

TRANSLATING THE BIRMINGHAM NEIGHBORHOOD LEADERS SURVEY INTO INNOVATIVE ACTION THROUGH THE COMMUNITY HEALTH INNOVATION AWARDS

Shauntice Allen, MA, PhD¹;
Alaina Pineda, MID²;
Anthony C. Hood, MBA, PhD³;
Jessica F. Wakelee, MPH⁴

The Carnegie Foundation for the Advancement of Teaching describes community engagement as the collaboration between higher education institutions and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership. This article describes the development, implementation and outcomes of a community-engaged grant-making program, the Community Health Innovation Awards (CHIA). The CHIA program was the by-product of a qualitative study jointly led by researchers at the University of Alabama at Birmingham and neighborhood leaders from the surrounding communities in Birmingham, AL. The competitive program provided funding to area organizations that proposed creative solutions to on-the-ground health challenges. Since its inception, CHIA has awarded \$356,500 to 26 innovative projects between 2012 and 2017. These awards have supported novel programs that have connected academic and community partners in addressing health disparities and improving overall community well-being in the greater Birmingham area. *Ethn Dis.* 2017;27(Suppl 1): 313-320; doi:10.18865/ed.27.S1.313.

Keywords: Community Engagement; Innovation; Community Grants; Health Concerns; Urban Communities

¹ University of Alabama at Birmingham, Environmental Health Sciences, Birmingham, AL

² Clarus Consulting Group; Vestavia, AL

³ Collat School of Business, University of Alabama at Birmingham, Birmingham, AL

⁴ University of Alabama at Birmingham, Center for the Study of Community Health, Birmingham, AL

INTRODUCTION

An underlying principle of community involvement in research is that communities have the power and ability to reach one another and have the experience to conduct research activities that span a diverse spectrum of individuals.^{1,2} There is increasing empirical evidence that complex sets of contextual factors (including poverty, racism, inadequate housing, escalated violence and crime, income inequalities, and environmental hazards) play a significant role in determining the health status of communities across the United States.^{3-9,12-14} As a result, effectively addressing and promoting health and well-being at the community level requires recognition and mobilization of the considerable amounts of resources, strengths, talents, and skills that naturally exist within these communities.¹⁰⁻¹² Augmenting these community-based assets, national funding organizations (eg, Centers for Disease Control and Prevention and the Robert Wood

Johnson Foundation), as well as local agencies (eg, community foundations, local United Way affiliates, and city/county public health departments) are increasingly making resources available to support community-based research and projects serving a public purpose and public interest.

The Carnegie Foundation for the Advancement of Teaching describes community engagement as the collaboration between higher education institutions and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.¹⁵⁻¹⁶ The purpose of our article is to provide a brief overview of the Community Health Innovation Awards (CHIA), an innovative grant program administered by researchers at the University of Alabama at Birmingham (UAB) in conjunction with members of the local community in Birmingham, Alabama. During a 5-year period, the CHIA program has spurred numerous campus-community partnerships, and has demonstrated the critical role played by colleges and universities in being catalysts and facilitators for effecting change in local communities in partnership with members of those com-

Address correspondence to Shauntice Allen, PhD; University of Alabama at Birmingham, Environmental Health Sciences; 534B 1720 2nd Ave South; Birmingham, AL 35294; 205.993.6916; sallen1@uab.edu

munities. We detail the genesis of the CHIA program that was a by-product of a community-engaged qualitative study designed to identify community members' perceptions of the challenges and issues affecting quality of life in their neighborhoods. Based on the qualitative study jointly led by researchers at the University of Alabama at Birmingham and neighborhood leaders from the surrounding communities in Birmingham, it was determined mentored awards to neighborhood associations would be the focus of the project. We conclude with the results of the program and lessons learned for facilitating and sustaining campus-community partnerships.

SETTING

Birmingham is the largest city in Alabama with a population currently estimated at 212,461, and a metro population of more than 1 million residents.¹⁷ Birmingham was founded in 1871 as a post-Civil War iron and steel manufacturing town. The working-class cultural and architectural character is visible in its neighborhoods and communities, many of which were developed by the very companies that employed their residents. As the manufacturing economy that supported these neighborhoods declined, noticeable signs of blight, concentrated poverty, and divestment became prominent features of the urban landscape. Many of the current residents are working to mitigate these issues.

