

Reducing the burden of cardiovascular diseases: A qualitative assessment of Louisiana health disparities collaboratives

Praphul Joshi, Marisa Marino¹, Alok Bhoi¹, Natasha McCoy¹

Center for Community and Public Health, University of New England, Portland, ME, ¹Louisiana Department of Health and Hospitals, Bienville Building, 628 North 4th Street, Baton Rouge, LA, USA
Address for correspondence: Dr. Praphul Joshi, Center for Community and Public Health, University of New England, 716 Stevens Avenue, Portland, ME, USA. E-mail: pjoshi1@une.edu

ABSTRACT

Background: Chronic diseases, particularly cardiovascular diseases and diabetes, continue to lead the way with regard to mortality as well as morbidity in the United States. Despite several efforts to prevent the onset of these diseases in the last couple of decades, the burden of chronic diseases continues to rise. The burden of chronic diseases has increased more rapidly among disparate populations, particularly among ethnic minorities, rural, and those in the lower socio-economic status. **Rationale for Study:** In an effort to reach the disparate populations, health disparities collaborative was implemented in Louisiana in 2010 in three federally qualified health centers to improve delivery of quality care and improve health outcomes for patients diagnosed with diabetes and heart disease. **Materials and Methods:** A qualitative study was conducted using individual face-to-face interviews at each clinical site to assess the level of implementation, satisfaction with the initiative, and challenges and barriers in implementing the initiative. Data in this qualitative study were analyzed using interpretative coding. **Results:** All three clinical sites expressed satisfaction in implementing the collaborative and appreciated the coordinated efforts to treat chronic diseases among their patients. **Interpretation:** Although the implementation of chronic disease collaborative appeared to be very successful based on the qualitative data as well as clinical outcomes, several challenges in implementation were observed. Results of the study indicated a need for strong leadership at the clinical sites, enhanced communication efforts to engage the collaborative team, and increased emphasis on patient education for successful implementation of the collaborative.

Key words: Chronic disease, disparities, qualitative study

INTRODUCTION

Chronic diseases, particularly cardiovascular diseases and diabetes, are leading causes of mortality and morbidity in Louisiana, as well as in the United States.^[1] Several risk factors contribute toward the burden of these diseases including physical inactivity, unhealthy diet, high blood pressure, and lack of screening.^[2,3] These diseases are more

prevalent among African Americans and those with poor access to healthcare services.^[4] In 2007, an estimated 28.6% of the diabetes population within the state did not receive an A1c test to check their blood sugar level over the past year. African Americans with diabetes had the highest rate (35.7%) for not receiving an A1c test within the past year.^[5] To address the disparities associated with the burden of diabetes and cardiovascular diseases, a Health Disparities Collaborative (HDC) was implemented in Louisiana in 2010. This paper deals with the qualitative assessment that was conducted to evaluate the implementation of HDC.

The goals of the statewide HDC were modeled after the Human Resources and Services Administration's (HRSA) HDC goals to reduce health disparities and improve care delivery systems.^[6,7] There is a lack of quality chronic

Access this article online	
Quick Response Code: 	Website: www.jcdronline.com
	DOI: 10.4103/0975-3583.102711

disease management healthcare delivery systems within Federally Qualified Health Centers (FQHCs) and Rural Health Centers.^[7] It is critical that health care centers adopt uniform processes to ensure all patients receive equal care and best care in accordance to nationally recognized clinical guidelines and standards of care.^[6,7] Implementation of the chronic care model began in 1999 and has shown remarkable evidence in improving healthcare delivery systems and reducing health disparities [Figure 1].^[6]

Three FQHC's were selected for this pilot program in the year 2010 and all of them maintained their respective HDC Chronic Disease Electronic Medical System registries. The healthcare centers were selected based on the mortality rates for cardiovascular diseases and diabetes in Louisiana. The participating health centers were located in areas with high rates of disparities in chronic conditions. Majority of the patients served by the participating FQHC's were uninsured and primarily consisted of low-income populations. Over 70% of the patients served by the health centers were African American and ethnic minorities. As indicated in Figure 1, the process of implementing chronic care model included enhanced physician/patient interactions, increased emphasis on patient education/self-management, implementing electronic data management system, and an integrated team effort working toward better clinical outcomes in the patients. Community partnerships were highly encouraged in the participating FQHCs to deliver health promotion activities such as weight management, physical activity interventions, smoking cessation, and other interventions as needed.

