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Family Perception of Community Health Worker Cultural Competence: An Analysis of Patient Satisfaction Surveys

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Abstract

We analysed 346 family satisfaction surveys to explore the relationship between community health worker (CHW) cultural competence, family understanding of their responsibility for their child's health care management, and family comfort in discussing well-child care. We collected surveys as part of an enriched medical home program offering navigation services by trained CHWs to "at risk" families in Suffolk County, New York. We found a strong, positive correlation between these variables (s-rho = 0.540, $p < 0.000$, and s-rho = 0.585, $p < 0.000$) with high levels of CHW cultural competence associated with high levels of family understanding responsibilities and comfort in discussion. Our findings provide support for training programs to develop CHW cultural competence, as well as continued development of tools to measure cultural competence.

Keywords: *Community Health Worker, Patient Navigation, Health Literacy, Culturally Competence Care, Health Education, Family.*

Introduction

The 2000 Institute of Medicine report, *Crossing the Quality Chasm*, challenged our cumbersome health care system to incorporate innovations to deliver higher quality care. Six foci of improvement, were identified, including a goal to deliver more "equitable health care." Equitable health care does not vary in quality relative to personal characteristics such as gender, ethnicity, geographic location, or socioeconomic status (Institute of Medicine, 2001). Therefore, innovations focus on educationally, environmentally, and economically disadvantaged patients and their families because they are commonly challenged to make appropriate health decisions as a result of cultural and linguistic barriers. Reducing the quality chasm between these patients, providers, and the health care system requires attention to the integration of health literacy, culture competency and language access (National Academies of Sciences & Medicine, 2016).

Access to the health care system and successful health care planning depends upon one's capacity to obtain, process and understand basic health information and the services needed to make appropriate health decisions (Nielsen-Bohlman, Panzer, & Kindig, 2004). This "health literacy" is affected by reading, writing, and numeracy and also depends on cultural competency—defined as the ability for professional knowledge of health topics and health care recommendations to transcend culture, and surpass the demands of the healthcare systemand of the unique situation and/or context (U.S. Department of Health and Human Services, 2008).

Cultural competency of providers and in health care organizations improves the delivery of effective health care by narrowing the gap between the social, cultural and linguistic needs of patients and the health care system (Betancourt, Green & Carrillo, 2002). Ensuring cultural competencies among all providers of health care is challenging, in part because health care providers may experience apprehension with patients belonging to unfamiliar cultures (Kai et al., 2007). To improve health care access, health literacy, and ultimately health outcomes, relatability between the patient and provider needs to be sufficient. This can be achieved through cultural competency training and by increasing health work force diversity. Health professional diversity and development of a multilingual workforce with diverse cultural back grounds serves to potentially align patient and provider culture. Lack of professional diversity ultimately results in higher health care costs, further elucidating the need for systemic health care system change (The Sullivan Commision, 2004).

Health disparities are another pervasive challenge in health care. Compared to other groups, African Americans, Hispanic Americans, and American Indian patients are known to receive less health care and worse quality health care for diseases such as cancer, heart disease, HIV/AIDS, diabetes, and mental illness. These populations also experience worse health-related quality of life compared to non-Hispanic white Americans (Center for Disease Control and Prevention, 2015; The Sullivan Commision, 2004). Health disparities similarly relate to social and economic disadvantage, health care access, and organizational and health care system factors (Fiscella & Sanders, 2016). In the United States, thousands of economically depressed and rural communities are designated as medically underserved by federal agencies tasked with tracking health care service delivery disparities and allocating resources accordingly (Health Resources and Services Administration, 2016). The environmental and economic barriers that prevent these communities from supporting adequate primary care and other health services worsens health disparities between regionally distinct populations.