Demographically, Birmingham is approximately: 73% African American; 22% Caucasian; 3.6%

Hispanic; and 1% Asian. A defining feature of civic life and organization in Birmingham is the Citizens Advisory Board (CAB). Formed in 1974 to improve communication between residents and city leaders of Birmingham, the CAB is structured as a network of 99 neighborhood associations that are aggregated into 23 larger units called "communities."¹⁸ Each neighbor-

*During a 5-year period,
the CHIA program
has spurred numerous
campus-community
partnerships, and has
demonstrated the critical
role played by colleges
and universities in being
catalysts and facilitators
for effecting change in
local communities in
partnership with members
of those communities.*

hood association is led by a president, vice president, and secretary who are elected every four years by eligible voters in Birmingham.

Additionally, Birmingham is well-known for its prominent role in the civil rights movement of the 1950s and 60s and is home to UAB, one of

the top 50 NIH-funded universities. UAB is one of 62 medical research institutions working to transform the local, regional, and national environment to increase the efficiency and speed of clinical and translational research across the country.¹⁹

ONE GREAT COMMUNITY

One Great Community (OGC) serves as the official community engagement component for UAB's Center for Clinical and Translational Science (CCTS). The mission of the CCTS is "to address disparities and diseases disproportionately represented within the Deep South as we accelerate discovery to improve human health."²⁰ In support of this, the OGC was formed to "transform UAB's biomedical research enterprise into a wholly collaborative and innovative community-engaged activity and create avenues for improved health and future economic development within the Birmingham metropolitan region, Alabama, and the Deep South."²⁰ The heart of OGC is the Council, the official board of advisors for OGC. In addition to meeting six times per year for formal work sessions, members of the Council also work collaboratively in smaller subcommittees throughout the year. The Council's formal representative structure consists of approximately 25 members: 13 members from the 99 Birmingham neighborhood associations and 12 members from academic units at UAB. In recognition of power dynamics that traditionally favor resource-rich academic partners, the

composition of the OGC Council is intentionally imbalanced such that community members outnumber the academic members. Collectively, the Council works to articulate community-driven positions and serve as an independent broker for community-based participatory research.

BIRMINGHAM NEIGHBORHOOD LEADERS HEALTH SURVEY (BNLHS)

Based on extensive discussions and recommendations in 2011, the Council designed a short health issues survey to establish priorities and identify issues of importance to local residents. The survey was approved by UAB's Institutional Review Board, permitting neighborhood leadership (presidents, vice presidents, and/or secretaries) to complete a paper questionnaire that asked demographic (neighborhood, age, sex, race) and community health concern questions (traffic safety,

empty lots and abandoned homes, crime, etc.). Participant recruitment was initiated through the CAB. Research staff attended a monthly CAB meeting to present and discuss the project with the 23 community presidents who represent the 99 neighborhoods. Surveys were provided onsite at the initial meeting and also mailed to the remaining neighborhood officers in early spring 2011.

Disappointed with an initial low response rate to the survey, researchers sought advice from some of the neighborhood leaders. The research team was advised to employ community liaisons to engage more directly with those neighborhood officers who had yet to respond to the survey. Following this guidance, two community liaisons were hired, trained and directed to go door-to-door to assist neighborhood officers (many of whom were unfamiliar with electronic survey methods and skeptical of direct mail-based surveys) in person. Liaisons were neighborhood officers

Table 1. Demographics

Demographic	n	% of Total
Sex		
Male	52	44.1
Female	66	55.9
Race		
White	10	8.5
Black	108	91.5
Household income		
< \$10k	15	10.7
\$10K – 29K	46	40.0
\$30K – 74K	46	40.0
>\$75	11	9.3
Occupational status		
Employed	39	33.0
Unemployed	9	7.6
Retired	70	59.3

who maintained close connections to many members of the CAB and possessed a broad understanding of the UAB CCTS. As a result of their efforts, the survey response rate increased by >50% over 90 days. A total of 120 surveys were completed representing 72 of the 99 neighborhoods. Respondents were mostly African American, female, and retired. Table 1 provides demographics of the survey respondents.

