Original Research

Exploring models for youth engagement in community health planning: The Youth-led Community Health Learning Initiative

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ABSTRACT

Background. Community health assessment and improvement planning processes (CHA/CHIP) are often challenged with developing health actions that reach across a large community, city or county and that incorporate locally informed issues and place-specific strategies. In co-learning about approaches for enhancing CHA/CHIP processes through youth stakeholder input, a partnership of academic and community leaders came together to create The *Youth-Led Community Health Learning Initiative* (YLCHLI), a one-year pilot initiative aimed at identifying health needs and assets in partnership with youth leaders and two central Texas communities.

Objective. To describe our approach, key findings, and lessons learned in implementing the YLCHLI in two different organizational settings: a high school-based setting and a community-based organization setting.

Methods. Guided by a community advisory board and the Mobilizing for Action through Planning and Partnerships framework, the YLCHLI incorporated a mixed methods design consisting of quantitative community health indicator analysis for topics identified in the Austin/Travis County CHA followed by a youth-led qualitative assessment of selected health issues via methods that included *participatory mapping, data walks,* and *photovoice*.

Results: Youth-informed findings provided rich insights and context for understanding disparities in selected health issues, including identification of social and environmental barriers to physical activity, healthy eating, health services, and mental health, and locally-informed recommendations for community health improvement.

Conclusion. High school health science tracks and community-based organizations represent promising settings for fostering community partnerships and youth engagement in identifying local

health needs and opportunities that can enhance community health improvement planning and contribute to positive youth development.

KEY WORDS: adolescence, schools, settings, context, Hispanic, community health assessment, community health improvement planning, population thinking.

INTRODUCTION

Across the United States (U.S.) and globally, health coalitions have been implementing community health assessments (CHAs) with the aim of identifying priority health issues and catalyzing action for health as part of community health improvement planning (CHIPs).[1-4] In the U.S., CHA/CHIPs are now required for federally funded hospitals through the Affordable Care Act[5] and health department accreditation under the Public Health Accreditation Board.[6] In Austin and Travis County, Texas, U.S., a coalition of community leaders and organizations implemented a first cycle of a CHA/CHIP in 2011-2016.[7] While CHA/CHIPs hold promise for advancing community health, CHA/CHIPs are often challenged with developing health actions that reach across a large community, city or county and that incorporate locally informed, culturally relevant, and place-specific strategies.[7,8] A key finding from a stakeholder evaluation of the first cycle of Austin/Travis County's CHA/CHIP was the need and opportunity to further engage local communities to conduct CHAs specific to their communities.[7]

In advancing community health, a growing body of research finds that young people are effective change agents with identifying community health problems, and developing and implementing health promotion actions.[9-13] In addition, approaches such as youth participatory action research (YPAR) have been found to contribute to positive social development of young people, including benefits with leadership and interpersonal skills, academics, and career development.[9,12] An important feature of YPAR initiatives are youth-adult partnerships, which have been found to increase civic engagement and community connectedness for youth participants[14]- key factors for adolescent health promotion.[15]

Despite the potential of youth engagement in CHA/CHIP, research is lacking on easy-to-disseminate models for engaging youth in community health planning across communities that can

link and sustain youth-led CHA/CHIP with broader planning efforts. Recently, D'Agostino and Freudenberg[16] made a compelling call to action to incorporate *population thinking* in high school curricula, including CHA, to address intersecting problems of health inequities and inadequate STEM workforce preparation. High schools represent an ideal setting for incorporating youth-led CHA given the opportunity to align, embed and enhance curricula with community health planning, as well as their placement in local communities, which can aid in expanding the reach of city/county health planning efforts while generating community-specific insights. In addition to high schools, community-based organizations also represent a promising setting for engaging youth in CHA. The YWCA of New Britain, Connecticut is a model example of a community-based organization that has successfully engaged youth in assessing community health needs over time using methods such as photovoice[17] – defined as *"a process by which people can identify, represent and enhance their community through a specific photographic technique."*[18]

In exploring opportunities to increase youth participation in the CHA process in partnership with two central Texas communities (referred to as "Community A" and "Community B" for confidentiality), a group of school, university, nonprofit, and community leaders based in Austin/Travis County came together to create the *Youth-led Community Health Learning Initiative* (YLCHLI). Hosted by the UTHealth School of Public Health-Austin and the SAFE Alliance Expect Respect Program and in partnership with school and community leaders, the YLCHLI was a one-year pilot initiative aimed at identifying health needs and assets of these central Texas communities via the lens of young people while fostering their healthy social development.