MATERIALS AND METHODS

Qualitative study design

The objectives of the qualitative evaluation assessment were: (1) to assess the level of satisfaction among healthcare

providers in implementing the HDC; (2) to understand the perceived benefits and barriers with regard to implementing the HDC; and (3) to evaluate the impact of the HDC on the health outcomes of the patients. Main questions for the interviews as well as potential cues are listed in Table 1. The methodology involved representative sampling, in which all participating clinics participated in the interviews. Three face-face interviews were conducted at each healthcare center and each interview lasted for approximately 20–30 min. The interviews were recorded and transcribed for analytical purposes. At each clinical site, interviews were conducted with the chief operating officer (CEO), the lead physician, and a nurse coordinator (the lead person who coordinated HDC at the clinical site). The importance of qualitative research in program evaluation has been emphasized in the previous literature.^[8,9] Data in this qualitative study were analyzed using interpretative coding.^[10] The transcribed interviews were validated for any errors and any identifying information were deleted. A coding pattern was developed for analytical purpose based on the main themes of the study and two raters performed the coding independently. Common elements/themes were noted in the qualitative data and results were tabulated using pattern analysis. This method of analyzing qualitative data has been used in previous studies.^[11]

RESULTS

Perceived health outcomes

All three participating healthcare centers agreed that the overall health outcomes for the patients were positive upon implementing HDC. The physicians indicated that they were more involved with the patients and the overall health of the patients. All the providers indicated observing significant improvements in hypertension control and Hb A1C levels. They also indicated the importance of patient follow-up and goal settings.

“The collaborative encourage [patients] to come back for the lab and on regular basis”

“The project set goals and the centers tried to maintain those goals”

Other factors related to health outcomes that were mentioned in the interviews were: improved patient satisfaction, providing patients with additional treatment options like foot and eye care, and weight management.

Perceived benefits of implementing HDC

This theme tried to capture the perceived benefits to the healthcare center upon implementing HDC. All the

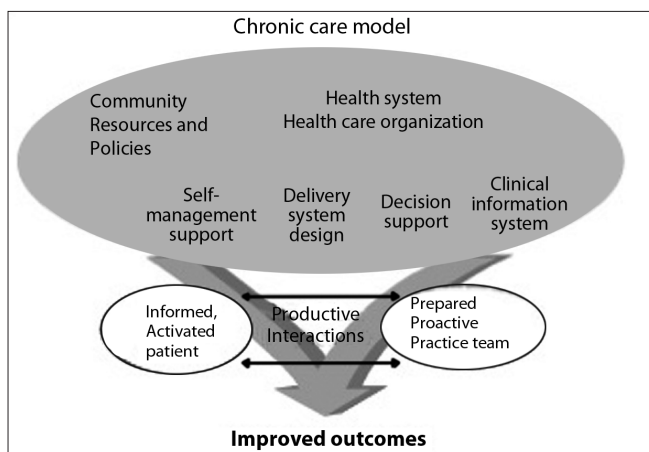


Figure 1: Chronic care model

Table 1: Questions and cues for the qualitative interviews

Question	Cues
(1) Brainstorming questions:	Can you describe your everyday patient population? What do you see are some special needs of your patient population? What is your level of experience in participating/implementing HDC prior to getting funded by DHH?
(2) How did HDC help you to address specific needs of your patient population?	Pre- and post-changes upon implementing HDC
(3) In what ways HDC has helped you in establishing goal settings for your patients?	Smoking cessation Weight management (physical activity and nutrition) Blood glucose/BP/other numbers What were some new techniques you learned upon implementing HDC related to establishing goal settings for your patients?
(4) What community programs/initiative have you tried to refer your patients?	Community initiative outside of the clinic Special programs initiated by the clinic
(5) How did you use the HDC stipends in improving the health outcomes of your patients?	Gift cards Screenings/other health-related activities How did you use the HDC funding in allocating the dollars for stipends, community initiatives, administration, etc. (Executive Director)?
(6) What were the main challenges/barriers in implementing HDC in your clinical setting?	Financial Personnel Community support Technical support (CDEMS)
(7) What did you see as the main benefits of implementing HDC in your clinical setting?	Financial benefits (Executive director) Patient satisfaction Improved health outcomes Interaction with the QI team (improved synergy in working as a team)
(8) How do you perceive the level of communication /support you received from DHH in implementing HDC?	
(9) How do you perceive the level of communication /support you received from LPCA in implementing HDC?	
(10) General comments	What is your overall satisfaction level with regard to implementing HDC Do you intend to continue using the chronic care model in the future years? What are your suggestions for effective implementation of future projects that would benefit the needs of the clients and clinics?

participating FQHCs indicated that HDC provided them with a team-building effort and the project improved the coordination between physicians, nurses, and other staff. The concept of team building and working on a comprehensive approach to treat patients was an accomplishment that most respondents indicated.

