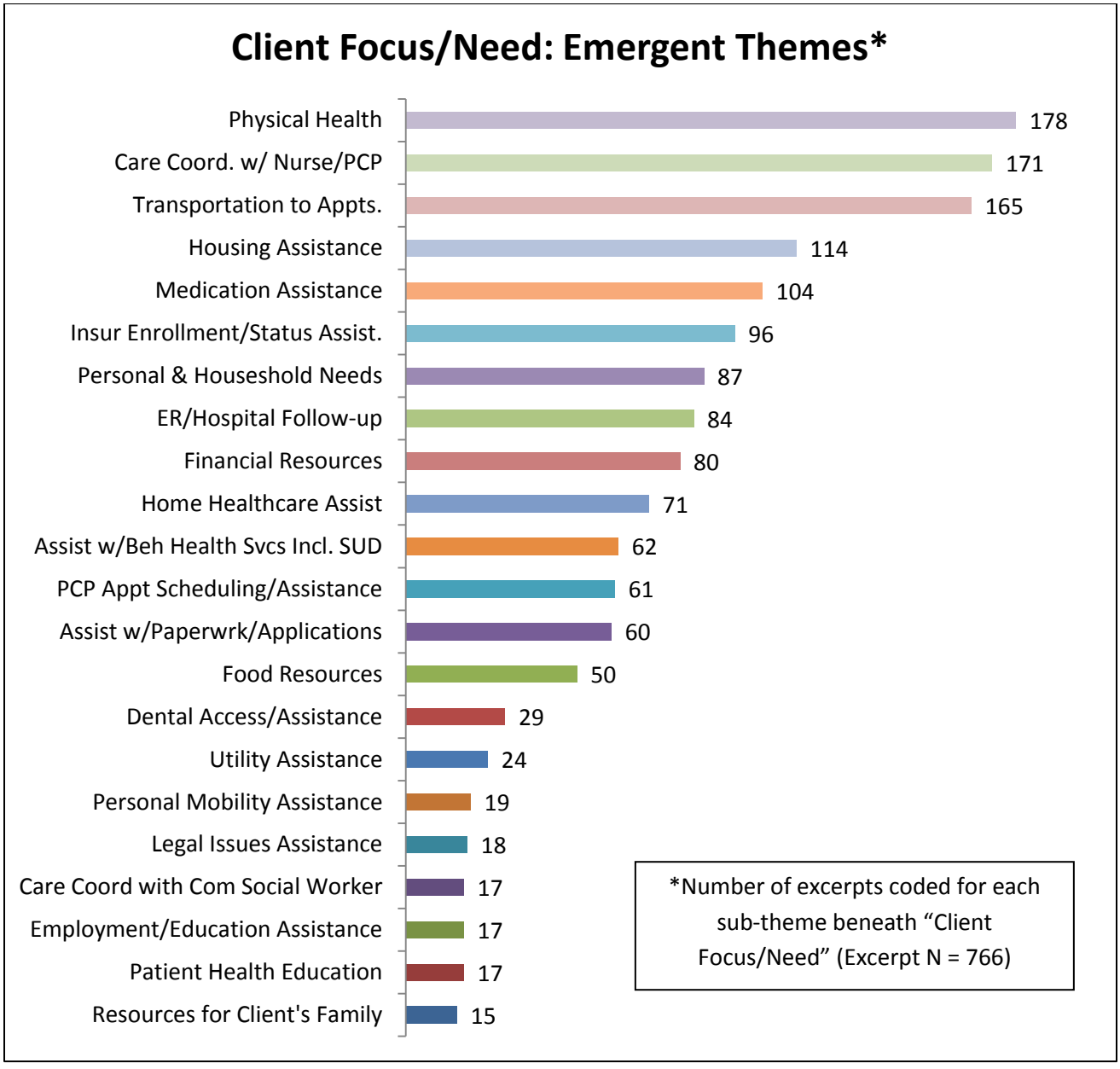
Qualitative Analysis of Community Health Worker Notes

CHWs provide a wide range of assistance and support to health home clients across our state. From assistance with logistics of scheduling medical and other appointments, to moral support and simple social interaction via home visits and check-ins via calls and messaging, to advocacy and assistance with accessing key services and community resources, they bolster clients' capacity to engage with and benefit from the health home model and increase their quality of life over the spectrum of physical, behavioral, and emotional health and wellness.

