# A Comprehensive, Community-Based Coalition to Address Racial Disparities in Chronic Disease: REACH (Racial and Ethnic Approaches to Community Health) in Allegheny County, PA

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**ABSTRACT**

Background: Funded by the Centers for Disease Control and Prevention (CDC) Racial and Ethnic Approaches to Community Health (REACH) Initiative, *Live Well Allegheny: Lifting Wellness for African Americans* (LWA$^2$) in Allegheny County, Pennsylvania, aims to enhance health equity by addressing chronic disease in six African-American communities via three key strategies: nutrition, physical activity, and community-clinical linkages.

Objectives: This manuscript describes the coalition's partnership dynamics and evaluation methods with a focus on nutrition strategies.

Methods: We have a network of committed partners implementing the strategies and we are evaluating our efforts using community asset mapping, county population-based survey data, qualitative process interviews, focus groups, and program performance measures.

Results: The LWA$^2$ coalition is the culmination of years of partnership building which allows for more targeted activities related to health equity in the region. Thus far, the LWA$^2$ coalition is thriving. The network of committed and talented partners in the nutrition strategy (healthy nutrition standards, food systems, and breastfeeding) reached 22 sites and over 46,000 people during the first two years of the project. Process interviews conducted as part of the evaluation identified challenges and successes of implementation, and development of the coalition.

Conclusion: This comprehensive evaluation approach supports formative processes, evaluation metrics, and prolonged sustainability plans of this community-based coalition.

**KEYWORDS:** REACH, Coalitions, Evaluation, Community, African Americans, Chronic Disease, Prevention

## Introduction

*Racial and Ethnic Health Disparities*

Racial and ethnic disparities in health outcomes, including chronic disease, in the United States (US) have been well documented and remain persistent(1-3). In Allegheny County, Pennsylvania, the 34th largest county in the US, Black populations are more likely to be diagnosed with chronic diseases at younger ages, and have higher disease mortality rates of cardiovascular disease(4-6). An examination published by our group determined that between 2009-2015 there were improvements in outcomes linked with racial disparities between Black and White residents regarding asthma, stroke, and cholesterol rates. However, Black-White disparities persisted for both diabetes and hypertension such that there was a higher prevalence among Black residents(7).

Reasons for these disparities are complex(8) and involve individual (socioeconomic status, health behaviors), health systems (access to health care, patient-provider relationships), and community-level factors (distribution of resources, built environment, racist policies)(9-11). Addressing the social determinants of health has been a major research priorty in trying to understand and reduce disparities(12), and more recently a major commitment from national public health agencies(13).

Efforts to reduce racial disparities in chronic disease within Allegheny County from a community-based approach have been increasing in recent years. The University of Pittsburgh researchers involved with this work have been engaged with health disparities/equity work for the past 20 years and initial partnerships with local health officials sparked development specifically in this region. Figure 1 describes the important milestones in this journey beginning with the County Community Health Improvement Plan and culminating in building this multiple

year, collective action coalition to address racial health disparities as described in this manuscript.


Figure 1: Partnership Development: Important Milestones in Building the LWA2 REACH Coalition

*CDC REACH Initiative*

In 1999, the Centers for Disease Control and Prevention (CDC) launched the Racial and Ethnic Approaches to Community Health (REACH) initiative to address racial and ethnic health disparities at the community-level throughout the US. The initiative sought to provide community-based programs with monetary awards and support to develop interventions for and to reduce disparities in common chronic illnesses(14-17). REACH coalitions throughout the

nation have used culturally appropriate community-level interventions to address various health-related disparities. Some examples include encouraging restaurant establishments to remove salt from dine-in tables, working with faith-based organizations to promote healthy eating habits in communities, increasing physical activity by providing no-cost fitness and wellness center memberships, and more recently, educating communities on methods to reduce the spread of COVID-19(18-22).

In Pennsylvania, Allegheny County is one of two sites that received the REACH award in 2018 and is focused on alleviating health burdens in African-American communities. Allegheny County REACH is also called *Live Well Allegheny: Lifting Wellness for African Americans* (LWA$^2$) Reach – Live Well Allegheny (23).