With the overarching aim of co-learning around models for youth-led CHA that can enhance community health planning as well as healthy youth development, we describe our approach, key findings, and lessons learned in implementing the YLCHLI in partnership with

middle and high school-aged youth in two different settings: a high school-based setting and a community-based organization setting. In doing so, we aim to illustrate how a youth-led CHA project-based curriculum can contribute to population thinking and other positive social development skills of young people while providing key insights about health disparities and locally informed solutions that can inform broader community health planning efforts.

METHODS

Study Design and Approach

The YLCHLI was rooted in a mixed methods sequential explanatory study design[19,20] in which qualitative data (e.g., photovoice narratives and photos) were collected via a youth-led CHA component to better understand and contextualize quantitative community health indicator data. This paper focuses primarily on our youth-led component. The study took place between 2018 and 2019, with each youth-led CHA implemented in spring (Community A) and summer (Community B) 2019. All aspects of this community-based research project, including our student assent and parent consent procedures, were reviewed and approved by the UTHealth School of Public Health and Community A school district IRBs.

YLCHLI Community Advisory Board

Building from best practices of community-engaged research,[21,22] we established a Community Advisory Board (CAB) to guide our efforts. The four founding community partners included leaders from The SAFE Alliance's Expect Respect Program, a national leader in promoting healthy adolescent relationships based in Community B; Children's Optimal Health, a nonprofit leader in data-driven community health planning; our partner high school based in Community A, and the UTHealth School of Public Health in Austin (UTSPH). Building from this

core group, we expanded our CAB to include leaders from Austin Parks and Recreation Department, Austin Public Health, University of Texas at Austin Dell Medical School, and Travis County Health and Human Services. The founding partners worked together throughout the initiative to develop and implement the YLCHLI. The full CAB (n=15 members) met five times during the course of the one-year initiative, with meetings held at a community health center in Community B. Key roles of CAB members included: providing guidance with the overall development and implementation of the YLCHLI; identifying existing data sources for our community health indicator component; assisting with the planning of community sharing of findings; and providing input with interpretation of findings for the final report. Specific roles of CAB members are highlighted in this manuscript, and all CAB members informed the final report upon which this paper is based.

MAPP Planning Framework

In implementing the YLCHLI, the *Mobilizing for Action through Planning and Partnerships* (MAPP) framework[21] provided helpful guidance. While resources were limited to fully implement MAPP, we incorporated key facets into the YLCHLI. In doing so, we initiated this project by learning about each community and organizations within our partner communities as relates to MAPP Phase 1: *Organizing and Engaging Partners*. Our YLCHLI curriculum, implemented by AM (UTSPH) and RR (SAFE Expect Respect) in partnership with school partners, incorporated *visioning* activities (Phase 2), and quantitative (health indicator analysis) and qualitative methods (e.g. photovoice) that aimed to generate insights related to two of the four MAPP assessments: *Community Themes & Strengths Assessment* and *Community Health Status Assessment* (Phase 3). While strategic action planning and implementation were beyond the project's scope (Phases 4-6), youth co-investigators presented their findings and recommendations

for addressing key health issues to community health decision-making boards to inform broader community health planning efforts (see below).

Partner Communities

As a first step, we defined geographically our partner communities in collaboration with organizations and leaders based in these communities. Given challenges describing the boundaries of Community A due to its unincorporated status within Travis County and lack of official boundaries, we used boundaries for the school district, which reflected the governmental entity most closely associated with the community. Community B is located within the Austin city limits.

