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Processes and Outcomes of a Community-Based Participatory Research-Driven Health Needs Assessment: A Tool for Moving Health Disparity Reporting to Evidence-Based Action

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Abstract

Background: The community-based participatory research (CBPR)-driven health needs assessment was a tool used to inform community-led, -implemented, and -sustained research and prevention strategies.

Methods: The Morehouse School of Medicine Prevention Research Center (MSM PRC) research and prevention initiatives are implemented in direct response to priorities identified through this process and tool. Led by a community-majority coalition board, the assessment coupled state and city secondary data with primary survey data collected by and from community residents.

Results: Hypertension, diabetes, obesity, and sexually transmitted infections were most frequently cited individual and community health priorities. Lack of social and family cohesion, limited or no opportunities to exercise, poor nutrition

and lack of awareness and knowledge about diseases, and insufficient access to affordable health care were cited determinants of health priorities.

Conclusions: The CBPR-driven community health needs assessment (CHNA) informed and established a data-driven community engaged research agenda, policy, systems and environmental change approaches, community-led grants and job creation leveraging neighborhood contexts and strengths.

Keywords

Community-based participatory research, health disparities, health promotion, vulnerable populations, African Americans, community health needs assessment

Despite noteworthy advances in the health status of the U.S. population, African Americans experience a disproportionately higher proportion of chronic and infectious diseases when compared to other ethnoracial groups.¹ The United States is at a critical juncture in advancing health equity through strategies that improve the health of ethnoracial minorities and, in turn, the health of the nation. Identifying effective multilevel strategies requires an

understanding of a neighborhood's ecology toward approaches that are community led, implemented, and sustained.

Historically, CHNAs have been characterized by data focused on disease statistics, with little or no attention to social determinants experienced by neighborhood residents. Social determinants of health have been positioned as central precursors to understanding and developing interventions that address root causes and advance health equity.^{2,3} Although

more recently reported CHNAs have infused community voices, few have reported how results have advanced related research or responsive interventions.^{4–6}

CBPR emphasizes community–academic partnerships with shared leadership in the planning, implementation, and evaluation of interventions.^{7,8} In 2008, the National Institutes of Health highlighted CBPR as a core strategy in eliminating disparities.⁹ The CBPR-driven CHNA elevates identification of the perspectives, preferences, and priorities of the communities with whom interventions are developed.¹⁰ This approach uncovers issues of local relevance that can be applied to interventions addressing the social determinants of health.

COMMUNITY CONTEXT

The Community Coalition Board and Research Partner Communities

The MSM PRC, funded by the Centers for Disease Control and Prevention in 1998, is governed by its Community Coalition Board (CCB). The CCB, established in 1999, is composed of 24 leaders representing three member types: neighborhood residents (16 seats; always in majority number), academic institutions (3 seats), and health/social service agencies (4 seats). The CCB is the CBPR-driven, policymaking board of the MSM PRC (not an advisory board) and is designed to steer health priority setting, research agenda development, implementation, evaluation, and dissemination.¹¹ The CCB has met every other month since its inception.

Neighborhood resident members of the CCB are intentionally recruited from MSM PRC Research Partner Communities (RPC). RPC demographic characteristics have resulted in increased incidence and prevalence for both chronic and infectious disease.¹² The majority (88%) of residents are African American, have an average household income of \$23,243, a 21% unemployment rate, 38% are living in poverty, and are ranked among the lowest among other socioeconomic conditions.^{13,14}

Although the RPC represented higher unemployment and poverty and lower education and income in comparison with other neighborhoods, the CBPR mindset of MSM PRC founders necessitated the identification of strategic alliances capitalizing on community strengths of neighborhood planning units (NPU).^{15–19} The NPU governance structure was

established in Metropolitan Atlanta, Georgia, in the 1970s. NPUs are citizen advisory councils that elect officers and hold monthly public meetings to discuss relevant and timely issues of importance to their residents (e.g., city zoning, economic and civic development).¹⁵ This preexisting neighborhood leadership was an opportunity for CBPR relationship development from the inception of the Center. The CCB was established in 1999, representing a 14-year collaboration between the MSM PRC and RPCs. Today, the RPC NPUs represent 31 contiguous census tracts.

The MSM PRC has strategically partnered with the RPCs to facilitate health research and related interventions. CCB and Center staff conduct CHNAs in RPCs at least once every 4 years. Core research and other strategically aligned projects are developed and implemented in response to priorities identified through these assessments.

Objectives and Anticipated Outcomes of Community Engagement

The MSM PRC embarked on the 2012–2013 CHNA process to (1) collect and analyze qualitative and quantitative data from community stakeholders and secondary data sources to identify the health needs, priorities, and perceptions to inform research and intervention implementation, and (2) use recommendations for planning and implementing research projects, disease prevention activities, health promotion outreach, and evaluation initiatives in support of a CBPR agenda. Moreover, the MSM PRC aimed to use CHNA results to inform health research and program funding proposals that—when funded—would stimulate research participation and job creation for community residents.