“Working on this project helped the team building like a closer working relationship”

Funding provided to the centers to implement HDC was used in different ways in each location. Some used it for providing incentives such as gas card to the patients who successfully made it to their follow-up visits, while others used it to provide additional screenings. One of the centers used the funding as travel money to participate in the HDC meetings since they were distantly located.

Other benefits upon implementing HDC were implementing a smoke-free campus, getting training/technical assistance in quality improvement that otherwise would not have been available, implementing quality control measures, and

ability to provide more screenings to the patients.

Perceived challenges/barriers in implementing HDC

Although the collaborative was largely successful, there were several barriers/challenges in implementing the project. One of the common challenges presented was staff turnover. All the participating centers had some degree of staff turnover that made it very difficult to implement the program to the fullest level or delayed the implementation for almost half a year. Another common barrier was the learning curve. Most respondents indicated that it took them some time to learn the process involved in implementing HDC and they could only see some progress/benefits at the end of the year. Several barriers were listed as it related to the remoteness of the locations and inability for the patients to make follow-up visits. The poverty levels in the remote areas also made it worse in getting the patients back to the clinics.

“Patients cannot afford to catch the bus”

“Patients cannot afford to pay the provider (\$25)”

DISCUSSION

All the participating centers were highly satisfied with the program outcomes and indicated their interests in continuing/sustaining the collaborative. The qualitative feedback was very useful in capturing several themes related to practicality of implementing HDC in remote areas. The qualitative results were very consistent with the ACIC (assessment of chronic illness care) survey and the clinical data submitted [Figure 2].

“It was rewarding and I am glad we did it”

“Would advise other clinics to go with the collaborative”

As indicated in Figure 2 and Table 2, implementing HDC showed significant improvements in the participating clinics with regard to overall structure and organization in treating chronic illnesses. Based on the results of statistical analysis, significant progress was made with regard to diabetic patients who were hypertensive. The number of patients whose blood pressure was under control increased significantly over the course of implementing the program in all the centers. Likewise, statistically significant increases were noted with regard to the number of patients with controlled levels of LDL cholesterol. Implementing patient registries provided an opportunity to follow up with patients and observe the improved clinical outcomes.

The qualitative interviews also provided several recommendations/suggestions for future implementation of similar projects. One of the limitations that were noted in implementing HDC was the sample of participants. Since the clinical database was outdated, the pool of patients that was initially drawn had a lot of bad addresses and outdated contact information. As a result, the follow-up was very poor in the initial months. One of the suggestions made was to run the database for 6 months and then follow up with the patients that were seen during the first 6 months for the program period (1–3 years).

Implementing HDC involves partnering with local

community agencies and referral of patients to any preventable healthcare activities in the community.^[7] Since a lot of the participating patients were located in rural communities, there were hardly any community resources that the patients could be referred to. Hence, the health centers tried to provide some physical activity and nutrition classes at the clinics themselves. However, the participation in these classes was very low due to timing and transportation issues.

One of the most significant comments made were related to poor education levels in the patient population. Two of the physicians interviewed stressed the importance of patient education in rural areas and requested additional support to be provided toward health education.

“There is no point in giving brochures or other materials to these patients – they can barely understand what is written in the brochures. So, I have learned to sit with the patients and teach them some basics of self-management”

On a similar note, all the nurses mentioned the lack of motivation among certain patients in weight management or smoking cessation. Providing health education to the patients especially in rural and underserved areas is very critical to patient compliance and improved health outcomes.

