Original Research

Identifying Community-Engaged Translational Research Collaboration Experience and Health Interests of Community-Based Organizations Outside of Metropolitan Atlanta

Breanna B. Greteman[1], Latrice Rollins, Ph.D., MSW[1], Allisen Penn[2], Alison C. Berg[2], Eric J. Nehl[3], Nicole Llewellyn[3], Amber Weber[3], Melissa George[4], Darrell Sabbs[5], Mohamed Mubasher[1] and Tabia H. Akintobi[1]

[1]Morehouse School of Medicine; [2]University of Georgia; [3]Emory University; [4]Georgia Department of Public Health; and [5]Phoebe Putney Memorial Health System

Corresponding Author: Breanna Blaess Greteman • 720 Westview Dr. SW, Atlanta, GA 30310 • Telephone: (563)379-9911 • Email: breannalblaess@gmail.com

ABSTRACT

Background: While rural health research has increased over the last two decades, there is limited understanding of the self-reported health priorities and research interests of rural and suburban community-based representatives and residents. These insights can be used to inform more successful intervention strategies that are responsive to the lived experiences of local residents and leaders who are the gatekeepers to buy-in and sustainability of community-engaged research. The Georgia Clinical and Translational Science Alliance, a collaboration between four academic institutions include a Community Engagement Program (CE) designed to facilitate community-academic research partnerships. This study aimed to assess the health priorities, community-academic research experience, and interests of community respondents outside of Metropolitan Atlanta through the Community Engagement Facilitation Survey (CEFS).

Methods: CE Program and Community Steering Board created the CEFS to assess the health topic priorities, research experience, and interests of community-based representatives and community members across the state of Georgia. The 11-item survey was administered (paper and electronic surveys) statewide at community events and professional organization meetings. Descriptive statistics were analyzed, and geospatial mapping was conducted. Data were analyzed in SPSS and Microsoft Excel software systems to clean data and calculate data counts and percentages. Three maps were created in Tableau Version 19.2 depicting all counties represented by the survey sample superimposed with the counties from which at least one respondent indicated each of the top three health priorities for this sample.

Results: Four-hundred-six (406) surveys were analyzed, representing 83.6% of rural and suburban Georgia counties. The most frequently identified health priorities and research interests were diabetes, cancer, high blood pressure, and mental health.

Keywords: Community-engaged, rural, health, priorities, experiences, interests

INTRODUCTION

In the scope of community-engaged health services research, it is essential to strategically engage groups or individuals that are often underrepresented, particularly those outside of metropolitan areas (Hall et al., 2006). Suburban (micropolitan) and rural populations tend to have a higher proportion of persons older than age 65, unemployed, uninsured and have a higher prevalence of chronic disease (Puma et al, 2017; Murimi et al., 2010; Buckheit et al., 2017). Prior research suggests these populations are more vulnerable than urban ones due to fewer health care providers and a decreased patient volume capacity, decreased stability of health care centers, increased dependency on Medicare and Medicaid, and fewer health therapy options, supporting the possibility that non-metropolitan individuals may prioritize health differently than their urban counterparts (FDA, 2022; Hart et al., 2005; Murimi et al., 2010; Kilpatrick, 2009; Ricketts, 2000; Erwin et al., 2010). It is important to have community engagement in this research to understand community perspectives, gain buy-in from community members, and create successful interventions to improve community health (Blumenthal et al., 2013; Eder et al., 2018; Michener et al., 2012). In Georgia, the counties that are more often involved in research are those in the metropolitan Atlanta area: Clayton, Cobb, DeKalb, Fulton, Gwinnett, and Henry counties. It is important to identify the priorities from the perspective of community members outside of metropolitan Atlanta via community-engaged research to adequately create interventions and policies to improve community health.

Thorough research has been conducted to assess the health priorities of those in rural communities, but research on suburban health priorities has been scarce due to a focus on differences between urban and rural populations. Initiatives such as Rural Healthy People 2020 can help researchers glean areas that are important for improving rural health (Bellamy et al., 2011). Rural Healthy People 2020 identified access to quality health services, nutrition and weight status,

and diabetes as top rural health priorities (Bolin et al., 2020). Other studies have reported that rural residents were concerned about water pollution and sewage/water issues which contrasts urban residents' priorities of built environment issues and air pollution (Wu et al., 2017; Bernhard et al., 2013). Surveys of rural community members have also identified chronic diseases, including diabetes and hypertension, as the two most common health priorities (Buckheit et al., 2017; Farmer et al., 2014). Diabetes and hypertension are precursors for heart disease, of which rural residents are twice as likely to die compared to their urban counterparts (FDA, 2022). This supports the notion that rural residents prioritize health issues that impact their communities and should be improved via community-engaged research.