METHODS

CHNA Leadership-The CCB and Data Monitoring and Evaluation Committee

The 2012–2013 CHNA was approved by the MSM Institutional Review Board. All CHNA activities, from survey development to data analyses, were reviewed, monitored, and evaluated by the CCB, at large, and by its Data Monitoring and Evaluation Committee (DME). The DME, established in 2011, was designed to extend CBPR engagement of CCB members in the work of the MSM PRC. The DME (eight members)

exists through academic–community co-leadership (a CCB neighborhood resident member and the MSM PRC assistant director for evaluation) of a group tasked with leading the assessment functions of the center. Members met bimonthly (every other month, when the CCB did not meet) to discuss and inform CHNA evaluation activities, inform data collection planning and implementation, and prepare for reporting of evaluation findings and interim results to the broader CCB. The CCB received DME status reports on CHNA progress at bimonthly (every 2 months) meetings where data collection processes and challenges were presented, recommendations were sought and acted on.

CHNA Primary Data Collection Tool Development

The Center and CCB (led by the DME) implemented a systematic approach to update the previously administered (2008) CHNA. RPC focus groups were conducted to review survey length, and ensure culturally relevant and resonant wording, comprehension and face validity. The updated survey was then piloted by the CCB at their 2012 annual retreat. The final 30-question tool included open- and closed-ended questions.²⁰

CCB members participated in a 1-hour training conducted by MSM PRC staff to ensure consistent survey administration. CCB members received \$25.00 for attending data collection training and up to \$25.00 for returning completed surveys to the MSM PRC for analysis. The CCB also identified other community leaders with neighborhood networks who were also required to participate in the training prior to survey administration.

Primary and Secondary Data Collection

A two-pronged survey administration process from a convenience sample of RPC residents was used. First, CCB members and research center staff administered surveys at neighborhood meetings, recreational facilities, senior centers, and health clinics. Residents who completed surveys face to face through this approach received nonmonetary incentives (i.e., pedometers or tote bags) for their participation. Second, the MSM PRC used email and social media platforms to allow residents to anonymously complete surveys. Email messages with an electronic survey link were sent to neighborhood listservs. Social media postings

contained a survey link and were featured on MSM websites and accounts. The survey took approximately 20 minutes for each participant to complete.

Secondary Data Collection

Center staff mined secondary data from multiple sources, including state and local health departments (e.g., Georgia Department of Public Health Online Analytical Statistical Information System database); community-serving organizations (e.g., Atlanta Housing Authority); and partner agencies and institutions (e.g., City of Atlanta Department of Planning and Community Development). The secondary data informed development of a community profile. Review of these sources was central to comparison of community perception and experiences to local health status indices.

RESULTS

Secondary data analysis reaffirmed that the RPCs are mostly inhabited by Black residents. The majority of households across the RPCs are classified as female-headed households, and the families live in rental properties. Major causes of morbidity are cardiovascular diseases, respiratory diseases, mental and behavioral disorders, and human immunodeficiency virus (HIV)/AIDS.

A total of 361 CHNA surveys were collected from RPC residents (94.7% paper and 5.3% electronic/Facebook). Approximately 60% of surveys were administered by the CCB or community surveyors and 40% by PRC staff. Survey respondents were overwhelmingly female (71%), and more than 92% identified as Black. Nearly all (98%) were non-Hispanic. In 2013, the federal poverty level for a family of four was \$23,550; more than 50% of respondents indicated an annual household income of \$25,000 or less. The greatest proportion of survey participants were between the ages of 25 and 44 years (44%), followed by those 45 to 64 years of age (32%), and with an equal proportion of those 18 to 24 years and 65 or older (12% each). Through primary survey data respondents indicated that major health concerns in the community include high blood pressure, diabetes, overweight/obesity, and sexually transmitted diseases and infections (STIs; including HIV/AIDS). Figure 1 summarizes primary and secondary data collection results.

Community Overview	Three Most Frequently Cited Community Health Concerns (N=361)	Three Most Frequently Cited Ways to Share Health Information with Individuals and the Community (N=361)
<ul style="list-style-type: none"> • 87% of residents in the MSM PRC Research Partner Communities (RPCs) are African American/black • The average household income of residents in the RPCs is \$34,389, more than <u>\$15,000 less</u> than the average household income for the entire City of Atlanta (\$49,981) [2013] • 28-43% of households are female headed • 27.1% of City of Atlanta homicides between 2009 and 2013 occurred in the RPCs 	<ul style="list-style-type: none"> • 46% - Diabetes • 44%- Hypertension/High Blood Pressure • 37% - HIV/AIDS 	<ul style="list-style-type: none"> • 45% - Attend church events • 37% - Attend community events • 35% - Neighborhood meetings

Figure 1. Morehouse School of Medicine Prevention Research Center (MSM PRC) 2012–2013 Community Health Needs Assessment

Respondents also identified the perceived causes (social determinants) and potential solutions associated with community health priorities (Table 1) central to framing other health interventions and outcomes detailed later in this report.