“Majority of the patients who did smoke really didn’t want to quit”

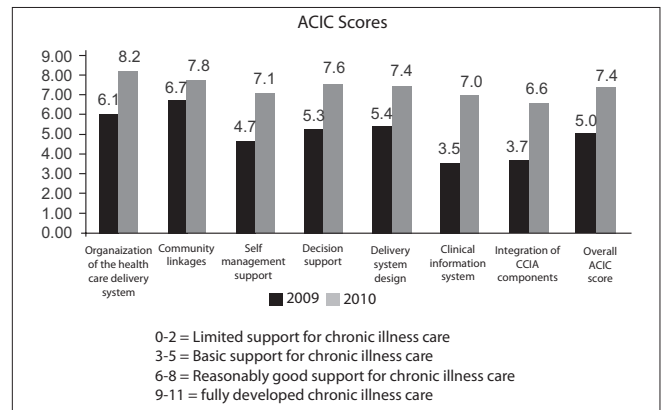


Figure 2: Progress in implementing Health Disparities Collaboratives (2009–2010)

Table 2: Improvements in blood pressure control and LDL levels among patients in HDC

	FQHC 1		FQHC 2		FQHC 3	
	Jan	Dec	Jan	Dec	Jan	Dec
Number of patients with diabetes	50	41	50	50	44	34
Number of patients with CVD	50	28	50	50	50	39
Diabetes patients with BP <130/80	4	5	2	16	8	6*
Diabetes patients with LDL Treated at goal (<100 mg/dL)	8	9	0	18	15	26
Hypertension patients with BP <140/90 mmHg	9	8	0	20	20	21

*Patients lost to follow-up, Data collected using each clinic’s HDC-LA chronic disease electronic management system

To summarize, the HDC was very successful and improved some health outcomes in the patients, improved team building efforts within the clinics, and provided an avenue to comprehensively treat patients with chronic diseases. Future projects focused on rural and underserved areas will contribute toward significantly decreasing the disparities in chronic diseases.

REFERENCES

1. Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2007. CDC WONDER On-line Database, compiled from Compressed Mortality File 1999-2007 Series 20 No. 2M, 2010. Available from: <http://www.wonder.cdc.gov/cmfi-icd10.html>. [Last accessed on 2011 Aug 16].
2. American Diabetes Association. Economic costs of diabetes in the U.S. in 2007. *Diabetes Care* 2008;31:596-615.
3. Ford ES. Trends in the control of risk factors for cardiovascular disease among adults with diagnosed diabetes: Findings from the National Health and Nutrition Examination Survey 1999-2008. *J Diabetes* 2011;3:337-47.
4. McCleary-Jones V. Health literacy and its association with diabetes knowledge, self-efficacy and disease self-management among African Americans with diabetes mellitus. *ABNF J* 2011;22:25-32.
5. Saffar D, Perkins DW, Williams V, Kapke A, Mahan M, Milberger S, *et al.* Screening for diabetes in an African American community: Identifying characteristics associated with abnormal blood glucose readings. *J Natl Med Assoc* 2011;103:190-3.
6. Chin MH, Drum ML, Guillen M, Rimington A, Levie JR, Kirchoff AC, *et al.* Improving and sustaining diabetes care in community health centers with the health disparities collaboratives. *Med Care* 2007;45:1135-43.
7. Chien AT, Kirchoff AC, Schaefer CT, Huang ES, Brown SE, Heuer L, *et al.* Positive and negative spillovers of the Health Disparities Collaboratives in federally qualified health centers: Staff perceptions. *Med Care* 2010;48:1050-6.
8. Pitney WA, Parker J. Qualitative research applications in athletic training. *J Athl Train* 2002;37(4 Suppl):S168-73.
9. Pitney WA, Parker J. Qualitative inquiry in athletic training: Principles, possibilities, and promises. *J Athl Train* 2001;36:185-9.
10. Miles MB, Huberman AM. *An Expanded Sourcebook: Qualitative Data Analysis*. 2nd ed. Thousand Oaks, CA: Sage; 1994. p. 16-22.
11. Armstrong KJ, Weidner TG, Walker SE. Athletic training approved clinical instructors' reports of real-time opportunities for evaluating clinical proficiencies. *J Athl Train* 2009;44:630-8.

How to cite this article: Joshi P, Marino M, Bhoi A, McCoy N. Reducing the burden of cardiovascular diseases: A qualitative assessment of Louisiana health disparities collaboratives. *J Cardiovasc Dis Res* 2012;3:305-9.

Source of Support: Nil, **Conflict of Interest:** None declared.