The health priorities of members outside of metropolitan Atlanta have not been widely assessed. One qualitative study on the health priorities of a small sample of lymphoma survivors in rural Georgia via semi-structured phone interviews reported difficulty in finding research participation opportunities and a lack of information on the etiology and clinical care of their malignancies (Chen et al., 2020). To address this lack of data and to establish a community-driven data-based approach to program implementation, the Community Engagement Facilitation Survey (CEFS) was created to identify community-engaged health priorities of respondents residing in all Georgia counties outside of metropolitan Atlanta.

The CEFS was created by the Georgia Clinical Translational Science Alliance's Community Engagement Program, which aims to support community-university research partnerships, facilitate community input into university research, and increase health research in community settings that are both responsive and relevant to the health needs of the community. To enhance public trust and build community research capacity, the CE Program supports community-university research partnerships through a Master's-level clinical research course, research capacity-building workshops, pilot awards, and research consultations increasing community input or co-creation of research with academic partners, and facilitating health research in community settings (Henry Akintobi et al., 2016; Kegler et al., 2016; Rodgers et al., 2014). To meet their goals of engaging with the community, the CE Program partners with community-based organizations across Georgia such as the cooperative extension service, which is supported by 112 land-grant universities and provides a bridge between academics and the community at large, and the State Office of Rural Health (Smith-Lever Act, 2008). The State Office of Rural Health has been a strategic partner of the CE Program and has been engaged in a variety of projects, including hosting two grant-writing academies for community-based organizations and health centers across the state.

The CE Program maintains a Steering Board as a governance structure designed to ensure that research findings are translated to practice. The Steering Board, supported by a committee of partner academic institution faculty and staff, strive to overcome historical trends that impede translation to the community when research, community, and agency experts do not work together as equal partners and as a single body with established rules guiding roles and functions (Henry Akintobi et al., 2011, Henry Akintobi et al., 2014). The Steering Board maintains a community majority membership and bylaws that require that the Chair, Vice-Chair, and Secretary, to be community representatives. Community organizations represented on the Steering Board are the Georgia Department of Human Services Division of Aging Services, Navient Health, Georgia Community Health Worker Coalition, Phoebe Putney Memorial Health System, and Oakhurst Medical Centers, Inc.

Due to gaps in research identified above, in this study, we aim to analyze CEFS data to address the research question "What are the health topic, population, and research interest priorities of suburban and rural Georgia residents living outside of metropolitan Atlanta?" We hypothesize that similar to prior studies, chronic conditions will emerge as a priority health and research interest topic, and elderly populations will emerge as a population priority.

METHODS

Institutional Review Board Approval:

The CE Program's faculty, staff, and Steering Board implemented a systematic approach to the development of the Community Engagement Facilitation Survey (CEFS) between February 2018 and May 2018. The CEFS was created to assess the health topic priorities, research experience, and interests of community-based representatives and community members across the state of Georgia and has not been utilized in previous studies or published. The CEFS was adopted from previously administered surveys focused on the assessment of community health needs (Henry Akintobi et al, 2018). The Community Steering Board reviewed the survey length and ensured culturally relevant and resonant wording, comprehensiveness, and face validity. Due to the surveys being part of a program evaluation process, the project materials were deemed exempt from IRB review by the Institutional Review Board at Morehouse School of Medicine.

Assessment/Survey Instruments:

A total of 11 multi-pronged, short-response, and "check all that apply" questions were included in the survey with an estimated completion time of 5 minutes. Four questions captured respondents' occupation and/or role within their community and organizational information, including county and zip code. The remaining questions asked respondents to identify personal and/or organizational health concerns/priorities, previous participation in research, and interest in community-engaged research. From a list of 35 health topic areas, respondents were asked to identify their top three health areas of concern/priority. Respondents were then prompted to identify priority population groups (e.g.,

babies, teens, seniors) that they view as relevant either in their own lives or to the organizations they represent, as well as the population groups they identify as belonging to. Next, respondents were asked if they had previously engaged in research with a healthcare provider, a hospital partner, or a university partner.