Community Engagement in Data Analysis and Interpretation Guiding Core Research

The DME reviewed, prepared, and presented CHNA results to the full CCB body at their 2013 annual retreat. This preexisting forum was strategically selected because members annually spend a day together to reflect and interpret center data, processes, systems and outcomes to set the Center's direction. The research study, entitled A Multi-Method Approach to STI and HIV/AIDS Prevention Among Urban Minority Youth, complete with its own youth community leadership board, was conceptualized at the retreat, bolstered by CHNA data indicating that black youth in Georgia bear a disproportionate burden of STIs and HIV. Funded by

the Centers for Disease Control and Prevention, the study explores the effectiveness of a multicomponent intervention on STI and HIV/AIDS prevention efforts among teens and builds prior research reviewed and prioritized by the CCB.^{21,22} It will ultimately enroll 381 youth ages 14 to 18 years who reside in the RPCs by 2019.

Community Action Planning Through Project Review Committee Deployment

MSM PRC faculty, staff, and CCB agreed that the CHNA would be among the initial determinants of board engagement and synergy on any proposed health initiative or project. If this criteria was met after board presentation, the CCB chair assigns a project review committee. This committee, composed of two or three CCB members with content expertise or interest, discusses the research or health initiative concept and alignment with the board's community values toward final decision.

Table 1. 2012–2013 Morehouse School of Medicine Prevention Research Center (MSM PRC) Community Health Needs Assessment: Health Concerns, Causes, Solutions and MSM PRC-CCB Response

Issue/Concern	Causes	Solutions	MSM PRC-CCB Responses
Cardiovascular disease/hypertension/high blood pressure	"Eating habits." "Lack of knowledge." "Salty/fatty foods." "Stress." "Too much sodium in the diet or stressful lifestyle."	"Better awareness programs." "Classes offered free to educate the masses." "Education on healthier eating and the risk of habits that are dangerous to the body." "Health seminars." "Healthier restaurants in the area." "More free screenings from clinics."	REACH policy, systems, and environmental change strategies-Healthy Corner Store Initiative Community-funded grant to increase healthy lifestyles—weight loss = health gain Safe Routes to School Initiative Adaptation in RPC School (REACH)
Diabetes (pre-diabetes, type 1, type 2)	"High sugar intake." "Lack of good food choices." "Poor eating habits." "Stores without fresh produce."	"Build better stores in the community with veggies." "Eat healthy." "Health class to inform the uninformed." "Make healthier food selections available at local markets." "Offer free exercise and cooking classes."	Community Health Workers hired from RPC residents trained and supported in efforts to reduce/prevent and manage cardiovascular disease and diabetes
HIV/AIDS	"Having sex, sharing needles, blood to blood contact." "No awareness program." "Unprotected sex."	"I wish I knew the answer . . . but a lot of things start with awareness and education." "People should be more informed about the spreading of HIV and prevention." "Preventive classes." "Safe sex."	The MSM PRC core research project: A multimethod approach to STI and HIV/AIDS prevention among urban minority youth—HIV/AIDS prevention program for youth

Abbreviations: HIV, human immunodeficiency virus; REACH, Racial and Ethnic Approaches to Community Health; RPC, research partner communities; STI, sexually transmitted infection.

Outcomes

This project review committee model has been strategically employed over time to (1) systematically review and prioritize interventions through its CCB governance structure, (2) advance policy, systems, and environmental change approaches through community-clinical linkages, and (3) fund community-led grants (three grants totaling \$45K) and job creation (three full-time positions sustained since 2012). Table 2 details the outcomes of the CBPR-driven CHNA, benefitting both the CCB, the MSM PRC and the broader community. Cardiovascular disease and diabetes health concerns were addressed through a policy systems and environmental approach addressing the risks for risk, including limited access to opportunities for safe physical activity and quality access to low-cost healthy food.^{23–25}

These outcomes were responsive to the community ecology through the CHNA indicating the noteworthy proportion of homicides in the RPCs (Figure 1) and that 10 of the 11 RPCs are food desserts.^{25,26} The community experience correlation between feelings of safety and security and physical activity were subsequently cited in a qualitative study of RPC parents as a determinant of their children's health.²⁷

Interpretation

Processes that Promoted Success

Moving beyond documenting health disparities to advancing a health equity agenda requires an initial assessment of the health status of underserved populations; an inventory of their health priorities, perceptions, and strengths; and the development of health interventions and strategies informed