YLCHLI Curriculum and Methods

YLCHLI Curriculum: The *YLCHLI* curriculum (developed by AS, AM, RR, BR) consisted of 10 core sessions (approximately 45-60 minutes each) designed to engage youth in conducting a CHA of selected health issues while fostering social and professional skills, with learning objectives informed by Certified Health Education Specialist[23] competencies and YPAR best practices[12] (**Table 1**). The curriculum was implemented with two cohorts of youth co-investigators (Co-Is): health science track seniors from a high school based in Community A (spring 2019) (n=19 students), and middle and high school students participating in SAFE's Summer Youth Leadership Academy based in Community B (summer 2019) (n=12).

Table 1. Youth Participant Learning Objectives,
Youth-led Community Health Learning Initiative, 2019

Social skill-related objectives
1. Communicate in a constructive and supportive way with peers.
2. Interact positively within a group context to achieve project goals
3. Express a sense of positive social connectedness and appreciation with each other and their community.

Community health skill-related objectives
4. Describe purpose of a community health assessment
5. Define a community geographically or by shared interest
6. List key methods for conducting a community health assessment
7. Identify the multiple influences on health and health behavior using a social-ecological and social determinants of health frameworks
8. Identify current community needs, resources and capacity
9. Demonstrate initial skills with collecting & analyzing data using community health methods (data gallery walk, participatory mapping, photovoice)
10. Describe the importance of selected health issues for individual and community health

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YLCHLI Assessment Methods & Activities. In engaging youth Co-Is with CHA, we embraced a strength-based approach that balanced exploration of community needs with a focus on community assets and strengths. Our overall approach was rooted in participatory learning and action,[24] an umbrella term for a variety of participatory inquiry orientations and activities, with photovoice[17,18,25-27] representing our primary method. **Figure 1** (developed by AL) presents a flow diagram of the YLCHLI activities, which included team-building, dotmocracy and issue prioritization, skill building and implementation of CHA methods[18,25-32] (see below), and presentation of findings. Lastly, youth Co-Is were invited to complete an end-of-project process evaluation questionnaire to share highlights and ways to improve the YLCHLI.
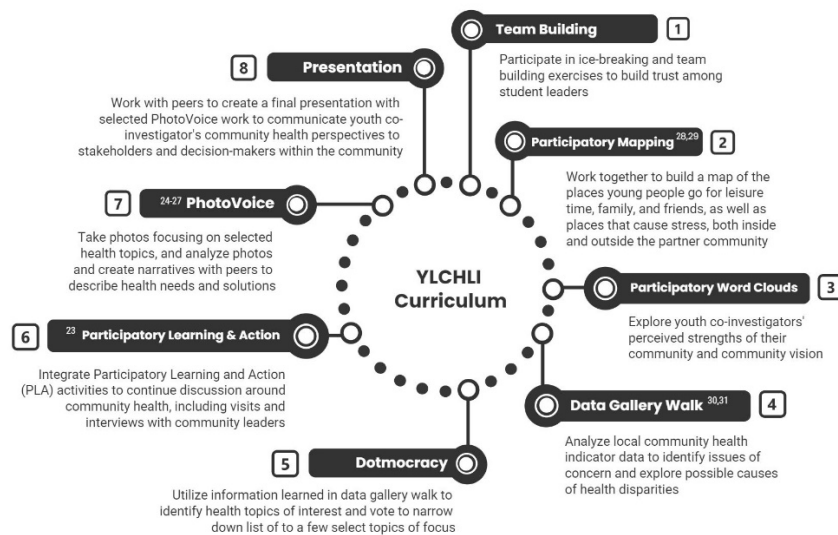
FIGURE 1: Flow Diagram of Primary YLCHLI Methods and Activities, *Youth-led Community Health Learning Initiative (YLCHLI), 2019.*

Analysis

In describing the health status of partner communities, co-authors AW & LG analyzed 2018 data from the *500 Cities Project*[33] to calculate percentages for a range of adult health risk factors and outcomes, including indicators related to the priority health topics identified in the 2017 Austin/Travis County CHA: *Access to Affordable Health Care, Chronic Disease, Sexual Health, and Stress, Mental Health, & Well-being* (Note: our initial health indicator assessment was limited to adult data as youth-specific data were not available for our two partner communities). Analysis of photovoice data was guided by the SHOWeD[25,26] method (see below). Lastly, we conducted a thematic analysis[34] of two open-ended questions from our end-of-project questionnaire to identify youth YLCHLI highlights and recommendations for improvement.