Qualitative analysis of Community Health Workers' Client Chart Monthly Notes help us understand the nature of their role in the lives of health home clients, and helps paint a picture of the varied functions they provide in the Integrative Health Homes Initiative. Figure 1 below shows key emergent themes beneath the larger category of ***"Client Focus and Need"*** as identified by the CHW upon receiving their client case assignment and initially engaging with the clients, and continuing as they assess, serve, and monitor client needs. As seen, the main areas of focus for CHWs center on physical health needs, care coordination with primary care providers (PCPs) and nurses, assisting with transportation to appointments, and assistance with stable and affordable housing and medication (access, renewal, and affordability). Other key functions of the CHW include assisting patients with insurance status and enrollment procedures; accessing crucial household and personal care items (examples: refrigerator, heat source, air conditioning and fans, eyeglasses, toiletries, bedding, clothing, and more); following up after ED visits and hospitalizations and establishing home health care and mobility assistance and devices as needed; providing financial, food, education and employment resources; helping client to access dental and other care that is not covered; assisting with applications and other paperwork as needed; assisting with utility access and payment and occasionally, legal support; coordinating with other professionals such as

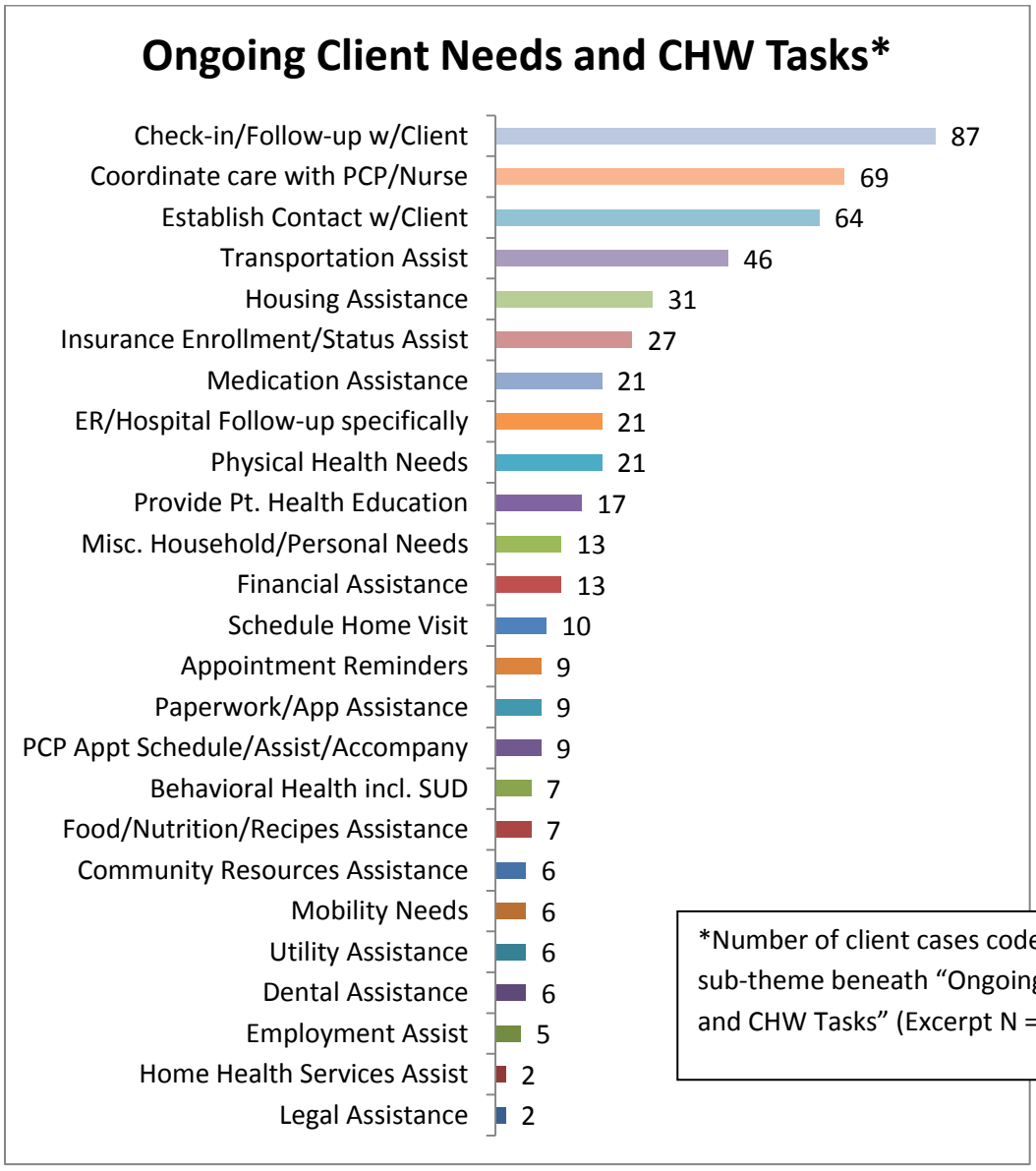
social workers and counselors; and providing specific health information and resources for clients and their families. In Figure 1 we see numbers of client cases in which each of the sub-themes were coded from CHW notes indicating these as areas of need or focus at some point in their work with their client.