Table 2. Perceived need for innovations in neighborhood health: Neighborhood leader ratings for specific health-related concerns in their neighborhood^{a,b}

Overall rank	Neighborhood concern	1	2	3	4	5	N	Mean
1	Empty lots and abandoned homes	5	17	24	21	50	118	3.82
2	Diabetes	7	32	25	17	18	116	3.50
3	High school dropout rates	14	28	22	15	19	115	3.42
4	High blood pressure	3	36	30	16	19	116	3.41
5	Lack of sidewalks, walking trails and clean parks	9	23	31	17	36	116	3.41
6	Teen pregnancy	19	32	14	15	8	116	3.39
7	Overweight or obesity	6	41	29	15	16	116	3.18
8	Crime	1	45	28	15	23	114	3.18
9	Environmental pollutants	8	40	27	13	19	113	3.12
10	Elderly shut-in residents (those who can't physically care for themselves)	11	48	17	21	7	117	3.03
11	Traffic safety (speeding cars, no railroad crossing guards)	9	49	20	16	23	117	2.96
12	The aftermath of April 2011 and January 2012 tornados	43	31	13	10	11	114	2.41

a. Scale ranges from 1 (not at all serious) to 5 (very serious).
 b. Rank is for concern across all responding neighborhoods.

COMMUNITY HEALTH INNOVATION AWARDS

Survey results were analyzed to rank the community's priorities for quality of life innovations. Empty lots and abandoned homes emerged as the top concern followed by factors such as diabetes, high school dropout rates, high blood pressure, lack of sidewalks, walking trails, clean parks and teen pregnancy (Table 2). Based on these priorities, the OGC Council determined that a funding mechanism would be needed to equip neighborhood leaders to address the issues that they identified. Consequently, OGC established the CHIA awards as a grant competition open to neighborhood associations and local nonprofit organizations in the greater Birmingham area. CHIA awards were envisioned as a way for participants to think boldly and creatively about solutions to on-the-ground health challenges in their communities.

An application process was developed and circulated widely throughout the greater Birmingham metro area through mailings, posting on the CCTS website, and word-of-mouth. The application stated that applicants were responsible for attending three structured workshops lasting approximately three hours each with emphasis on innovative thinking, idea development, grant writing, application deadlines, and project presentations. Mentors representing academia, business, the public sector, and nonprofits were assigned to each applicant team based on the team's proposed project idea. Mentors were vetted via an application process with the intent of matching mentors and their interests

to teams with similar interests. Mentors served primarily in a supportive role, acting as a fresh set of eyes for the applicant's idea and written proposal, serving as a sounding board, helping the applicant team strategize on their live presentation, and acting as the applicant's champion. Mentors were not responsible for writing

The CHIA program has been positively received by the community, with OGC Council members and previous CHIA grantees noting that the grants were marketed in a manner that was "geared toward community solving community problems, not a research grant about something else."

or re-writing proposals, influencing project ideas, or telling applicants exactly what to do and how. The entire timeline for translating the innovative idea into a fundable project spanned approximately 2.5 months (75 days). A rapid application process ensured that project teams were constantly engaged and that funding would be awarded quickly in order for project implementation to begin.

Applicant teams composed draft

proposals based on questions that addressed five criteria: 1) innovation; 2) thoughtful understanding of their community or population of interest; 3) community involvement; 4) community strengths or assets; 5) implementation of the idea and results.²⁰ Using a customized rubric for scoring, draft proposals were systematically reviewed by an external panel of judges with written feedback provided to all applicants. Applicants that demonstrated a strong draft proposal addressing the criteria were invited to submit a final proposal. Mentors worked with teams during the refinement phase of CHIA to address reviewers' comments and prepare for the live presentation. After submitting the final proposal, teams were required to give a 10-minute presentation to the same panel of external judges. Once all presentations were complete, the panel of judges deliberated and made funding decisions which were immediately announced to applicants.