RESULTS

Socio-Demographic Characteristics of Partner Communities

Analysis of 500 Cities data[33] indicated a high proportion of residents of Communities A and B were Hispanic (62% and 58%, respectively) and young, with the largest proportion between the ages of 18 and 28 years (28% and 47%, respectively). An average of 24% of Community A residents and 35% of Community B residents were classified as living below the poverty line compared to 12% of Travis County residents. Among Community A partner school students, 82.2% were classified as economically disadvantaged.[35] Despite high poverty rates, unemployment rates were low (4% -5%), suggesting structural challenges such as lack of living wages.

Participatory Mapping and Exploration of Community Strengths & Vision

Participatory Mapping: Given the importance of defining one's community as a first step for CHA, we engaged youth Co-Is in a participatory mapping activity.[28] This activity began with a pair-share reflection about places youth visit inside and outside their communities, followed by the creation of a group map in which youth Co-Is placed sticky dots representing different places visited in their community. For our school-based CHA in Community A, where students mostly resided, we learned that students often go to Austin for leisure-time activities due to lack of opportunities in Community A, while places students frequent within their community focused on visiting family and friends. For our community organization-based youth-led CHA in Community B, we expanded our community frame to include the City of Austin as youth Co-Is mostly came from outside of Community B. Key findings indicated that Community B Co-Is had little overlap in locations frequented, with the most common locations frequented being their schools, with leisure-time activities also taking place across Austin.

Participatory Word Clouds. In addition to exploring community health needs, the YLCHLI focused on the importance of building from community strengths. Using a small group activity

format and Word Clouds method, youth Co-Is in Community A identified strong social relationships, including "friends", "family", "teachers", and "community", as key strengths of their community. In Community B, where youth Co-Is came from across central Texas, we modified this activity to have youth Co-Is generate their vision of a healthy community. Similar to findings in Community A, prominent themes identified by youth Co-Is in Community B focused on social relationships, including "safe", "family', and "people", as well as "together", "connection" and "friendship".

Data Gallery Walks & Health Topic Prioritization

Data Gallery Walk. Youth Co-Is participated in a data gallery walk activity to examine differences in key health indicators between Community A and Community B with the City of Austin and the state of Texas and discuss possible reasons for differences. The data walk was based in a round-robin type format in which youth Co-Is rotated between health topic stations to review bar charts and maps of health indicators identified from the 2017 Austin/Travis County CHA (see **Figure 2** for example). An additional open-ended station encouraged youth Co-Is to identify additional community health needs (see **Table 2**).
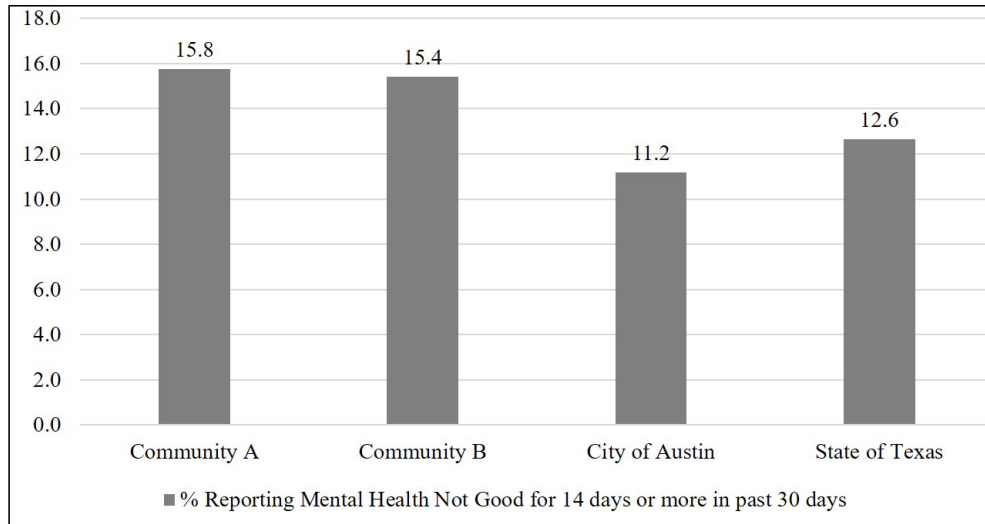
Figure 2. Percentage of adults 18 years and older reporting poor mental health in past 30 days in Community A, Community B, City of Austin, and State of Texas. *YLCHLI, 2019* (Data Source: CDC/RWJ 500 Cities, 2018).