Health disparities among children merit special concern because these disparities result in long-term adverse impact across multiple domains. Flores (2010) found that overall childhood mortality rates were found to be consistently higher for African American children, including higher risks of death from events such as drowning in a swimming pool and appendix ruptures, compared to other groups. Mortality-rate disproportions were also observed for acute lymphoblastic leukemia, median age at death for Down syndrome, congenital heart defects (Flores, 2010). Differences among children from minority groups compared to their peers also include greater odds of not being referred to a specialist by a primary care provider (Flores, 2010). Gaping health disparities between culturally diverse children draw attention to the need for innovative strategies to deliver higher quality health care.

Utilizing trained community health workers (CHW) is a potential strategy for bringing health literacy, cultural competence, and language access services together in one intervention (National Academies of Sciences & Medicine, 2016, p. 9). CHWs are usually from culturally diverse backgrounds bicultural and bilingual, understand their community's cultural context of health behaviors, and can help to overcome barriers associated with limited health literacy, culture, and language (Wagner et al., 2016). CHWs are perceived as trustworthy, deliver culturally competent care, and are thereby able to have influence on the health behaviors of those in their community (Islam et al., 2013). CHWs have been identified a resource to reach vulnerable, low-income and underserved populations by promoting health education, prevention, and access to health insurance programs (Center for Disease Control and Prevention, 2016). The activities of CHWs include helping patients and families navigate health care systems, promoting medication adherence, facilitating disease self-management, and providing appointment reminder calls (Swider, 2002; Szilagyi et al., 2002).

CHWs have been successfully used to improve up-to-date vaccination rates in newborns, infants, and toddlers (Pati, 2015) and have successfully changed parental oral health care for children in the Latino community (Hoeft, Rios, Pantoja Guzman, & Barker, 2015; Pati, Ladowski, Wong, Huang, & Yang, 2015). Vincent (2009) describes how *Promotoras* (CHWs) delivered a culturally tailored intervention for Mexican Americans with type-2 diabetes which showed improvements in diabetes knowledge, self-efficacy, and some self-management behaviors. Hodgins et al.

(2016) describes how CHWs tailor interventions for acceptability to achieve goals regarding smoking, and fruit/vegetable intake. Murayama et al. (2017) noted improved diabetes self-efficacy when the racial/ethnic identity of patients was considered by CHWs.

Cultural competence is thought to be a significant factor contributing to the success of health care navigation programs that incorporate CHWs. In this study, we aimed to advance our understanding of the relationship between CHW cultural competence and families' self-reported management of their child's health care.

Study Design and Study Setting

We analyzed patient satisfaction surveys collected during home visits by CHWs to families with at-risk children between 2012 and 2017.

Keeping Families Healthy Program

The Keeping Families Healthy (KFH) program is a community-based program that extends the reach of Stony Brook Children's Services, a large regional safety net health care provider organization serving pediatric patients and their families throughout the approximate 90- by 25-mile expanse of Suffolk County, New York. Notably, Suffolk County population demographics closely mimic national demographics.

KFH services focus on newborn care, well child and adolescent care, and management of chronic diseases in families with children that have been identified as at-risk for poor outcomes by their health care providers (HCPs). KFH employs CHWs to provide health care navigation and care coordination services to assist high-risk families in negotiating barriers to healthcare and healthy behaviors and become self-sufficient in following clinical care recommendations. Children less than 18 years old are eligible to be referred to KFH. CHWs are matched to participating families based on cultural characteristics, such as language and neighborhood. Each family meets with a CHW that delivers culturally competent and tailored care to assist families in overcoming barriers, both those identified by the HCP and those identified by the family, to achieve targeted healthcare outcomes.

Families are referred to KFH by primary care or specialty care providers in the region who identify a child at-risk for poor health outcomes. The majority of referrals, however, come from the pediatric primary care offices run by Stony Brook Children's Services. These offices are dispersed throughout the region and generally mimic the demographics of the surrounding resident population (e.g., Center Moriches has 70% commercially insured whereas Patchogue/Islip are 80% Medicaid-insured).