The last item on the survey asked respondents to indicate their interest in working on a community-engaged translational research project related to their interests or needs. Respondents were given the option to provide personal contact information to receive further information about potential research opportunities and capacity-building events hosted by Georgia CTSA. Multiple responses were allowed in the health priority, population group, and research experience items. Open-ended "other" fields were available for the occupation, health topic, and population group items.

Participants:

Individuals eligible to complete the survey were those who resided or worked in one of the 153 Georgia counties external to Atlanta's six metropolitan counties mentioned previously. Convenience sampling was utilized to recruit respondents and relied on CE and Steering Board members to broadly disseminate the survey to their networks. Paper surveys and electronic survey links were distributed to CE Committee and Steering Board members at bi-monthly and quarterly meetings. Members of these groups were given a stamped and addressed envelope with 25 hard-copy surveys and flyers with survey links to distribute to their community partners, along with information on the survey protocol.

Setting:

The CEFS was also strategically disseminated at community-based events across the state of Georgia, including tabling at back-to-school gatherings, public health conferences, faith-based meetings, men's health screenings, and breast cancer awareness events. Georgia CTSA also hosted grant writing and capacity-building events in the southwest quadrant of the state at which participants were invited to complete a survey. Respondents were provided two modalities for completing the survey: paper copies or an online web link. Survey respondents were provided with incentives such as pens, hand sanitizers, and bags with the Georgia CTSA logo as well as raffle tickets to enter into a gift card drawing for their completion of the survey. All survey activities were reviewed, monitored, and evaluated by the Steering Board.

Statistical Analysis:

The CEFS was a one-time, cross-sectional survey administered between June 2018 and April 2020. Data were analyzed in SPSS and Microsoft Excel software systems to clean data and calculate data counts and percentages. In addition to calculating counts of each survey item, three maps were created in Tableau Version 19.2 depicting all counties represented by the survey sample superimposed with the counties from which at least one respondent indicated each of the top three health priorities for this sample. For this analysis, we restricted our sample to individuals living outside the counties of Clayton, Cobb, DeKalb, Fulton, Gwinnett, and Henry toward our aim of assessing responses of those beyond metropolitan Atlanta.

RESULTS

The Georgia CTSA CEFS database contained 406 surveys completed by community representatives in counties outside of metropolitan Atlanta. These respondents represented 128 of the 153 counties (83.6%) included in this analysis.

The most common respondent type selected was "concerned citizens/ neighborhood residents" (n=83, 14.1%), followed by "educators" (n=66, 11.2%), and "local /state/ federal government employees" (n=45, 7.7%) (Table I). A significant proportion of respondents (14.8%) identified an organization type other than those provided with the open-ended "other" option. The most common of these "other" respondent types were "students" (n=15), "emergency medical service personnel/ paramedics" (n=7), and "service workers" (n=6).

Table 1. Respondent Organization Type

Respondent Type	n	%
Concerned Citizen/ Neighborhood Resident	83	14.1
Educator	66	11.2
Local/State/Federal Government Employee	45	7.7
Faith Community Member	40	6.8
Nurse	38	6.5
Allied Health Professional	36	6.1
Community Health Worker	32	5.4
Business Owner	27	4.6
Community Advocate	27	4.6
Community-Based Organization Member	26	4.4
Local/State/Federal Elected Official	23	3.9
Hospital/Clinic Administrator	21	3.6
Local Business Owner	20	3.4
Other	87	14.8

The most frequently identified health priorities identified by respondents were diabetes (n=129, 8.9%), cancer (n=128, 8.8%), and high blood pressure (n=108, 7.4%) (Table II). A total of 339 respondents (83.4%) provided either county or zip code information for areas where they live or where their organization serves. Of these, 336 (99%) also provided information on health priorities. Maps created with these data show which counties contained respondents in this survey superimposed with the counties from which at least one respondent indicated each of the top three health priorities for this sample (in color, see Figure 1): diabetes

(orange), cancer (green), & high blood pressure (blue). Respondents who both identified diabetes as a priority and provided their zip code were often located either in the southwest quadrant of the state or the counties directly east of Atlanta. Similarly, these areas of the state contained respondents who identified cancer and blood pressure as health priorities and provided their zip codes, though these are less common than diabetes.