FIGURE 2: Percentage of adults 18 years and older reporting poor mental health in past 30 days in Community A, Community B, City of Austin, and State of Texas. *YLCHLI, 2019* (Data Source: CDC/RWJ 500 Cities, 2018).

Table 2. Health and community issues of concern, *Youth-led Community Health Learning Initiative, 2019* (n=31 youth)

- ✓ *Career Counseling and School Support*: Students felt like counselors/teachers often encourage students with the best grades to go to colleges, while other students are encouraged to pursue trade/jobs right out of high school instead of college. Need to provide more support for students at edge of dropping out.
- ✓ *Community-related*: Need for: more community support & involvement; attractions (parks); Grocery Stores.
- ✓ *Crime-related:* Need for more data about crimes; more support and places to report crimes and sexual assault.
- ✓ *Diabetes*
- ✓ *Health Services Related:* Need for: health insurance; more clinics,
- ✓ *Mental health-related:* Need for: less homework to lower stress and get more sleep; more mental health support due to lack of mental health support in schools; more counseling options to serve the community.
- ✓ *Sexual health-related:* Need for more sexual health education; support use of condoms.
- ✓ *Substance use:* Age to purchase cigarettes needs to be raised.
- ✓ *Transportation-related*: More public transportation; strict background checks (Lyft/Uber); fix roads.

Dotmocracy & Issue Prioritization. After exploring health needs via the data walk, youth

Co-Is engaged in a "dotmocracy" health issue selection process in which they voted on the final

topics of interest using a sticky dot voting process. Community A priority topics were: *healthy/unhealthy eating, physical activity, mental health, and access to health services*; Community B topics were: *adverse childhood experiences (ACEs), mental health,* and *sexual and reproductive health.*

Photovoice Assessment

Once community health topics were selected, youth Co-Is explored the topics using *photovoice*. Photovoice has been widely used as a qualitative research method in community health to identify health needs and catalyze health improvement.[17,18,25-27] In preparing the photovoice assessment, we first engaged youth Co-Is in a workshop session on how to take impactful photos, led by MG from SAFE's Expect Respect Program. Students were guided on various aspects of photo composition, including a review of example photos and applied practice through a group photo scavenger hunt. Following this session, youth Co-Is divided into four teams, with each team taking two of the prioritized topics to explore in their community. In doing so, youth Co-Is crafted framing questions to guide their photovoice assessment based on the following questions: *What do we see as health concerns? Why is this issue a health concern? What can we do about it or what do we want to do about it?*

Once youth Co-Is explored the priority topics via photography, they analyzed and selected the photos and wrote narratives to accompany the photos, which included recommendations for action. In analyzing the photos, we used the SHOWeD method,[25,26] which consisted of engaging youth Co-Is in exploring the following questions: *S - What do you SEE? What is the first thing you notice? H – What is really HAPPENING? O – How does this related to OUR lives? Make it personal. W – WHY does this condition EXIST? D – What are some things we can DO about it?* Below, we share selected examples of the photovoice assessment.

Healthy Eating/Unhealthy Eating. Youth Co-Is identified both challenges and opportunities for promoting healthy eating within Community A. Among the challenges, youth Co-Is noted the high access to unhealthy foods in their community and lack of access to supermarkets and other places to buy healthy foods. In exploring foods offered at local stores in Community A, youth Co-Is noted that most stores sell foods of minimal nutritional value, and few sell nutritious foods (**Figure 3**). Some youth Co-Is also noted that the healthy foods in their house often consisted of canned vegetables (**Figure 3**).