CHWs who participate in KFH are trained by clinical and program staff using a standardized protocol with over 60 hours of in-person didactic classroom and experiential training. Training includes condition-specific health education (i.e. newborn care, healthy lifestyle habits, asthma, and diabetes), communication skills, motivational interviewing techniques, and data collection protocols (Stony Brook Medicine, 2017). Families enrolled in KFH receive an initial visit of approximately 1 hour in length during which the CHW obtains baseline information and assesses family structure, function, and goals for healthy behaviors. CHWs implement education protocols and facilitate household organization changes to help families achieve their chosen goals, as well as follow the prescribed healthcare plan. During subsequent visits, CHWs assess family behaviors, progress towards goals, and adherence to health care provider recommendations.

Procedure and Instrument

All families with completed survey data were included in our analysis. KFH CHWs use a variety of interpretation services for families so as not to exclude families with a primary language other than English. Survey data were collected in-person, during the initial CHW home visit, using Research Electronic Data Capture (REDCap; https://www.project-redcap.org) enabled iPads. Survey questions were developed by the research team by consensus to broadly assess family satisfaction. Family response was measured using a Likert-like scale with five responses (5=Strongly Agree, 4= Agree, 3= Don't Know, 2= Disagree, 1= Strongly Disagree, and 0= Declined to Answer).

For this study, we examined three questions from the family satisfaction surveys to construct the "CHW Cultural Competence" variable. These questions examined: (1) family perception of CHW's ability to incorporate family cultural and linguistic preferences into care during the home visit ("CHW cultural competence"); (2) family's understanding of their responsibility for managing their child's health care; and (3) family's comfort in discussing the importance of well child care.

Data Analysis

All data were entered into IBM SPSS version 24 (https://www.ibm.com/products/spss-statistics)

and deidentified for analysis. Descriptive statistics were used to characterize the sample and survey data. Nonparametric statistics were used because the data had a non-normal distribution., We used the Mann Whitney U test to test differences between survey responses and a correlation analysis using Spearman's rho w to measure the association between family's perception of CHW cultural competence and the other two variables.

Results

A total of 361 family satisfaction surveys were collected during the study period. Surveys with missing data (n=15) were excluded from analysis yielding 346 for analysis. Participants answered the survey questions in English and Spanish (72%, n=249 vs. 28%, n=97).

The 346 surveys collected by CHWs during the initial visit represent data from 723 children who received KFH services during our study period (see Table 1). There were more male children than female (56.7% and 43.3%, respectively). Children were primarily newborns (30.5%), but also well-represented in middle childhood (18.6%) and older infancy (16.7%). More than half of the sample self-defined as Hispanic ethnicity (57.2%). Approximately half of the children were white (50.1%), and nearly one-quarter were reported to have declined to answer or didn't know their race (23.9%). Most children had a chronic medical condition (74.2%). A majority of children were enrolled in government-sponsored insurance (Medicaid, 72.8%). The mother was the primary caregiver of the child (89.4%) in most cases. The

Demographic Variable	n (%)
Sex	
Female	313 (43.3)
Male	410 (56.7)
Age	
Birth to 1 month, Newborn	210 (30.5)
2 to 12 months, Infant	115 (16.7)
13 months to 2 years, Toddler	62 (9)
3 to 5 years, Early Childhood	83 (12.1)
6 to 11 years, Middle Childhood	128 (18.6)
12 to 18 years, Early Adolescence	88 (12.8)
Ethnicity	
Hispanic	383 (57.2)
Non-Hispanic	271 (40.5)
Don't Know/Declined to Answer	15 (2.2)
Race	
White	336 (50.1)
African American	95 (14.2)
Asian/Other Asian	34 (5.1)
Two or More Races	45 (6.7)
Other/Don't Know/Declined to Answer	160 (23.9)
Preexisting Medical Condition	
Yes	478 (74.2)
No	161 (25)
Don't Know/Declined to Answer	5 (0.8)
Insurance	
Medicaid	305 (73.5)
Private Insurance	56 (13.5)
Child Health Plus/Family Health Plus	16 (3.9)
Other/Don't Know/Self-Pay	38 (9.1)

language spoken in the home by the primary caregiver was most often English (67.7%) and commonly Spanish (27%).