Table 2. Health Topic Priorities

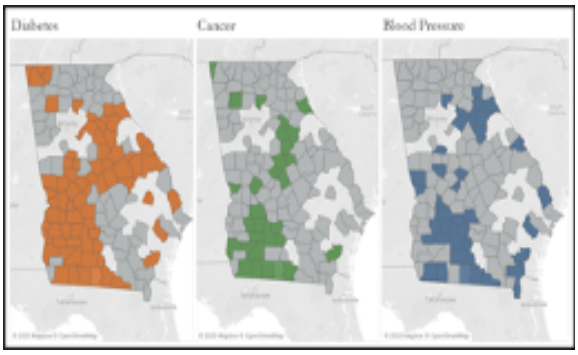
Top 15 Health Topics	n	%
Diabetes	129	8.9
Cancer	128	8.8
High Blood Pressure	108	7.4
Obesity	83	5.7
Women's Health	71	4.9
Mental Health	68	4.7
Nutrition	64	4.4
Heart Disease	57	3.9
Access to Education	49	3.4
Depression	49	3.4
Men's Health	46	3.2
Rural Health	46	3.2
Availability of Healthy Foods	42	2.9
Stroke	42	2.9
Asthma	41	2.8

Table 3. Population Priorities

Population Groups	n	%
Seniors	172	14.2
Children	151	12.4
Young Adults	138	11.4
Mature Adults	118	9.7
Youth	118	9.7
Teens	115	9.4
People with Disabilities	100	8.2
Rural	100	8.2
Babies	95	7.5
Pregnant Women	69	5.7
Urban	38	3.1

The three most frequently identified population groups served by respondents were seniors (n=172, 14.1%), children (n=151, 12.4%), and young adults (n=138, 11.4%) (Table III). Of the 406 respondents, 27 had previously engaged in research with a University partner (6.7%), 33 with a Healthcare provider (8.1%), and 23 with a Hospital partner (5.7%). There were 180 respondents (48.6%) interested in working with a researcher on a community-engaged translational research project. Among these 180 respondents, the most frequently identified research interests were on the health topics of diabetes (n=72, 6.9%), high blood pressure (n=72, 6.9%), and mental health (n=67, 6.5%) (Table IV).

Figure I. *Maps of Three Most Frequently Identified Health Topics by Respondents*



Note: Gray indicates that there were respondents in that county. Top three health priorities identified by at least one resident per county: diabetes (orange), cancer (green), high blood pressure (blue)

Table 4. Research Interests

Top Health Topics	n	%
Diabetes	72	6.9
High Blood Pressure	72	6.9
Mental Health	67	6.5
Obesity	60	5.8
Cancer	56	5.4
Nutrition	52	5.0
Women's Health	52	5.0
Heart Disease	48	4.6
Depression	41	4.0
Rural Health	41	4.0
Availability to Healthy Foods	40	3.9
Substance Abuse	35	3.4
Access to Education	34	3.3
Stroke	31	3.0

DISCUSSION

We aimed to identify the health priorities, research experiences, and interests of respondents to the Georgia CTSA's CEFS in Georgia's counties outside of metropolitan Atlanta. In our sample, respondents identified diabetes, cancer, and high blood pressure as their top health priorities for themselves or the organization they represent. When asking participants about their interest in participating in community-engaged research, mental health was cited as

one of the top three health topics participants would be interested in working with an academic partner on to collaboratively conduct research (6.9%) (Table IV). The two health topics that were identified more frequently in this item were diabetes (6.9%) and high blood pressure (6.9%), which are consistent with the top three health topic priorities. Our findings were similar to past research identifying chronic diseases as health priorities in rural communities in other states (Buckheit, 2017; Farmer, 2014). These findings were similar to those from the Rural Healthy People 2020 initiative, with chronic diseases such as diabetes and high blood pressure being top priorities (Bolin, 2020). Gathering these priorities from individuals outside of metropolitan Atlanta can give researchers insight into studies that community members may want to be engaged in, which will enhance the community-engaged research process.

While the similarities with other studies were apparent, our data did have some findings that differed from other reports on identifying health topic priorities of community members. While some studies in other states found that environmental health issues were priorities in their results (Wu, 2017; Bernhard, 2013), we did not find this. Among the identified health priorities of respondents in this report, "environmental health" and "an environment free of toxins" ranked 29th and 34th, respectively. Prior environmental health research in Georgia has identified air pollution as a risk factor for preterm birth (Hao et al., 2016), indicating that environmental health is a research priority in the state. An explanation for this discrepancy from studies in both Georgia and other states could be that the events we attended to increase survey completion were focused on chronic diseases and less so on environmental health.