Table 2. Morehouse School of Medicine Prevention Research Center – Community Coalition Board: Community Values: Applications and Outcomes of CBPR-Driven CHNA

Value	Application/Outcome
The community has the right to participate as an equal partner at every level of decision making including needs assessment, planning, implementation, enforcement and evaluation.	Community coalition board governance in the design, administration and evaluation of CHNA through bimonthly presentation, enlisted survey ambassadors and Data Monitoring and Evaluation Committee.
Principles of individual and community informed consent should be strictly enforced. Present and future generations should be provided an education that emphasizes social and environmental issues, based on our experience and an appreciation of our diverse cultural perspectives.	“Flipping the script” trainings in research partner communities to empower community residents to serve as senior partners in research through CBPR through topics including influence of research on everyday lives, a dialogue on historical milestones in unethical engagement of populations, codes of research conduct, the significance of community engagement, and ways that community members can best decide to participate in research.
Research processes and outcomes should benefit the community. Community members should be hired and trained whenever possible and appropriate, and the research should help to build and enhance community assets.	Community health workers hired from research partner communities.
Community members should be a part of the analysis and interpretation of data and should have input into how the results are distributed.	Community coalition board led in CHNA survey development, administration, review of results and policymaking related to research projects. Project review committees model.
Community members should be empowered to initiate their own research projects, which address needs they identify themselves.	Community-initiated grants awarded to residents/community-based organizations.
Productive partnerships between researchers and community members should be encouraged to last beyond the life of the project. This will make it more likely that research findings will be incorporated into ongoing community programs and therefore provide the greatest possible benefit to the community from research.	Community initiatives grants received evaluation support after conclusion of funding through MSM PRC and graduate student support their evaluation and advance evidence-based evaluation effectiveness.

Abbreviations: CBPR, community-based participatory research; CHNA, community health needs assessment; MSM PRC, Morehouse School of Medicine Prevention Research Center.

by community insights. The CBPR-driven CHNA process empowered community members to take on roles as researchers who developed locally relevant research questions, identified health disparities and determinants thereby establishing processes and a research agenda rooted in community needs.

The CHNA process allowed the MSM PRC to foster and expand relationships with the community to understand and respond to its unique health priorities and capitalize on its strengths and assets. See Table 2 for how CCB community values aligned with outcomes of CBPR CHNA.

Previous investigations have demonstrated that research capacity building increases confidence and empowerment, which, in turn, generates community-owned health interventions that are more effective in improving health.²⁸ The CHNA not only provided an evidence base for the MSM PRC's current research activities, but is also shaping development of policy, systems, and environmental approaches to community-driven data collection and health improvement.

CHALLENGES AND LIMITATIONS

In research and community practice, there are often limitations to data collection based on the assessment timing, data availability, and sample response. The CHNA used mixed methods to improve triangulation of community needs and assets. Obtaining secondary data at the census tract level that described the strategic areas included in the RPCs required data sharing relationships with state and local partners. Each partner had unique protocols and procedures for data sharing, timelines for data acquisition, and limitations for data requested. Therefore, data acquired were based on existing variables and indicators within the confines of informal and formal data-sharing agreements. For example, the Georgia Department of Public Health data retrieval timeline was extended to allow for discussions about data availability. Also, several data items, including the dataset from the Atlanta Police Department, required data cleaning.

The intention to strategically engage community residents who would not otherwise engage in research necessitated the use of a convenience sample. Both the CCB and community leaders led this process, as trusted gatekeepers and community-based organizations that had established relationships (nonresearch) with RPC residents. While a convenience sample traditionally limits generalizability, this

sampling strategy was justified for implementation of a CHNA process and tool designed to facilitate CBPR.

CONCLUSIONS

The CBPR-driven CHNA process and tool have implications for data-driven public health practice. Communities are identified as both leaders of, and participants in research and health promotion strategies. The CCB's senior authority in spearheading the CHNA details a model through which research with communities is practiced in real time. Evaluation of CBPR approaches and the partnerships central to them can be challenging when academic, agency, and neighborhood experts have not historically worked together as a single body with established rules guiding roles and function.^{29,30} The MSM PRC relationship with its CCB and the RPC were built over time. The outcomes of each community-academic partnership are as unique as the relationship and while not generalizable, CBPR-driven CHNA process, when replicated with the tools and process described, within community context, can increase the likelihood of more equitable CBPR. Together, the CCB and the academic research team derived CHNA methods designed to steer the development of a data-driven, research agenda development process. The Centers for Disease Control and Prevention's definition of health equity states that a targeted understanding of a community's ecology is critical to understanding needs, promoting strengths, and directing resources toward everyone so each attains "full health potential."³¹ CHNAs, through a CBPR process, are cornerstones for collaborative efforts to move beyond cataloging of health disparities toward community-driven approaches advancing health equity.

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