With regard to the first survey question addressing CHW incorporation of a family's cultural and linguistic preferences, most participants strongly agreed or agreed that the CHWs took the family's preferences into account when addressing their child's health care needs (87.3% and 11.8% respectively). Most participants also strongly agreed or agreed that they had a good understanding of their responsibility for managing their child's health care (88.4% and 11% respectively), and strongly agreed or agreed that they were comfortable in discussing the importance of well child care (89% and 10.7% respectively).

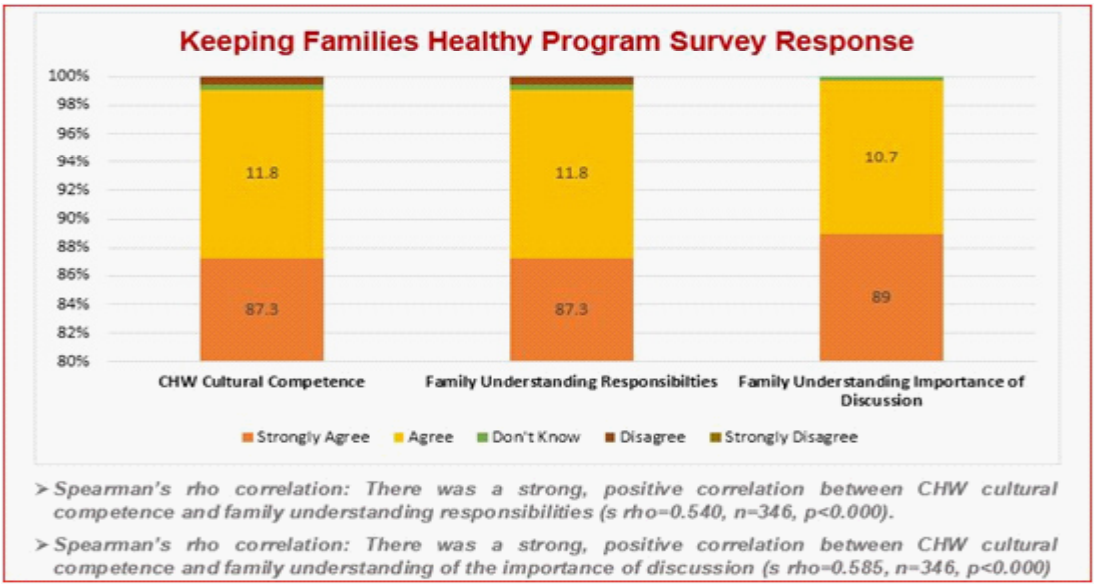
CHW cultural competence was next examined separately for English- and Spanish-speaking families. For English-speaking families (n=249), most families strongly agreed or agreed that their family's cultural and linguistic preferences were taken into account during the first home visit with the CHW (85.9% and 12.9%, respectively). They also strongly agreed or agreed that they had a good understanding of their responsibility for managing their child's health care (87.6% and 11.9%, respectively), and strongly agreed or agreed that they were comfortable in discussing the importance of well child care (89.2% and 10% respectively). For Spanish speaking families (n=97), all families strongly agreed or agreed that that their family preferences were considered during the home visit with the CHW (90.7% and 9.3%, respectively). All familes also strongly agreed or agreed that they understood their responsibilities for managing their child's health care (90.7% and 9.3%, respectively), and discussing importance of well-child care (90.7% and 9.3%, respectively).

Referring office locations were represented in the data proportional to the patient volume at each office. After excluding cases with missing data, a Kruskal Wallis test was applied to examine the CHW cultural competence variable across locations. No significant differences among the office locations were found to exist (n = 346, d f= 6, p = 0.424).

