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Opening Doors for Health Disparities Research in Appalachia

Center of Excellence in Rural Health

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Kentucky Homeplace

ABSTRACT

Rural Appalachian communities in eastern Kentucky suffer from some of the nation's most severe health disparities and barriers to health care. Community-based research can be an effective way to address health disparities and promote equitable access to care by identifying problems and sharing workable solutions. However, significant challenges exist for successful recruitment and retention of research participants because rural Appalachian populations can be difficult to reach.

Kentucky Homeplace (KHP) is a nationally-recognized Community Health Worker (CHW) program established in 1994 by the University of Kentucky (UK) Center of Excellence in Rural Health (CERH) in Hazard. KHP is an invaluable and essential partner in research aimed at addressing the profound health challenges of the region.

BARRIERS

Community Health Workers "help build the capacity of communities by addressing the social determinants of health".[1] Kentucky Homeplace CHWs identify the barriers of the clients they serve and are trained to help their clients find solutions. The Homeplace CHWs have the knowledge and skills to "bridge the gaps" by networking with communities and health/social service systems. Recognized as "members of the local community", CHWs are well positioned to facilitate communication between provider and patients to clarify cultural practices, educate community members about appropriate use of the health care and social service systems, and to educate the health and social service systems about community needs and perspectives."[2]

CHWs help clients overcome barriers to research participation including:

- previous negative experiences
- lack of transportation
- low literacy rates
- general distrust of those not from the area
- lack of understanding of the research process

KENTUCKY HOMEPLACE MODEL AND CHW ROLES

Kentucky Homeplace employs local citizens who are trusted members of their community. This important requirement in the staffing model supports culturally appropriate and effective engagement with clients. Registered nurses lead evidence-based health education and client services that are coordinated by CHWs. Funding for Kentucky Homeplace is a joint collaboration of the Kentucky Cabinet for Health and Family Services, the University of Kentucky and the UK Center of Excellence in Rural Health.

Traditional CHW Roles

- Chronic disease self-management
- Community/group health coaching
- Reduced or no-cost prescription access
- Eye exams and eyeglasses access
- Hearing aids at reduced rates
- Reduced fee for dental services
- Low-cost dentures
- Referrals to sliding-fee providers
- Medicare/Medicaid enrollment assistance

Enhanced CHW Roles

- Research recruitment and retention
- Obtaining informed consent
- Data collection
- Survey administration
- Focus group facilitation
- Motivational interviewing
- Lay leaders in evidence-based self-management programs

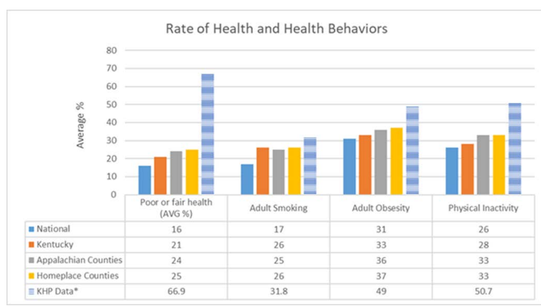
TARGET POPULATION

Kentucky Homeplace employs CHWs from their communities to reach the most at-risk individuals in rural areas of Kentucky, particularly the Appalachian region. Residents in this region have deficits in health resources and health status, including high levels of cancer, heart disease, hypertension, asthma, and diabetes. Residents are statistically poorer, less educated and less likely to have medical coverage than those in other parts of the state and nation. Eligibility for Kentucky Homeplace is not based on income, though nearly all clients are between 100% - 133% of the federal poverty level. All services are offered at no charge to the clients.

Demographics of the Kentucky Homeplace Service Population (2016-17)*

- 41.1% males and 58.9% females
- 97.9% Caucasian, 1.3% African American, and .8% other
- 5% college graduates, 13.9% completed some college or technical school, 37% high school graduates, 22% some high school classes and 20.7% elementary school only
- 38.8% reported being unable to work, 33.1% retired, 16% out of work, 9.7% homemaker and 7.5% employed for wages
- 68.2% reported being diagnosed with high blood pressure
- 57.8% reported being told by a doctor or nurse their blood cholesterol is high
- 40.2% reported having been told by a health professional they have diabetes

**KHP data for the 2016-17 fiscal year retrieved from the KHP 2016 Database*



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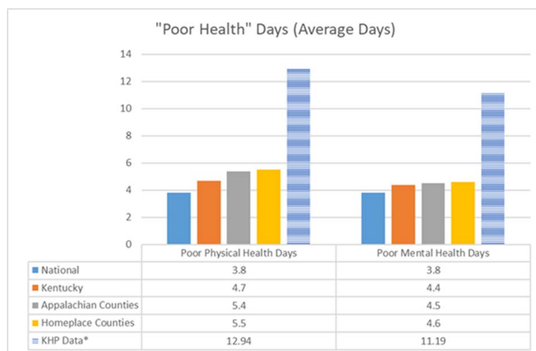

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OUTCOMES

Reducing 30-day readmission rates in a high-risk population using a lay-health worker model in Appalachia[3]

Table III. *Univariate analysis of the LHW program on 30-day readmission rate (N¼ 107)*

	Study phase			
	Baseline (n=46) (%)	Intervention (n=61) (%)	Relative reduction (%)	P-value
30-day readmissions	28.3	14.8	47.7	0.09

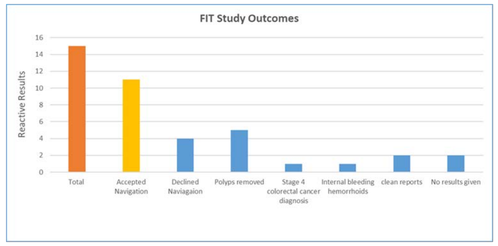
Improving Diabetes Outcomes (I DO): Nurse-led diabetes self-management education utilizing community health workers[4]

Table 2. Pre- and post-DSME intervention outcomes.

Outcome	Baseline *M* (SD)	Follow-up *M* (SD)	*p*
Empowerment (n = 170)			
"In general, I believe that I can ask for support for having and caring for my diabetes when I need it"	4.00 (1.07)	4.14 (.87)	0.048
Self-care (n = 165)			
"On how many of the last 7 days did you participate in at least 30 minutes of physical activity?"	2.21 (2.44)	2.99 (2.44)	0.00
"On how many of the last 7 days did you participate in a specific exercise session?"	1.80 (2.46)	2.46 (2.45)	0.00
"On how many of the last 7 days did you check your feet?"	4.88 (2.66)	5.45 (2.20)	0.011
"On how many of the last 7 days did you inspect the inside of your shoes?"	2.79 (3.19)	3.57 (2.87)	0.00
Diabetes knowledge (n = 184)			
Total score on DKT	65.91 (18.14)	73.64 (14.25)	0.000
A1 C (n = 214)	7.76 (1.90)	7.42 (1.65)	0.000

Preliminary data from the FIT Study

In 2016 the UK Rural Cancer Prevention Center provided 100 FIT kits to CHWs of Kentucky Homeplace, along with FIT training and motivational interviewing training. In a two month period, 92 FIT kits were distributed to clients. Forty-nine of these kits were returned for processing. Fifteen clients had reactive results (see chart.)



IMPLICATIONS

Outcomes of community-based research studies indicate:

- CHWs are effective members of research teams for health disparities research
- CHWs are effective in identifying, recruiting and retaining underserved and hard to reach populations
- CHWs are effective in delivering research interventions to underserved and hard to reach populations
- CHWs are effective in delivering evidence-based education to improve health outcomes in underserved and hard to reach populations

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