DISCUSSION

Employing a community-based participatory research (CBPR) framework equitably involves community members and academic researchers in all aspects of the process, where shared expertise, ownership, and action fosters mutual benefit of all partners.²¹ The CHIA initiative undertook an innovative strategy for engaging community members in addressing concerns that were identified by them. Since 2012, CHIA has received 78 proposals and has provided funding for 26 unique projects. Tables 3 thru 7 present a summary of the organiza-

Table 3. Summary of funded community health innovation awards, 2012

#	Project title	Funding allocation	Organization	Target population	Project outcomes
1	Beauty in Knowing	\$15,000	AIDS Alabama	Cosmetology professionals	Engaged over 800 women and trained approximately 100 hair stylists on issues of domestic violence and HIV/AIDS education.
2	Operation Brightside	\$5,000	Friends of West End, Inc.	Residents of city council district 6	Instituted an abated property clean-up program in collaboration with Jefferson County Family Court that has now become a city-wide model.
3	Norwood Learning Gardens	\$25,000	Norwood Resource Center	Norwood residents and families	Established an environmental summer camp for students in grades 3 – 5.
4	Walking Bus Project	\$5,000	UAB Dept. of Sociology	UAB employees and students	Publication in the <i>Open Journal of Preventive Medicine</i> .
5	NHabit Bush Hills	\$15,000	Bush Hills Neighborhood Association	Bush Hill Neighborhood residents (West Birmingham)	Local print and TV news coverage sparked renewed interest in the neighborhood. Changed name to NHabitBham to reflect replication in other neighborhoods. Provided support for the establishment of new Land Bank Authority and city-wide Community Health Innovation Survey.

tions funded, the year and amount of funding, the target population of the proposal and the outcomes to date.

By supporting ideas that are often viewed as high risk, CHIA has spawned the creation of unique program offerings and has reached populations that would otherwise not be reached through traditional market-based means. The CHIA program has been positively received by the community, with OGC Council members and previous CHIA grantees noting that the grants were marketed in a manner that was “geared toward com-

munity solving community problems, not a research grant about something else.” Another comment from an applicant was that “the workshops made it realistic and held you accountable.” Lastly, one funded project team said CHIA served as the “answer to do some work that we wanted to do, and answer to our prayers to explore and be creative and really focus on our community. We’ve been interested in doing this programming but the funder we had wanted it more about their vision, not what we wanted to do, so CHIA was that answer.”

One of the lessons learned from this process includes the importance of engaging communities at the outset. It was not the intent of the researchers to launch a competitive grant program; this opportunity only emerged as a result of insights gleaned from the qualitative study. Another lesson learned relates to the importance of employing study recruiters and interviewers who are reflective of the sample populations. It was not until community liaisons were hired and trained that survey response rates reached adequate lev-

Table 4. Summary of funded community health innovation awards, 2013

#	Project title	Funding allocation	Organization	Target population	Project outcomes
6	Community Carpentry Project	\$25,000	Inglenook Neighborhood Association	African American men and women aged 18-25	Established a nonprofit organization focused on teaching foundational carpentry skills to marginalized youth.
7	New Rising Star Family Style Fitness Program	\$10,000	New Rising Star Baptist Church Community Development Corporation	East Birmingham residents and New Rising Star families	Created accessible family fitness programs addressing physical activity and healthy eating.
8	Spark to the Park	\$10,000	Oakwood Neighborhood Association	Residents of city council district 6	Engaged over 150 residents in monthly physical activity events.
9	Walk Birmingham!	\$5,000	Freshwater Land Trust	East Lake residents; district 2 & 5 residents	Created “walking cards” highlighting historical points of interests in East Birmingham.
10	The Color Project	\$14,500	We Are “Rtists”	The Ensley community; district 9 residents	Commissioned a colorful building mural depicting the history of Ensley. Impetus for NPR radio series spotlighting Ensley community.