Finally, the relationship between CHW incorporation of cultural and linguistic preferences and family understanding of their responsibility for child health care was investigated using Spearman's rho correlation (Figure 1) because data were found to have a non-normal distribution. There was a strong, positive correlation between the two variables, (s-rho = 0.540, n = 346, p < 0.000) with high levels of CHW cultural competence associated with high levels of family understanding. There was also a strong, positive correlation between CHW cultural competence and family comfort in discussion, (s-rho = 0.585, n = 346, p < 0.000) with high levels of CHW cultural competence associated with high levels of a family comfort in discussion.

Discussion

We found that a family's understanding of the management of their child's health care, and a family's comfort in discussing the importance of their



➢ *Spearman's rho correlation: There was a strong, positive correlation between CHW cultural competence and family understanding responsibilities (s rho=0.540, n=346, p<0.000).*

➢ *Spearman's rho correlation: There was a strong, positive correlation between CHW cultural competence and family understanding of the importance of discussion (s rho=0.585, n=346, p<0.000)*

child's health care was positively correlated to their perception of CHW's cultural competence. This finding persists for families speaking English and Spanish and for families attending different suburban office locations. As noted, the population demographics of these offices vary, but broadly represent the population demographics of Suffolk County, which has population demographics that closely mimic national demographics. Our results suggest that CHW cultural competence may be a useful target for broadly improving a family's understanding of their responsibility to manage their child's health care and improving a family's comfort in discussing the importance of well-child care.

CHW characteristics that support improved health outcomes have yet to be clearly defined (Hodgins, Gnich, Ross, Sherriff, & Worlledge-Andrew, 2016), but likely include cultural competence. Cultural competence is emerging as a key factor for delivering acceptable, effective healthcare. In particular, there is a paucity of validated instruments for to assess CHW cultural competence. Lack of measures for cultural competence limits training in this area (Campbell et al., 2015; Carrasquillo et al., 2017; McEwen, Pasvogel, Gallegos, & Barrera, 2010). Improved measures and clearer definitions of CHW cultural competency are important to establish so that this competency can be addressed and evaluated in CHW training programs.

Investments in CHW cultural competency training have been worth while in our KFH Program, and similar programs, to develop CHW competencies. Findings from this study suggest that these investments may have broader impact and may actually serve to improve family self-management and communication. Other researchers have noted that culturally competent CHWs facilitate development of plans that incorporate the cultural preferences of families (Axelrod et al., 2017; Center for Substance Abuse, 2014; Pati et al., 2015). Intervention studies to further explore the strength of CHW cultural competence influence on family self-management outcomes is an important next step.

Strengths and Limitations

Understanding of the relationship between CHW cultural competence and family self-management is limited by the use of survey methods and convenience sampling in this study. Furthermore, Surveys were conducted during the first home visit, When, the CHW gave the tablet to the family, and allowed them to fill out the survey without the CHW looking at the responses. Although the surveys were anonymous, this may not have been clear. Very few negative survey responses were observed (n=2). In less than 1% of surveys, English speaking participants disagreed that the CHW took their family preferences into consideration. Barriers to a family's ability to properly assess CHW cultural competence, or to answer the survey questions accurately, may relate to lower health literacy, or overall low literacy in the surveyed sample. Nevertheless, our findings from this real-word self-report by participating families strongly suggests that family perception of CHW cultural competence is high and correlates positively with self-reported understanding of clinical care recommendations.

Cultural competence studies are limited in general by evolving definitions and measures. Ongoing development and validation of appropriate instruments to measure cultural competence are improving our understanding of this construct and will be important for the generalizability of future interventions studies.

Conclusions

CHW programs such as KFH provide information on strategies for health care providers to improve communication with patients to close the gap between health professional knowledge and patient knowledge. As cultural competence measures improve, cultural competence training for CHWs will likely also evolve, and better position these important healthcare agents to assist in further reducing the quality chasm between patients, providers, and the health care system. Novel interventions and ongoing efforts to improve health literacy and attenuate barriers to health care access are necessary if we are to eventually meet the goal of eliminating health disparities.

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