**Background, Objectives, and Partnerships**

*Allegheny County, Pennsylvania, REACH Coalition*

LWA2's structure has Allegheny County Health Department (ACHD) serving as a backbone organization with a leadership team, which includes the University of Pittsburgh School of Public Health evaluation team, that guides the overall direction of the initiative. Key partners include an active working group with the 10 funded local community partners to implement the strategies. ACHD, along with its advisory coalition, completed its comprehensive Community Health Assessment and subsequent community health improvement plan to achieve health equity, The Plan for a Healthier Allegheny (PHA), in 2015(24). One of the five priority areas identified in the PHA is chronic diseases/conditions and the behaviors that contribute to it, including obesity, physical inactivity, and smoking. The working group of the PHA, with a focus on health equity and chronic disease, developed the Allegheny REACH proposal for the CDC.

*Live Well Allegheny: Lifting Wellness for African Americans* (LWA$^2$) is a targeted expansion of the ACHD's *Live Well Allegheny*, which focuses on improving the health of the county's residents (Live Well Allegheny – Improving the health and wellness of Allegheny County residents) (Figure 1)(25). This coalition aims to enhance health equity by addressing chronic disease in six African-American communities through three strategies: nutrition, physical activity, and community-clinical linkages (Figure 2). The purpose of this manuscript is to provide an in-depth description of the partnership dynamics and the comprehensive community-based evaluation methods for this coalition with a particular emphasis on the nutrition strategy, which given the large number of partners, has the most potential to have a significant, long-term impact. Due to its evaluation focus, this project was not considered to be human subjects research by the University of Pittsburgh Human Research Protection Office (HRPO) and the evaluation team received documentation stating that no IRB approval was required.

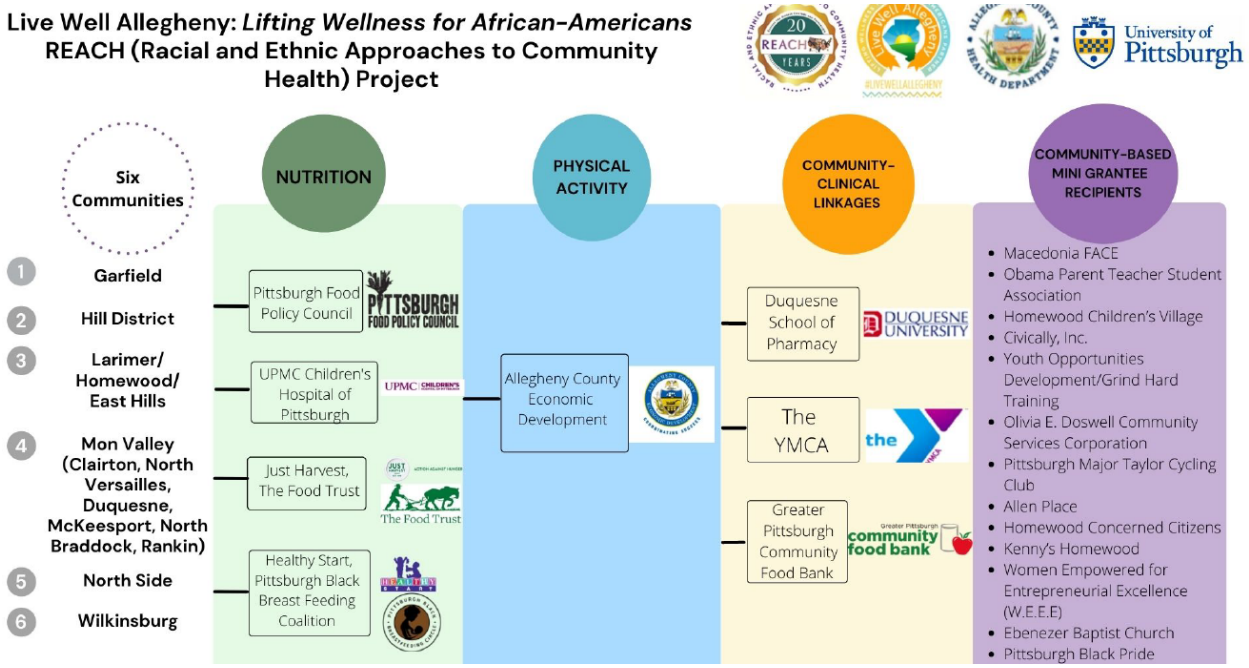



Figure 2: Overview of the LWA$^2$REACH Project

## Intervention Approach

*REACH Program Strategies*

Selecting priority communities was a data-driven process based on the 2015 Community Health Assessment and county-level survey data. The priority communities have poverty rates ranging from 28% to 44% below the 100% federal poverty level and Black-to-White poverty ratios ranging from 0.8 to 4.6 (Table 1).