FIGURE 3: "Healthy eating – NOT": Healthy eating at a local store and at home. *Youth Co-Investigators, Youth-led Community Health Learning Initiative, Spring 2019.*]

Opportunities: While youth Co-Is noted several challenges with access to healthy foods in Community A, they also identified opportunities to promote healthy eating with their peers and community, ranging from efforts to enhance promotion, appeal, and access of fruit and vegetables such as grab-and-go containers (**Figure 4**).

FIGURE 4: "A way to help [teens] make the choice of healthy eating is by not having much junk foods close to them, and giving them more options of healthy items. Having more fruits & veggies in small containers for them to grab instead of a bag of chips, you can spice up fruits- it's better to have a fruit than a bag of chips." –*Youth Co-Investigators, Youth-led Community Health Learning Initiative, Spring 2019.*

Physical Activity. As with healthy eating, youth Co-Is identified both challenges and opportunities for physical activity in Community A. The following youth narrative summarizes the barriers to engaging in physical activity that youth and families living in Community A face:

"In [Community A], there aren't much resources for us to actually get out and do things that are active. Although we do have a lot of open land, that isn't always a reason for us to go outside. Most of us don't have time due to having jobs or not enough time in the day; another reason being that there's not much we can do with what we have around us." – *YLCHLI Youth Co-Investigators, Spring 2019.*

Additional barriers identified by youth Co-Is included lack of upkeep of local parks and trails, safety concerns at local parks, and lack of public transportation to local parks.

Opportunities: Youth Co-Is explored several opportunities to support physical activity in Community A, with one youth narrative sharing: "…With all the land in [Community A], we do not put it to use. With that being said, [Community A] will be healthier physically and mentally with a recreation center, built with trails, a gym, and an indoor basketball court for everyone to

enjoy." Other solutions included increasing leisure-time programming for youth such as kick-boxing as well as the creation of dog parks, as related in **Figure 5**.

FIGURE 5: "This picture shows a dog running outside. This picture relates to our life because the majority of us have a pet. I took this picture because I think if we could have a dog park with animal activities, this can promote physical activity by people getting their exercise and moving around with their pet." – *Youth Co-Investigators, Youth-led Community Health Learning Initiative, Spring 2019*

Access to Healthcare. Youth Co-Is noted a lack of healthcare clinics accessible to them within Community A as shared in **Figure 6**. Because so many people in Community A work one or more jobs, Co-Is reported not being able to access healthcare during limited hours, especially with the added challenge of required travel outside of Community A. In one narrative, youth Co-Is shared: "We are on the outskirts of Austin, and for some people, they don't have the transportation to take them to certain health services, which leads them to postpone their medical

care. Teens nowadays do know how to drive but they take the risk of driving when they don't have their license. Others might not have the transportation available around them."

Opportunities: Youth Co-Is noted the opportunity to construct new clinics based on the available land in their community as well as the opportunity to create career pathways for health science track students from their high school with new and existing clinics.

INSERT FIGURE 6: "An obstacle that could prevent people from obtaining access to health care would be...the availability of health care in the community. In this picture. It shows how obtaining health care is far away from our community (distance). The stethoscope isn't focused due to people as well not focusing on their own health as they should. Health is at times also put to the side for the same reason that people decide to ignore their health issues because they don't think it's as important or it's nothing serious. The open space in the picture also show how our community does have plenty of space for healthcare facility to take place, but [the] issue is there's no change being done." *–Youth Co-Investigators, Youth-led Community Health Learning Initiative, Spring 2019.*

Mental Health. Among the health topics explored in Community B, youth Co-Is identified poor mental health as a key health concern for their peers and community. They reported knowing friends, family, and community members struggling with severe stress, anxiety, depression, and suicidal thoughts. They also discussed pressures that their peers face, including the need to have good grades, stress from homework, and the perception that counselors were in schools for academic purposes but not for student mental health support.

Opportunities: Youth Co-Is discussed the importance of destigmatizing mental health, having more open conversations about mental health and stress, and the need for mental health support for teens and the broader community. Specific types of support cited in youth narratives included the need for more safe people to talk to about problems as well as the need for more safe places to go, such as libraries or recreation centers. **Figure 7** presents one of the youth Co-I photovoice contributions related to mental health, providing a powerful metaphor for the mental health challenges that confront youth and the need for enhanced social support for teens.

