

BACKGROUND

Studies show a positive impact of community health worker interventions on health. Community Health Promoters (CHP) act as a connector between the health care teams and the community and they play an important role in building community capacity, trust with community members, and empowering patients. Also, CHPs play a significant role in improving outcomes of some health conditions for underserved populations. The objective of this study is to evaluate if the CHP program in Puerto Rico met its target to reach community members with chronic health conditions. The program focus on health conditions were diabetes, hypertension, and asthma. We further investigated the non-participants of the program to inform program reach and scope.

METHODS

- Patient encounter data from six participating clinics (N=2,858) in Puerto Rico and patient survey on self-reported health status (N=669) were used to compare clinically diagnosed chronic health conditions among participants and non-participants followed by a comparison of self-reported health with clinically reported health conditions among participants.
- Health outcome measures included hypertension, diabetes, and asthma. The outcome variable of interest was program participation in the CHP program.

TABLES

Table 1. Characteristics of Patients Participating in CHW Program and Having Chronic Condition(s)

Characteristics	Total Program Participants (N=716)	Have at least 1 health condition (N=655)	Have all 3 health conditions (N=101)
Age (mean)	57	57	58
Gender			
Male	215 (28.74%)	199 (28.97%)	22 (20.56%)
Female	533 (71.26%)	488 (71.03%)	85 (79.44%)
Health Status			
Poor	18 (6.45%)	14 (6.01%)	1 (2.70%)
Fair	66 (23.66%)	56 (24.03%)	15 (40.54%)
Good	123 (44.09%)	102 (43.78%)	14 (37.84%)
Very good	72 (25.81%)	61 (26.18%)	7 (18.92%)
Residence			
Rented	90 (13.89%)	85 (14.03%)	15 (14.71%)
Owned	385 (59.41%)	355 (58.58%)	63 (61.76%)
Live w/ family	95 (14.66%)	88 (14.52%)	15 (14.71%)
Public residence	33 (5.09%)	33 (5.45%)	6 (5.88%)
Other	37 (5.71%)	37 (6.11%)	2 (1.96%)
No residence	8 (1.23%)	8 (1.32%)	1 (0.98%)
Receive food benefit			
Yes	495 (78.82%)	461 (78.53%)	87 (84.47%)
No	133 (21.18%)	126 (21.47%)	16 (15.53%)
Access to food			
Yes	633 (95.05%)	589 (95.00%)	95 (92.23%)
No	33 (4.95%)	31 (5.00%)	8 (7.77%)
Has food allergy			
Yes	99 (15.89%)	92 (15.81%)	25 (24.51%)
No	524 (84.11%)	490 (84.19%)	77 (75.49%)
Live in flood zone			
Yes	125 (18.80%)	113 (18.31%)	18 (17.48%)
No	540 (81.20%)	504 (81.69%)	85 (82.52%)
Have emergency plan			
Yes	441 (66.42%)	423 (68.67%)	71 (68.27%)
No	223 (33.58%)	183 (31.33%)	33 (31.73%)
Smoke			
Yes	59 (11.17%)	33 (10.50%)	9 (10.34%)
No	469 (88.83%)	452 (89.50%)	78 (89.66%)
Visited emergency room			
Yes	206 (27.61%)	201 (29.34%)	34 (31.78%)
No	540 (72.39%)	484 (70.66%)	73 (68.22%)
Feel secure at home			
Yes	624 (93.00%)	577 (92.77%)	92 (91.09%)
No	47 (7.00%)	45 (7.23%)	9 (8.91%)

Table 2. Association of Number of Clinically-reported Health Conditions with Participating in CHW Program (N=2,858)

Participating in CHW	Have at least 1 health condition (N=2,858)			Have all 3 health conditions (N=2,858)		
	Yes (n=2,769)	No (n=89)	P value	Yes (n=184)	No (n=2,674)	P value
Yes (n=669)	655 (97.91%) (23.65%)	14 (2.09%) (15.73%)	p=0.082	101 (15.10%) (54.89%)	568 (84.90%) (21.24%)	p<0.001
No (n=2,189)	2,114 (96.57%) (76.35%)	75 (3.43%) (84.27%)		83 (45.11%) (45.11%)	2,106 (96.21%) (78.76%)	

Table 3. Self-reported Health Conditions (N=669)

Self-reported health conditions	N (%)
Self-reported diabetes	
Yes	503 (79.71%)
No	128 (20.29%)
Missing	152 (19.41%)
Self-reported hypertension	
Yes	580 (91.63%)
No	53 (8.37%)
Missing	150 (19.16%)
Self-reported asthma	
Yes	222 (48.68%)
No	234 (51.32%)
Missing	327 (41.76%)

Table 4. Association of Clinically-reported Health Conditions with Participating in CHW Program (N=3,555)

Participating in CHW	Clinical-reported Diabetes (N=2,858)			Clinical-reported hypertension (N=2,858)			Clinical-reported Asthma (N=2,858)		
	Yes (n=1,139)	No (n=1,719)	P value	Yes (n=2,500)	No (n=358)	P value	Yes (n=498)	No (n=2,360)	P value
Yes (n=669)	76.91	23.98	p<0.001	83.21	16.79	p<0.001	25.94	74.06	p<0.001
No (n=2,189)	28.57	71.43		88.77	11.23		14.83	85.17	

RESULTS

- Nearly all program participants (98%) had at least one chronic health condition.
- 15% had all three chronic conditions compared to 4% non-participants. Program participation was significantly (p<0.001) associated with clinically reported chronic health conditions. Program participation was also significantly associated with having all three health conditions (p<0.001). Self-reported prevalence of diabetes, hypertension and asthma were higher compared to clinically diagnosed prevalence among program participants (79.71% vs. 76.91%, 91.63% vs. 83.21%, and 48.68% vs. 25.94%, respectively).
- Majority of the program participants were female, have good health, own a home, receive food benefits, and has access to food.
- Majority of the program participants have emergency plan and do not live in flood zone.

CONCLUSION

The CHP program in Puerto Rico have met program target. The results also show high rates of chronic disease among both participants and non-participants demonstrating need for expansion of CHP program.