Members of the coalition focused on nutrition work to increase: breastfeeding; opportunities for residents to receive healthier food through procurement policies (i.e., development of a purchasing coalition); access at local farmer's markets and farm stands (via use of the US Supplemental Nutrition Assistance Program EBT/SNAP); and finally, establishing healthy food guidelines in community institutions. The physical activity strategyworks to increase opportunities for physical activity and active living by helping communities to develop and implement active transportation and Complete Streets policies (an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities, Complete Streets - Smart Growth America). Organizations supporting the community-clinical linkages strategy work collaboratively with organizations to develop culturally responsive interventions to increase opportunities for African-American residents to be connected with local health organizations such as hospitals, clinics, and programs that screen for and address factors that may lead to chronic illnesses. All three strategies focus on reducing the persistent health disparities between African-American and White residents throughout the county.

*Nutrition Strategy*

The nutrition strategy for LWA$^2$ includes six different organizations (the largest number of organizations working together of all three strategies) and is divided into three sub-strategies: breastfeeding, nutrition standards, and food systems. Throughout this process, all organizations keep track of the number of community sites, venues, and people reached by their activities as they pertain to CDC performance measures and internal metrics.

- **The breastfeeding sub-strategy** includes African-American-led organizations which promote breastfeeding in African-American women and birthing people through increasing peer support and training, breastfeeding circles, and community education.
- **The nutrition standards sub-strategy** focuses on developing healthy nutrition guidelines in key community institutions such as early childhood and out-of-school programs.
- **The food systems sub-strategy** includes several partners focused on increasing the number of institutions and businesses offering healthy food options and collaborating to expand access to EBT/SNAP.

**Evaluation Methods**

*Evaluation Team and Methodology*

The evaluation of the LWA$^2$ REACH initiative takes a comprehensive, community-based approach. In partnership with ACHD, an evaluation team from the University of Pittsburgh School of Public Health engages key partners in the evaluation and performance measurement planning processes to support ongoing monitoring of activities and short-term outcomes. The evaluation plan has two primary objectives: (1) document implementation and progress toward

goals; and (2) examine to what extent the strategies have achieved the intended short-term outcomes.

The LWA$^2$ logic model is outlined in Figure 3. The inputs to the LWA$^2$ initiative include the PHA Coalition, Community Health Needs Assessment, funding from CDC's REACH, and infrastructure and partners as described above. The strategies detail the activities that LWA$^2$ are employing to achieve improved health outcomes. The short-term outcomes list measures for assessing what outcomes were achieved and which strategies were most effective in achieving the desired outcomes and are tracked on a yearly basis. The intermediate outcomes, long-term outcomes, and overall impact represent the policy-, system-, and individual-level impacts targeted by the evaluation. The project evaluation uses a participatory, mixed methods approach with quantitative and qualitative data collection that includes key stakeholders and community residents in the process and focuses on using the findings for continuous quality improvement. The qualitative component consists of key informant interviews in years 1 and 5 of the project with core partners, the leadership committee, the larger ACHD PHA Coalition members, and other community stakeholders. These provide an effective means of getting detailed information about project activities from various perspectives. Additionally, to the extent possible, data from secondary data sources are used to assess aggregate-level health behaviors and other risk factors, including nutrition and physical activity, of the priority population.