FIGURE 7: "Falling, failing can be triggers of the beginning of mental illnesses. This picture conveys slipping, then falling down to the bottom. The slide represents teenagers' difficult lives. They could slip at any second as they try to climb their way to the top. A simple misstep could lead to tragic downfall. Showing teens that tragedy is not their fault is one way to intercept the thoughts of bad mental health. Helping them reach the top, hold their hand halfway through, or giving them advice on how to reach their goals shows that they don't have to climb their slippery lives alone. They can make it to the top, whatever that may be for them, as long as they have some assistance." *- Youth Co-Investigators, Youth-led Community Health Learning Initiative, Summer 2019*

Sexual and Reproductive Health. Youth Co-Is from both Communities A and B cohorts identified teen pregnancy and sexual health as community health concerns. Photovoice narratives

specifically cited the need for more sexual health education in schools as well as greater access to health clinics and contraception.

Opportunities: In Community B, youth Co-Is expressed the need for more honest and transparent conversations about sex, and more openness about resources available to teens to learn about sexual and reproductive health. **Figure 8** presents one of the photovoice contributions related to sexual and reproductive health from Community B Co-Is.

INSERT FIGURE 8: "This picture shows a planned a Planned Parenthood [clinic] that is hidden. The connection is that talking about sex is hidden, and sex is a thing that happens naturally when people are ready. Teens should know the resources if they should choose to have sex. If some of our resources are hidden, how are we going to know what we want to do safely if we don't have them available to us." *-Youth Co-Investigators, Youth-led Community Health Learning Initiative, Summer 2019*

Community Sharing

An important aspect of community-engaged research is the sharing of findings with community stakeholders.[21,22] Toward this end, youth Co-Is developed and implemented four youth-led community sharing sessions on the health topics explored. Sessions were implemented

in venues that included our partner high school, a board meeting for a leading community health nonprofit for central Texas, the Austin/Travis CHIP Steering Committee meeting, and a community event hosted by the SAFE Alliance. The format included both a gallery walk approach in which stakeholders visited with youth Co-Is to learn more about their photovoice projects, as well as a plenary presentation led by youth Co-Is that explored community strengths, health concerns, and recommendations, which were well received by attendees. These sessions reached over 100 community stakeholders, including health leaders and decision makers, parents, teachers and other community leaders. As a testament to the youth Co-Is' photovoice assessment work, YLCHLI findings were cited in a subsequent grant request spearheaded by Austin Public Health and in partnership with our school and other community partners, resulting in a three-year federally funded adolescent health grant.

Process Evaluation

Lastly, in co-learning about ways to strengthen the YLCHLI, we asked youth Co-Is via an end-of-project questionnaire to share what they liked and ways to improve the YLCHLI, with key themes presented in **Table 3**.

Table 3. Youth Co-Investigator Highlights and Recommendations for Improvement, *Youth-led Community Health Learning Initiative, Spring and Summer 2019* (n=19 youth).

What did you like about the YLCHLI?	• *The activities and overall experience:* "I liked the games, and taking pictures, which led to the final project." "I loved the group discussions about the work we created. It was nice to hear from everyone and take in all of the feedback that was given to me. It helped me grow a lot." "Having the experience and getting able to talk about the problems…" "Taking pictures." "Presentation." "It helped me learn a lot about problems." "The poem." • *Social relationships, group cohesion and working together:* "I liked how we all connected at the end and ended up being closer." "What I liked most is that on every activity we did, the class actually came together." "We were able to see that we have similar cultures but as well similar issues in our community." "…meeting new people." "Meeting new friends." "I liked getting to work together." "the bonding". "trying new things with new people." "That I made new friends." • *Opportunity to make a positive impact* "That this may some day make a difference in [our] community." "The difference I made and the people I met." "…how we helped the community." "That I got to share about things I care about."
How could we improve the YLCHLI?	• *Enhance further engagement of students:* "Connect with students first and have them be into the project." "Create more active activities. My peers would get off task or not interested." "Trying not to talk much so that students won't lose track." • *Enhance structure and time management* "having a better structure of teaching plan and better time management." "More straight to the point when the class goes on." "More food and longer hours." • *Explore further student interests:* "Ask about what topic we are more interested in." • *Increase community presentations*: "I would hope that there could be more presentations from visitors and other….supervisors." • *"Nothing needs to change."*