Table 5. Summary of funded community health innovation awards, 2014

#	Project title	Funding allocation	Organization	Target population	Project outcomes
11	WE Eat Café	\$12,500	Urban Ministry, Inc.	Residents of city council district 6	Established inaugural Jr. Chef training program in conjunction with West End Urban Gardens.
12	MAN CAVE	\$10,000	Alpha Omega Group	Middle and high school males aged 12-18 across Jefferson Co	Ongoing male mentorship program offerings.
13	First Responders Youth Training Program	\$5,000	The Dannon Project and Lemax Sports Medicine Group	High school juniors and seniors across Jefferson Co.	62 high school juniors and seniors completed summer camp in fundamentals of athletic training/sports medicine.
14	Walk To...APP	\$14,500	Black People Run Bike & Swim	Greater Birmingham community	Obtained an additional \$100K to develop phone application technology.
15	Be Heart Smart, Act Now	\$10,000	American Heart Association/ Birmingham Black Nurses Association	Seven (7) churches across the greater Birmingham area	Trained over 750 individuals in CPR lifesaving measures.
16	Oasis Produce Pantry	\$10,000	The Foundry	Public housing residents in West Jefferson County	Surveyed 150+ individuals and delivered over 78,000 lbs. of fresh produce to residents.
17	Earn-A-Bike Program	\$25,000	Redemptive Cycle	Missions and shelters across greater Birmingham	Provided 65 refurbished bicycles to transition housing individuals for use as transportation and received over 960 hours of volunteer time from recipients. Won marketing competition to receive \$10,000 in marketing services. Received an additional \$10K from corporate foundation.

els. Recognizing the perceived power imbalance between the university and community residents, CHIA was determined to create an environment promoting equality, inclusiveness, and trust. Allowing for participatory decision making within the OGC Council has garnered the trust necessary to sustain the OGC and CHIA Awards for more than 5

years. Comparatively, we have witnessed many other campus-community partnerships dissolve or become dysfunctional over the same time period due to failure to foster inclusive and participatory environments.

Perhaps the largest lesson learned was the need to establish a community of former, current and prospective CHIA participants. CHIA

participants often do not fit cleanly within established communities such as those within business, philanthropy, academia, government and public health. Instead, the types of individuals and organizations drawn to CHIA are social entrepreneurs working at the intersection of the aforementioned communities. Moreover, many former CHIA participants, grateful for

Table 6. Summary of funded community health innovation awards, 2015

#	Project title	Funding allocation	Organization	Target population	Project outcomes
18	Mosaic Mental Health Project	\$25,000	No More Martyrs	Congregations across 5 large church sites in the Birmingham metro area	Provided mental health first aid training to over 500 individuals. Received an additional \$10,000 from the Community Foundation of Greater Birmingham.
19	Woodlawn Connection	\$17,000	Woodlawn High School and Jones Valley Teaching Farm	Woodlawn neighborhood district 4 residents	Held three large community health and wellness nights engaging 400+ individuals in educational activities and health screenings.
20	Bib and Tucker Sew Op	\$13,000	Bib and Tucker Sew Op	Acute care for elders unit at UAB Highland Hospital	Provided 80 hours of training to sewing trainees and 5 hand crafted therapy blankets to occupational therapists at local rehabilitation hospital for Alzheimer's patients

Table 7. Summary of funded community health innovation awards, 2017

#	Project title	Funding allocation	Organization	Target population	Project outcomes
21	Community Investment Network	\$12,000	Community Investment Network	Community college students	Newly funded project focused on building philanthropy giving circles to address issues in and around school campuses.
22	Project Possible, Inc.	\$6,800	Project Possible, Inc.	Southwest Birmingham residents, districts 6 & 7	Newly funded project focused on nutrition education, healthy food samples, and cooking demonstrations to residents in Southwest Birmingham community.
23	Westminster Presbyterian Church	16,200	Westminster Presbyterian Church	Students in school various school districts	Newly funded project focused on childhood development through free multi-arts program for elementary school children.
24	Real Life Poets	\$25,000	Real Life Poets	Youth across the Eastlake and East Birmingham communities	Newly funded project focused on the use of spoken word and the arts to address mental health, workforce empowerment and community involvement.
25	Growing Kings, Inc.	\$10,000	Growing Kings, Inc.	Youth aged 15-24 across the City of Birmingham	Newly funded project focused on developing positive relationships between youth and law enforcement in housing communities across Birmingham.
26	What I Learned at Home	\$15,000	At Home Foundation, Inc.	Single parents and low-income women	Newly funded project focused on developing life skills through basic home repair along with supporting mental and emotional health concerns.