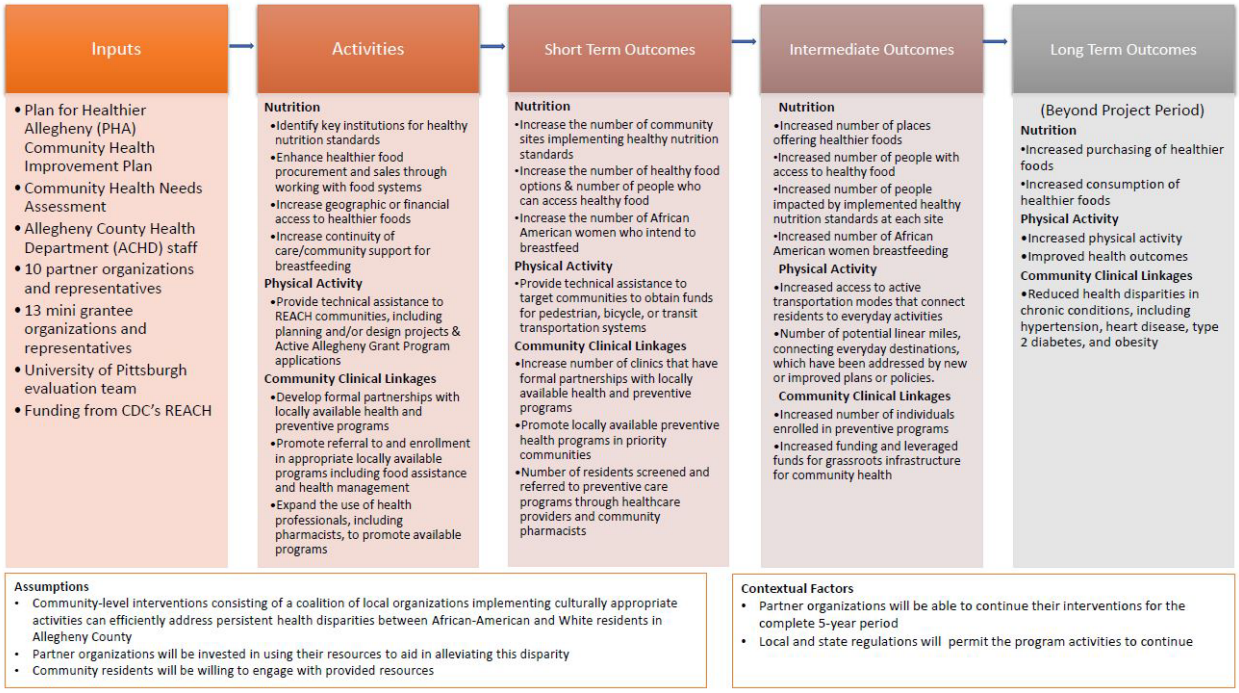



Figure 3: LWA2 REACH Logic Model

This manuscript includes a description of evaluation activities surrounding (1) epidemiologic data from sources including the Community Health Assessment, Allegheny County Health Survey/Behavioral Risk Factor Surveillance System (BRFSS) and Community Asset Mapping, (2) Project Performance Measures (reported to CDC), and (3) Qualitative interviews/focus groups, with an emphasis on the nutrition strategy.

## Epidemiologic Data, Community Health Assessment, Community Asset Mapping

Initial evaluation activities determined which resources were needed for the project by including a community health assessment (CHA), population-based health surveys, and community asset mapping. The 2015 CHA informed much of the groundwork for development of the PHA Coalition(26). In 2019, the ACHD conducted an updated CHA, which provides essential data for characterizing the overall health of residents. The REACH team assisted in developing the survey questions and examining respondent datafrom our priority communities.

Broadly, the assessment asks respondents about the health of their community, barriers to health care utilization, security (housing, food, income), special needs, and experiences with racial discrimination. The data was disaggregated by location into the six priority communities, response rates (expressed as a percentage of total responses within a given community) were calculated, and Allegheny County rates overall functioned as a comparison group. In addition to demographic data (age, gender identity, ethnicity, and race), the REACH evaluation team identified relevant survey questions from each broad CHA category listed above and presented the results to REACH implementation community partners to inform their work.

To examine health behaviors and outcomes across neighborhoods in the county, the ACHD implemented the Allegheny County Health Survey, a population-based survey modeled after the Behavioral Risk Factor Surveillance System (BRFSS) in 2002, 2010/11, and 2015/16(26, 27). Epidemiologic data on the priority neighborhoods is located in Table 1 and is used to establish baseline and follow up over time for evaluation purposes. Moving forward, the ACHD will utilize an oversample of the BRFSS to assess county-specific data. Additionally, at the beginning of the project a community asset mapping process was implemented with and for residents to inventory existing resources in neighborhoods such as clinics, preventive programs, farmer's markets, and food pantries. The evaluation team also worked with partners to identify an extensive list of resources, including businesses, non-profit organizations, and churches to advise them of available resources to inform the strategies while preventing duplication of effort.