Figure 1.



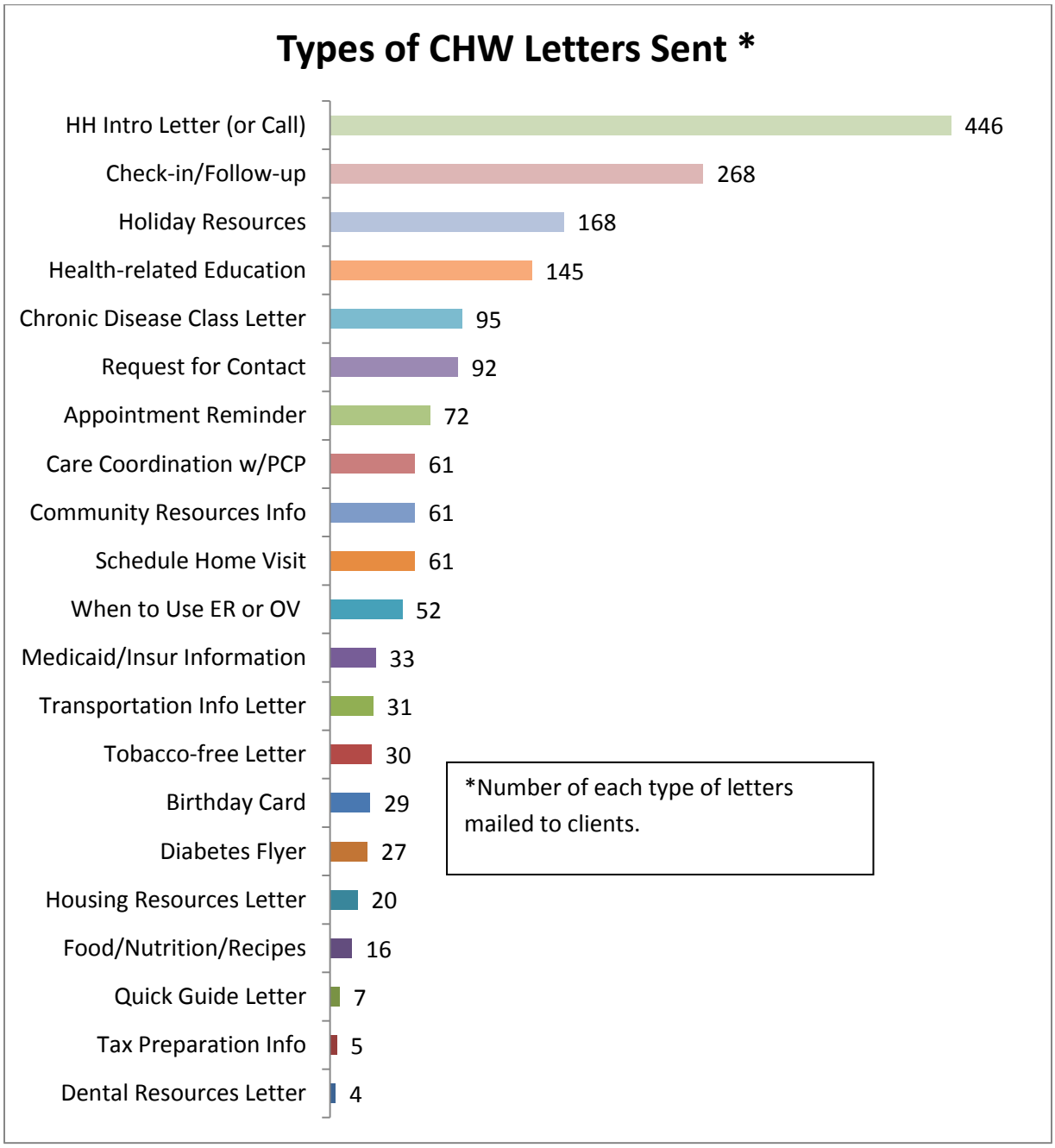
Another perspective on the role and work of the CHW is gained by qualitatively identifying **"Ongoing and Recurrent Client Needs"** and necessary tasks for keeping the client engaged and adequately cared for within the health homes system, incorporating available resources in the larger community. Figure 2 below illustrates these ongoing tasks and services provided by the CHW in their efforts to meet client health needs and maintain/enhance overall well-being and quality of life. As shown, these ongoing tasks address many areas of life, from physical health and safety, to psychological well-being, medication compliance and access to meds, assisting with applications for various types of financial and other aid, appointment reminders for those who cannot keep track, accompanying and assisting with PCP appointments and instructions, care coordination with a variety of others who serve the client, providing the client with health education and information about where to access more, and generally acting as the client's advocate and member of their personal support system, which for many, is powerful medicine in and of itself.