the opportunities afforded to them, expressed interest in giving back to CHIA such as through mentoring future applicants and volunteering to assist with future award cycles. Upon hearing of the successes of some of the CHIA awardees, UAB faculty began approaching the Council looking to offer assistance with evaluation, research and human capital. As a result, the OGC Council spearheaded the development of the Community Engagement Institute (CEI), an annual full-day convening of academic and community members.²² Established in 2014, the CEI provides a platform through which community members such as CHIA awardees can share best practices, learn about evidence-based research, establish mentor-mentee relationships, and develop partnerships with university faculty, staff and students. We see such a support network as being critical for knowledge transfer and sustainability

and growth of the CHIA program.

In addition to building out a peer-peer support network, CHIA participants have indicated the need for more training in the principles of social entrepreneurship, design thinking and business strategy. In response, the OGC Council recently began piloting a condensed version of the 9-week CO.STARTERS© for Causes program. CO.STARTERS© is a facilitated, cohort-based social entrepreneurship training program that equips participants to test, scale and grow their ideas.²³ Grounded in design thinking and lean start-up techniques, CO.STARTERS© teaches participants how to quickly and efficiently identify repeatable, predictable and scalable business models to support the sustainability of their ideas. The OGC Council hopes to offer a full version of the CO.STARTERS© program to members of the CHIA alumni network.

Limitations

One of the limitations of the community projects funded by CHIA is the difficulty of getting large enough sample sizes in order to publish findings in peer-reviewed journals. One project published two articles based on their efforts, but the majority of projects were designed to attempt a new idea or approach to addressing a problem, making evaluation of the effort challenging. The focus of the grantees was to make a difference, not to constantly document the difference. In a data-driven society where empirically based outcomes are the gold standard, projects that advance qualitative results may not get the attention they deserve. This makes hands-on, community development programs like CHIA less desirable for researchers and funding agencies who need to demonstrate quantitative outcomes in published articles.

A specific limitation of our study

is the lack of a representative sample. For example, 67% of respondents were either unemployed (7.6%) or retired (59.3%). This is an artifact of the nature of neighborhood officers in Birmingham who tend to be overrepresented by those who have the time necessary to engage in voluntary public service. However, their views may not fully take into account the needs and desires of those in early or mid-career stages. Also, although Birmingham has a 74% African American population, 91.5% of respondents were African American. It will be important for future research to build on and extend this study with a broader cross-section of neighborhood residents.

CONCLUSION

The OGC Council and CCTS staff are currently examining the CHIA process as it enters its sixth year by hosting additional focus groups with previous grantees, soliciting testimonials on how CHIA funds have impacted their community, along with exploring ways to enhance the scientific currency of the process. Insights gleaned from this process will be used to support continuous improvement of the CHIA program.

ACKNOWLEDGMENT

Research reported in this article was supported by the National Center for Advancing Translational Sciences of the National Institutes of Health under award number UL1TR001417. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

CONFLICT OF INTEREST

No conflicts of interest to report.

AUTHOR CONTRIBUTIONS

Research concept and design: Allen; Acquisition of data: Pineda; Data analysis and interpretation: Allen, Hood, Wakelee; Manuscript draft: Allen, Hood, Pineda; Administrative: Hood, Pineda; Supervision: Allen