**Project Performance Measures (Reported Yearly to CDC)**

To assess the progression of the coalition in a manner that can be combined with data from the other REACH recipients from across the country, evaluation activities are conducted to gather and report yearly CDC project performance measures (available upon request). These

measures are collected yearly by members of the evaluation team and the ACHD. For example, these can include the number of priority community residents who have increased food security, new sites that accept Food Bucks or EBT/SNAP benefits, and communities that have greater access to healthier foods as local institutions improve procurement policies. Additional program metrics (for example, survey data from farmer's market vendors) were also compiled from each partner to determine the impact of each strategy beyond the performance measures (data not shown). Project performance measures and our internal program metrics are compiled to evaluate our nutrition/food systems strategy, within which LWA$^2$ is measuring its five-year impact on residents' access to healthy foods.

**Qualitative Data**

Between January and May of 2020, qualitative in-depth interviews were conducted with representatives from every partner organization in the coalition individually. Anyone involved with the work of LWA$^2$ was invited to attend the interviews for their organization. The interviews were either conducted by an external contracted interviewer or a member of the evaluation team in-person or virtually, via Zoom, to adhere to COVID-19 protocols. Participants provided verbal consent to record the interviews. Prior to conducting the interviews, the interview guide was created by the evaluation team and included topics such as planning and implementation strategies, the intersection of individual, organizational, and LWA$^2$ priorities, partnership and coalition development, stakeholder engagement, organizational work toward racial equity, processes including barriers and facilitators, and adjustments made as a result of successes and challenges (available upon request).

Similarly, three virtual focus groups (due to COVID-19) were conducted for residents from the priority neighborhoods. The main purpose of the focus groups was to incorporate

community voices and experiences in the development, execution, and necessary pivots related to the REACH work and strategies. Participants were recruited via flyers posted on social media, program ambassadors, and word of mouth. Each focus group had between five and eight participants. The focus group guides contained questions regarding participants' thoughts about the three key strategy areas and questions from community organizations that co-facilitated the focus groups. Each focus group was 90 minutes and participants were compensated with a $35 gift card incentive for their time.

Focus groups and interviews were recorded, transcribed and uploaded to NVivo 12 for analysis(28). Two evaluation team members developed a codebook, created through an extensive inductive and deductive process and validated through assessing inter-rater reliability (Cohen's kappa = 0.62), to identify critical themes throughout the interviews. The same two evaluation team members also created memos for the interviews that assessed concepts and were used by the team in tandem with the coded interviews to develop and evaluate forthcoming themes. Qualitative data is shared with the REACH coalition partners on an ongoing basis to allow for modification of approaches for program strategies as necessitated by the feedback.

## Preliminary Results

### *Coalition Partnerships*

Figure 1 outlines the growth in partnerships and key milestones in the formation of LWA$^2$. Given the history of building health equity work over time, there is a robust and complex array of partners from a variety of sectors that are involved in the success and outcomes of the LWA$^2$ initiative. Many of the partners are from the health sector, however, community development corporations, churches, school parent groups and youth organizations are also at the table. An important component of the evaluation is to seek the input of community members on

the activities of REACH via qualitative (focus groups) and quantitative (surveys) methods. Figure 3 details the short, intermediate and long-term benefits to the community.

*Project Performance Measures*

During the first two years of the project, performance measures data indicate that our nutrition strategy (healthy nutrition standards, food systems, and breastfeeding) reached 22 sites and over 46,000 people. 650 individuals in families at three family care sites, and 575 people at early childhood and out of school time sites were impacted by nutritional services. 74 African-American mother/baby dyads were impacted by breastfeeding support services. 46,804 people experienced improved access to healthier foods through farmers markets that take EBT/SNAP and Food Bucks, and grocery stores that take Food Bucks (data not shown).

*Qualitative Results*

During the interviews, themes from the first two years of operation include challenges and successes regarding the coalition's functioning, implementation, and planning and development. First, when discussing the coalition's functioning, partners stated that being part of REACH is a great opportunity due to the commitment to racial and ethnic-specific work; however, internal collaboration was initially difficult due to the lack of knowledge of the other partners' work and capacity. Monthly partner meetings and regular communications within sub-strategies allowed for partner organizations in the food systems strategy to ensure that their efforts toward improving food security were complementary and did not overlap. Partners in the community-clinical linkages strategy referring residents for food security resources learned about tracking databases already in place among food systems partners, thus enabling sharing of evaluation resources.