Lack of access to research teams could be an explanation for the lack of community member involvement in research. A recent study among rural Georgia cancer patients focused on priorities from an individual perspective whereas ours focused on involvement of individuals from an organization-based standpoint. Findings from this study indicated that respondents had not participated in research often, usually due to a lack of access to research opportunities (Chen et al., 2020). In our sample, 27 (6.7%) individuals had collaborated in research with a University partner, 33 (8.1%) with a healthcare partner, and 23(5.7%) with a hospital partner. Nearly half of the respondents indicated that they were interested in collaborating in research in the future (48.6%). This suggests that respondents are interested in participating in research despite their current lack of experience, highlighting an area of focus for future community-engaged research.

There were several strengths of this study. First, our work fills a gap in research by focusing solely on the health priorities of Georgia residents outside of metropolitan Atlanta. Since Atlanta and its surrounding metro area have a wealth of resources for health care and research opportunities for citizens, it is important to understand health priorities in areas of the state that do not have the same resources readily available. The results of the survey can be utilized to facilitate community-academic research partnerships through the Georgia CTSA's outreach in both community and academic spheres. This report can also influence how other research institutions work toward expanding their research in rural communities.

Second, we were able to use our strong community connections—through our partner institutions and the community health workers on the team—who made it possible for us to attend events aimed at reaching different groups of community members across the state and collect surveys. Since these communities are often left out of academic research due to geographic distance from large research institutions, many community members are not aware they can participate in research. This finding was evidenced by a low level of prior research experiences with a high level of interest in engaging in research. Increasing participation in research can be a valuable asset to the community members that want their voices heard and used to inform or co-create in research. Similar to any instance of introducing new experiences and knowledge, community-engaged research assists members of these communities in being informed on the process of academic research and being able to reach out to someone with whom they have already been acquainted with questions or concerns.

Our study was not without limitations. A specific limitation of this study was the use of convenience sampling. Most events attended were in the Atlanta metropolitan area and the southwest quadrant of the state, which is reflected most notably in our GIS maps. The data are not entirely representative as there were whereas populations not represented in the data. For example, less than 10 respondents identified as "pastors", "physicians", or "pharmacists". Additionally, the survey was only created in English, so we are unable to get responses from non-English speaking populations. Individuals in these groups play an essential role in their community and would be an important addition to the CEFS database. Additionally, there are several steps that members of the Georgia CTSA can take to improve the quality of the data. Suggested improvements mentioned by respondents and academic researchers include a unique respondent identifier system, offering the survey in other languages, and conducting strategic outreach to respondent types that are underrepresented in the existing data.

This report aimed to assess the health topic priorities and research experience and interest of respondents to the Georgia CTSA's CEFS who reside outside of metropolitan Atlanta, in Georgia's suburban and rural counties. As mentioned previously, the importance of community-engaged research stems from an understanding that the community knows their needs. To improve community health and encourage community members to participate in research, academic institutions should consider the priorities of the community to increase buy-in and sustainability of interventions. This survey, with a counterpart for academic researchers, will facilitate community-academic research partnerships by gauging the

interests of community members and academics and then linking them up to conduct grant-funded research projects. The CEFS increases knowledge and facilitates communication and collaboration between those interested in conducting community-engaged research to advance population health. This analysis allows the Georgia CTSA CE Program to develop data-informed, community-responsive support and programming for those seeking community-academic research partnerships to address health priorities in communities across the state of Georgia.

CONCLUSION

The Georgia CTSA has grown, both in the geographic region it aims to reach and the perspectives on how to best serve rural Georgians, since the creation of the CEFS. Throughout the implementation of the survey, our staff have reinforced the importance of meeting these community members where they are to both assess their needs and provide them with assistance. These results highlight the importance of reaching out to organizations that are not typically involved in the translational research process, including emergency medical service and ambulance staff, persons in marketing, and retirees looking to be further involved in their community and its improvement. The gaps in the counties represented also present data-informed priority geographical areas for action and outreach toward increased awareness of Georgia CTSA resources. Moving forward, we recommend that research institutions consider these strengths, limitations, lessons learned, and strategies to increase rural community-engaged research and related health promotion initiatives.

Acknowledgments

This work was supported by the Morehouse School of Medicine Prevention Research Center under grant number 6 U48DP005042, by the National Center for Advancing Translational Sciences of the National Institutes of Health under award number UL1TR002378, and by the Morehouse School of Medicine Endowment. The content is solely the responsibility of the authors and does not necessarily represent the official views of any funding entities.

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