REFERENCES

1. Minkler M. Health education, health promotion and the open society: an historical perspective. *Health Educ Q.* 1989;16(1):17-30. <https://doi.org/10.1177/109019818901600105>. PMID:2649456.
2. Wallerstein N. Powerlessness, empowerment, and health: implications for health promotion programs. *Am J Health Promot.* 1992;6(3):197-205. <https://doi.org/10.4278/0890-1171-6.3.197>. PMID:10146784.
3. Braveman PA, Egerter SA, Woolf SH, Marks JS. When do we know enough to recommend action on the social determinants of health? *Am J Prev Med.* 2011;40(1) (suppl 1):S58-S66. <https://doi.org/10.1016/j.amepre.2010.09.026>. PMID:21146780.
4. Braveman PA, Egerter SA, Mockenhaupt RE. Broadening the focus: the need to address the social determinants of health. *Am J Prev Med.* 2001;40(1S1), S4-S18.
5. Braveman PA, Cubbin C, Egerter S, et al. Socioeconomic status in health research: one size does not fit all. *JAMA.* 2005;294(22):2879-2888. <https://doi.org/10.1001/jama.294.22.2879>. PMID:16352796.
6. Braveman PA. Black-white disparities in birth outcomes: is racism-related stress a missing piece of the puzzle? In: Lemelle AJ, Reed W, Taylor S, eds. *Handbook of African American health: social and behavioral interventions.* New York: Springer; 2011:155-163. https://doi.org/10.1007/978-1-4419-9616-9_10.
7. Gottlieb L, Sandel M, Adler NE. Collecting and applying data on social determinants of health in health care settings. *JAMA Intern Med.* 2013;173(11):1017-1020. <https://doi.org/10.1001/jamainternmed.2013.560>. PMID:23699778.
8. Jones CP. Levels of racism: a theoretic framework and a gardener's tale. *Am J Public Health.* 2000;90(8):1212-1215. <https://doi.org/10.2105/AJPH.90.8.1212>. PMID:10936998.
9. Katz B, Bradley J. *The Metropolitan Revolution: how cities and metros are fixing our broken politics and fragile economy.* Washington, DC: Brookings Institution Press; 2013.
10. Miller W, Simon P, Maleque S, eds. *Beyond Health Care: New Directions to a Healthier America.* Washington, DC: Robert Wood Johnson Foundation Commission to Build a Healthier America. 2009.

11. Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. *J Behav Med.* 2009;32(1):20-47. <https://doi.org/10.1007/s10865-008-9185-0>. PMID:19030981.
12. World Health Organization. *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health. Final Report of the Commission on Social Determinants of Health.* Geneva: WHO; 2008.
13. Beadle MR, Graham GN, Jarris PE, Hussein CA, Morgan A, Finch R. *A National Partnership for Action to End Health Disparities in the United States.* World Conference on Social Determinants of Health. 2011.
14. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q.* 1988;15(4):351-377. <https://doi.org/10.1177/109019818801500401>. PMID:3068205.
15. (n.d.). Retrieved from http://nerche.org/index.php?option=com_content&view=article&id=341&Itemid=618
16. Zuiches JJ. Attaining Carnegie's community-engagement classification. *Change: The Magazine of Higher Learning.* 2008;40(1):42-45. <https://doi.org/10.3200/CHNG.40.1.42-45>.
17. US Census Bureau. *American Fact Finder Fact Sheet: Jefferson County, AL, 2010.* Last accessed June 30, 2016, from <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
18. Birmingham Citizen Participation Plan. Last accessed May 26, 2016 from http://www.bhamwiki.com/w/Birmingham_Citizen_Participation_Plan
19. National Center for Advancing Translational Science Clinical and Translational Science Awards Fact Sheet, 2015. National Institutes of Health, US Department of Health and Human Services Last accessed Oct 3, 2017 from ncats.nih.gov/ctsa.html.
20. *Community Health Innovation Awards Grant Program.* UAB Center for Clinical and Translational Science; 2015.
21. Israel BA, Schulz AJ, Parker EA, Becker AB, Allen AJ, Guzman JR. Critical issues in developing and following CBPR principles. In: Minkler M, Wallerstein N, eds. *Community-Based Participatory Research for Health: From Process to Outcomes* San Francisco: Jossey-Bass. 2008:47-66.
22. Community Engagement Institute. Last accessed August 28, 2017 from <https://www.uab.edu/ccts/community/cei>
23. Co.Starters for Causes. Last accessed August 28, 2017 from <http://www.causeway.org/costartersforcauses/>