Second, while considering the implementation processes, partners expressed some initial concern managing programmatic expansion of their activities to accomondate REACH activities, coordinating with new vendors, and incorporating the funders' needs with their internal priorities. Nevertheless, they were able to expand the quantity of their services, the neighborhoods they were working in, resources for programming, goals, and their own network. When reflecting on their expansion, one partner stated:

> "*So, this grant allows us to collaborate with other folks that I hope we continue even after the REACH grant's over, that we are looking to have a healthy community in our city, because families make up community. So, if you've got a healthy family, you've got a healthy community. Communities make up society. We want all Pittsburgh to be healthy, but especially our black families, because we're the ones struggling the most.*"

Additionally, the partners raised concerns about meeting their intended goals due to financial constraints and initial confusion regarding guidance about the parameters of what the grant provided. Moving forward, during their planning and development phase, implementation partners were able to expand on their programming to incorporate a more holistic approach to addressing chronic illnesses and hire new staff members. These processes included staff development and expansion, piloting the new programming, and working with the new goals and resources. Success stories from the nutrition partners can be found in Figure 4.

Figure 4: LWA$^2$ REACH Success Stories Quotes from In-depth Interviews with Partner Organizations

Nutrition Strategy Success Stories

Breastfeeding

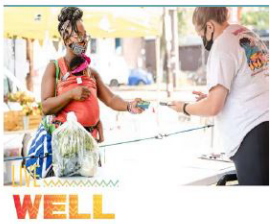
*The REACH grant was able to support some of the programmatic efforts within the first year, including our breastfeeding symposium,... cultural humility, clinical interventions, and community-based supports. So it definitely helped out with securing some of the keynote speakers, and also paying for some of the breastfeeding boot camp educational materials. So it definitely supported in a capacity that the initial pilot funding was not able to support, which was awesome.*

Nutrition Standards

*...it's been great adding on new partners, and especially going after sites that are a little bit non-traditional that we probably wouldn't have has been really great. And it's been helpful to see that we're going to be able to help them improve. And just because since we're approaching them with all of the supports that we have through our out-of-school time and early childhood programming, for us, it's great because we're not just going and talking to people about nutrition. We're talking about physical activity, mental, behavioral health, other supports that they might need. So in that sense, it's really just like giving a lot more resources to agencies that we wouldn't have maybe approached. If they had approached us, we would have always been open. But we're more seeking them out intentionally.*

Food Systems

*One lady came in ... Her blood pressure was high ... But that's why the health screenings are there because there's a lot of people that don't know. And you could be at borderline to about to pass out and be really hospitalized. So we're trying to make awareness of you have to take care of yourself, this is what the number should be, get this checked quite often, as often as you can.... right when they find out that they have this health risk, which REACH is trying to really get at those core sources of these disparities, and then right then and there, there's an intervention that gets you started on that pathway toward a-- right now, here's your first step is to take these bucks, go buy some food to help you address this*




Preliminary analyses from the focus groups regarding nutritional needs revealed that there are residents within the targeted communities that have difficulty accessing quality produce due to a lack of grocery stores within their neighborhoods. Those who can travel to other neighborhoods for nutritional needs also expressed a lack of access to stores with convenient hours, and inadequate and unreliable transportation. Additionally, residents who have access to quality produce within their neighborhoods expressed a community need for education about choosing and preparing food. These initial results highlight barriers to accessing food and will be used to evaluate further implementation of work toward each of the nutrition strategies.

**Implications for Public Health**

Building on partnerships across Allegheny County, the LWA$^2$ coalition is thriving- with a network of committed and talented partners who are working together to achieve the project goals. The structures put in place at the beginning of the project, such as monthly partner

meetings and regular communications within sub-strategies, have created a well-functioning, cohesive coalition. There was a recognition that a project of this size can be challenging to sustain without regular communication that ensures that all stakeholders are up-to-date on each other's activities and priorities. Therefore, it has been a priority of the leadership team to meet monthly before the partner meetings to plan productive and engaging convenings for partners to share updates and get feedback. The results from the first two years of the quantitative performance measures are promising, and qualitative data is informing ongoing changes and updates to the intervention strategies. Additionally, as the programs have been in operation (pre and during COVID-19), residents' active participation suggests that the focus on unraveling structural barriers to obtaining resources in neighborhoods vs. on individual-level outreach and education is warranted. Further, the success of various programs in recruitment, retention, site expansion, etc., indicates that these programs fulfill a desired need from residents within the communities.