Figure 2.



In addition to phone calls and other electronic messaging, CHWs use mailings to patients to contact them with initial information about the health home program and how the CHW will be available to them, to share health education and information on upcoming classes and community resources, to check in and follow up as needed, make requests for patients to reconnect with the CHW, schedule home visits, celebrate patient birthdays, remind patients of upcoming appointments, and more. Relative use of these letters as reported by the CHWs in their notes is shown in Figure 3 below.

Figure 3.



To provide an additional look at the valuable work of CHWs, we coded **"Case Examples"** that represent CHW work in terms of time and energy spent on clients and their needs, the myriad roles the CHW takes on, and the ways they are able to provide key assistance to struggling individuals and their families. Appendix A shows a few of many Case examples, briefly summarized from case notes. Many cases require creative and critical thinking on the part of the CHW to bring many "pieces" together in their assessment and addressing of varied life issues in need of changes for better health outcomes.

CONCLUSIONS

The Community Health Worker pilot in southwest Missouri met its objectives. MO HealthNet Division and Family and Community Trust learned a great deal from this pilot. The information gathered and lessons learned are being incorporated into MO HealthNet's program development plans to sustain the use of CHWs in the Medicaid population by making their services reimbursable by MO HealthNet.

The pilot clearly demonstrated that people who worked with CHWs showed quicker and more dramatic reductions in emergency department visits and hospitalizations than those individuals participating in health homes, but who did not have access to CHW support (even those these people also show reductions in both those areas as well). The pilot also demonstrates that population selection contributes to the success of the community health worker intervention.

Connection to community organizations and resources is also important for the success of CHWs in the Medicaid population. Integrating the CHWs into the health home team and allowing them access to view and document in medical records was also determined to be an important factor for success.

Concurrently with this pilot in southwest Missouri, MO HealthNet and FACT worked with the Healthcare Foundation of Greater Kansas City to implement a similar initiative in the Kansas City area. A variety of factors and situations contributed to our inability to implement and conclude a successful pilot project in the Kansas City area, but that experience was also beneficial since we were able to determine how to identify and address the barriers and challenges encountered and use that information going forward.

We are grateful to the Missouri Foundation for Health for the funding that allowed us to initiate and complete this pilot project, and hope the information provided in this report will be useful to them in their future efforts.

APPENDIX A – CASE EXAMPLES

Case Example 1: This family was living in substandard housing, with household pests (fleas), floors falling in, and inadequate heating and air conditioning. The CHW hot-lined the family to Senior Services regarding the housing situation and provided referrals for heating resources as desperately needed. The CHW also researched resources for a ramp for the home and assisted with accessing resources for transportation to appointments. Additionally, the CHW aided the family in obtaining appliances for the home (refrigerator and propane cook stove) and assisted the family with locating food resources. The family was also working with an agency in their community on locating alternate and affordable housing. The CHW worked with the family on being mindful of their finances, since after covering their monthly bills, they had $146 for the remainder of the month.