In Allegheny County, the work to reduce health disparities in chronic disease and achieve health equity is in its infancy. While the University of Pittsburgh has clinical sites for national multi-site, observational cohort studies in chronic disease epidemiology as well as clinical intervention studies, to our knowledge, there are no other strong intervention projects in this area in our region. Therefore, this project is pivotal and is expanding. Several additional grassroots organizations and community ambassadors have been contracted to expand the work of the partners in the priority communities. These community ambassadors include church groups, cycling, yoga and other physical activity-focused groups, and neighborhood groups expanding food distributions. They are increasing the collective impact the REACH project will have on the priority communities and Allegheny County.

Despite the many successes of the project thus far, some challenges exist. Aligning the initial development of the programmatic activities with the priorities and performance measures set by CDC was challenging. In addition, some of our strategies were difficult to implement as planned (implementation of food insecurity screening and follow-up in health clinics) and required technical assistance from CDC as well as active brainstorming to seek additional partners and modify the strategy. Further, over time there has been turnover in the REACH coalition representatives from the core partner organizations. This has presented a challenge in keeping the partners up-to-date and ensuring that decision-makers within the organizations are actively engaged. Finally, all partners had to pivot their work due to COVID-19. Many organizations shifted to providing critical needs in communities such as food distributions. These shifts affected all aspects of the project, including evaluation outcomes. Despite these challenges, the strong *Live Well Allegheny-Lifting Wellness for African Americans* coalition has been prepared to handle shifts due to COVID-19 and to continue the critical work of eliminating health disparities in chronic disease in African-American communities in Allegheny County.

**Conclusion**

The project is now in year four with over 20 partners collaborating to create long-term system changes. The infrastructure built for this project has allowed us to receive supplemental funding from 1) the National Association of City and County Health Officials (NACCHO) to expand our data on the social determinants of health, 2) Hillman Foundation to work with municipalities on policy change, 3) from CDC to study and promote the influenza vaccine uptake, and 4) CDC to study and promote COVID vaccine uptake. In addition the team is considering activities to dissemeninate the results and assure long-term sustainability.

Table 1. Poverty Rates and Chronic Disease Prevalence in Priority Communities, 2015

| | Garfield* | Hill District* | Larimer/ Homewood/East Hills* | Northside* | Mon Valley§ | Wilkinsburg§ |
|---|---|---|---|---|---|---|
| **Poverty Rates N (%)** | | | | | | |
| **Black Population** | 1802 (73) | 4924 (83) | 9770 (90) | 4779 (39) | 12548 (44) | 5429 (72) |
| **Black Pop Below Poverty** | 883 (49) | 1990 (40) | 3963 (41) | 2151 (45) | 6581 (52) | 2013 (37) |
| **Black-to-White Poverty Ratio** | 1.5 | 1.0 | 0.8 | 2.6 | 2.7 | 4.6 |
| **Percent Below 100% of FPL** | 44 | 43 | 40 | 28 | 35 | 32 |
| **Chronic Disease (Crude) Prevalence (%)** | | | | | | |
| **Cancer (excluding skin)** | 6 | 6 | 7 | 6 | 10 | 7 |
| **Diabetes** | 19 | 22 | 23 | 14 | 15 | 11 |
| **Heart Disease** | 8 | 10 | 10 | 7 | 6 | 4 |
| **High Blood Pressure** | 38 | 50 | 52 | 38 | 41 | 31 |
| **Obesity±** | 49 | 42 | 39 | 35 | 43 | 39 |
| **Physical Inactivity** | 40 | 44 | 42 | 33 | 26 | 24 |
| **Smoking ±** | 25 | 37 | 37 | 25 | 32 | 27 |

*Source for poverty data: American Community Survey, 5-year estimates (2012-2016)*
*for chronic disease prevalence, 2015 model-based estimates, 500 cities, average; § for chronic disease prevalence, 2015-2016 ACHS, weighted; ± 2015-2016 model-based estimates, ACHS, average; FPL=Federal poverty line

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