Case Example 2: CHW assisted this patient with monitoring a bed bug problem in the home. CHW also assisted with helping the patient obtain a walker, which the patient reported helped her to maintain her independence. The patient quit smoking during the course of the CHW's visits and encouragement. CHW coordinated care with patient's NCM for blood sugar strips, assisted with Medicaid paperwork, obtaining free phone minutes for patient via DFS, and applying for a home emergency system (in case patient would fall at home).

Case Example 3: This patient was assisted by her CHW in arranging transportation to appointments for her diabetes and eye care. The CHW helped the patient to monitor her blood sugar, and encouraged healthy diet and exercise. After several months patient was deemed "no longer diabetic" by her PCP, and her high blood pressure had also improved. Patient stated she received much support from her Community Health Care Worker and Nurse Care Manager regarding these improvements, and expressed appreciation for her improved health and wellbeing.

Case Example 4: Patient's mental and physical health was reportedly worsening, seemingly compounded by the extreme heat in July. They'd been using two small AC units in their living room and blocking off other rooms with blankets. Their home had also been invaded by cockroaches to the point of having them inside their appliances. One CPAP had already needed to be replaced because of the infestation. Both patient and her spouse were experiencing severe skin irritation from flees in their carpet and their yard. Their floors were falling in, and 2 years earlier OCAC inspected the home for winterizing but deemed the residence too deteriorated to do anything to it. Patient is in need of a ramp to their door but they'd had no luck obtaining resources regarding this. The CHW expressed concern for their health and safety, so suggested a report be made to the Division of Senior Services, to which patient and spouse agreed. The CHW made the report and continued to monitor their situation.

A month later, CHW was informed by patient's husband that they'd received a new housing list from a local company and they planned to make calls about this subsidized housing. This struggle to find housing went on, during which time CHW checked in with them and encouraged them to continue making calls. CHW also reviewed their finances (found they had only $146 left after paying each month's bills), and made some suggestions re: budgeting strategies. The CHW contacted the Senior Center and learned that they do not qualify for their food program due to their ages as they must be at least 60. CHW contacted [redacted] with the Barry County Council on aging for the same purpose and learned that there aren't any food programs specifically for the disabled. CHW contacted [redacted] with the Sr. Services by email to bring her up to date with the housing concerns and inquire if there were any other resources known that CHW could assist with.

In December, CHW learned that the couple no longer had any heat source in their home. Patient's husband reported that the OCAC came and pulled the propane tank as it was apparently a company contractual situation. This was very concerning, as they'd been approved for heating assistance for OCAC. CHW reached out to the Dept. of Sr. Services rep who had handled their prior hot line and asked for information/resolution on this matter, informing both the RN Care Mgr. and the couple of

this action. Unfortunately the couple was forced to make it through the winter with donated space heaters, despite the CHW's efforts. The CHW provided health information and education via calls and letters, helped with PCP appointments, transportation, and reminders, and helped them to obtain a badly needed refrigerator while continuing to work on the housing situation.
Case Example 5: Client had trouble with [redacted] Health Home not running errands for her and a delay in getting to dental appt. for extractions, needing to reschedule the appointment with the specialist due to delay in obtaining med records; asked the CHW to transport her. Other needs are housing, financial, running water in home, and utility assistance. CHW assisted with obtaining resources for all these issues. CHW called council of churches, salvation army, OACAC, and the electric company and found no assistance available!

Additional Sampling of Notes from Community Health Workers*:

Met with patient and she is wanting to lose weight. I am checking into getting a free membership with XXX Fitness Centers.
CHW initial contact provided patient with blood pressure cuff and weight scale.
Met with patient before her visit with PCP. She has leg swelling and stated Medicaid will not pay for compression stockings so I am reaching out to The Cox Foundation for help.
Pt called me regarding her work, her shoes and her arthritis. This patient has been wearing the same orthopedic flip flops at her work for over 2 years and now they are saying enclosed shoes only and she in a great deal of pain. Patient said a doctor's note may be sufficient enough to allow her to wear her flip flops again. Email sent to her NCM on 4/4/17
Went to patient's home with nurse care manager to deliver blankets because this patient had only a sheet.
CHW initial contact suggested for him to call health dept. on sewage back up he stated afraid they would condemn his house and does not want to contact health dept. or the landlord.
CHW inquired if she has ever used a back brace to support her back while doing household chores and she replied that she didn't know if she could get one due to cost, CHW agreed to contact a medical company in order to investigate and report to her the findings.
CHW helped patient with SS paperwork, Food Stamp application, and Quest diagnostics forms.
Patient needed help filling out paper work for Social Security card. And needed help reading mail.
CHW spoke with patient this day @ (417) xxx-xxxx. CHW learned that patient remains smoke free and when she received the picture I sent her to congratulate her for success she stated she hung it on her refrigerator as a positive reminder and thanked CHW for taking time to send it, CHW provided her verbal support for her hard work.
(May) Met Mr. [redacted] at his place of residence which is a homeless shelter. He and I filled out his application for low income housing. I hand delivered the completed application to [redacted]. (June) I wrote a letter of reconsideration on behalf of [redacted] who was turned down at [Residential facility] apartments because of a very minor mistake on his housing application. I hand delivered the letter because Mr. [redacted] has less than one month to move out of his current apartment. I will communicate throughout the day with Mr. [redacted] in an effort to keep him calm and work on a back-up plan in case the management at [Residential facility] does not allow him to rent from them. (July) I spoke to the manager of [Residential facility] and Mr. [redacted] application is accepted and final. He has a place to stay and the only hold up is moving the current occupants out and cleaning the place.

The patient and CHW discussed her plight with bed bugs; CHW arranged for the patient to come to express care in the morning.
The CHW met the patient at her home. [redacted] is being cut off by [agency]. because of the amount of meetings that she has missed and because of the number of renters she shares her home with. On a much more disturbing note the tenant named [redacted] was planning the patient's murder. He was writing out in detail how he was going to accomplish killing [redacted]. The police were called and the tenant is on the run. Another tenant was arrested at the same time because when she opened the door to the police she had illegal drugs on her person and in her quarters.
Brought medication out to patient and helped her unpack some boxes to her new apartment. She is no longer homeless or in women's shelter.
(May) First conversation with this patient. She completed the PRAPARE questionnaire and she will get back with me about meeting in person at a location other than [Agency]. (June) Working with patient and City Utilities to resolve an extremely high electric and water bill. The patient is in absolute distress. (July) Patient who is a disabled stroke survivor left a voice message last evening stating that she had some questions for the CHW. The CHW returned her telephone call this morning and spoke with the patient about the patient's water being turned off for weeks now. The patient said that she expected a call back from [redacted] with details of something that he was working on. She said that she had not heard from [him] in a few days. CHW told the patient that he would leave a note for [redacted] to call her. CHW did leave the note and posted it at [redacted]'s desk. (Aug) The patient called earlier today while the CHW was out of the office. This call is the return call. Patient needs $150 to pay her rent. CHW will attempt to find funds for the patient.
CHW met with patient this day prior to his appointment with NP. Patient stated that he still struggles with transportation for medical appointments and had to arrange a ride today through a friend. CHW agreed to assist him with his next appointment by arranging transportation the week prior to his appointment. CHW will contact patient by phone and if he does not have a ride already scheduled CHW will assist by contacting LogistiCare. CHW will keep patient and RN Care Mgr. advised of outcome.
CHW spoke with the patient and the patient says that she is still stressed to the maximum. The CHW asked the patient what the cause of her stress was. The patient said her deteriorating health. The CHW asked if there was anything that he could do to help. The patient said that she receives medication from her psychiatrist but would welcome the CHW calling her every two weeks and having coffee together when possible. The patient said that she would like that.
CHW met with patient this day at his home as prescheduled. Patient and his surrounding were found unkempt and in disarray; patient stated and it appeared that they were in the midst of replacing their kitchen floor. Patient questioned when his next PCP appointment is and requested CHW to assist with arranging transportation, CHW agreed to check and assist as needed in addition report to him the outcome. CHW will keep RN Care Mgr. informed and will continue to monitor.
1. The CHW is arranging the patient's transportation to and from the patient's next [Agency] appointment. The CHW is working through Logisticare. 2. The CHW called the patient back in order to give her the trip confirmation number and pick-up time(10020 and 9:00am respectively on 8/31/2017) there was no answer but the CHW left all of the details in a voice message. CHW will call the patient back before he leaves the office to verbally relay the information to the patient and to ask her to write it all down. 3. The CHW did call the patient back and they were able to discuss the medical trip for the patient's next appointment on 8/31/2017 10am at [Agency] with N.P. The patient said that she wrote down the confirmation number, pick-up time, and noted that the return trip is a 'will-call'.