DISCUSSION

Our experience with the YLCHLI provides evidence of feasibility of both school and community organization-based settings as promising structures for fostering community partnerships and engaging youth in identifying community health needs and actionable opportunities for community health improvement planning. Given the challenges of CHA/CHIP processes to reach across large geographic communities, cities and counties, the rich insights generated by our youth Co-Is for community- and youth-specific health issues documented in this study add to a growing body of research on the effectiveness of young people in enhancing understanding of community health issues.[8-13,16,17,25-28] Below, we share selected highlights and

lessons learned from the YLCHLI to inform models of youth engagement in community health planning.

Project Contributions

While conducting focus groups with youth to identify health needs is a helpful approach for the CHA process,[(e.g.,36,37)] our findings with the YLCHLI document the feasibility of both school and community organization-based settings as promising organizational structures for enhancing youth involvement in the CHA/CHIP process. Core facets of the YLCHLI model included facilitation of youth-community partnerships, implementation of youth-led CHA, and youth-led sharing of findings with health decision makers- key ingredients that aimed to foster agency of youth in community health planning from a consulting role to a partnership role based on the Ladder of Citizen Participation.[38] Our findings also highlight the promise of engaging youth via a mixed methods sequential explanatory design in which youth provide qualitative insights about disparities in health issues based on their understanding of local context (Community A cohort) as well as the collective youth experience (Community A and B cohorts). In addition to providing further evidence for the value of photovoice in better understanding health disparities- with a key finding being the power of photos as both metaphor and literal representation of youth-identified community health needs, we incorporated other participatory methods that hold promise for youth-led CHA, including participatory mapping,[28,29] Word Cloud visioning, data walks,[30,31] and "dotmocracy" issue prioritization.[21] Lastly, the community sharing events provided experiential learning opportunities for youth to grow their advocacy skills and civic engagement.

Beyond contributions to CHA/CHIP processes, our work with the YLCHLI responds to calls to action to incorporate population thinking in high school instruction[16] to address health inequities and inadequate STEM workforce preparation by providing a curricular framework for

educators and health practitioners that can be further tailored and enhanced for a given community. Given disparities in the pursuit of STEM fields for underrepresented minorities[39,40] – with less than 14% of minority students compared to 63% of white students receiving STEM degrees in the U.S.[41], along with the benefits of YPAR approaches for academics, youth leadership, and interpersonal skills,[9,12] our findings provide initial evidence of feasibility for enhancing high school curricula with youth-led CHA that can increase interest in the pursuit of STEM degrees as well as contribute to professional certifications such as Community Health Worker. Increasing participation of minority youth in STEM and other entry-level health professions can provide a pathway for greater stakeholder involvement in shaping the health and broader social system to address health disparities and improve population health for underserved communities.

Limitations and Lessons Learned

The opportunity to implement the YLCHLI in different settings provided for rich learning about the promise as well as challenges with youth-led CHA. While the high school-based youth cohort in Community A generated locally informed insights about specific barriers to individual and community health based on the composition of youth Co-Is from that community, Co-Is in Community B were mostly from outside that community and from across central Texas, which limited Community B-specific insights. This challenge notwithstanding, youth Co-Is from both cohorts provided rich insights about the broader youth experience in relation to health topics that included ACEs, mental health and sexual and reproductive health. Engaging youth in Community B as part of a summer youth employment program also allowed for a more intensive and continuous experience, more time for youth Co-Is to visit and learn from social service agencies, and the opportunity for youth to be compensated for their time, which was not allowed within our high school context. Beyond providing rich insights into the youth experience for selected issues,

multiple other examples of youth-led CHA provide further evidence of the promise of youth engagement in community health planning even when youth may come from external communities, such as the MAPSCorps experience in which young people successfully assessed community assets on the South Side of Chicago.[42]

Conclusion & Future Directions

In responding to current requirements for conducting CHA/CHIP as part of federal funding requirements[5] and health department accreditation[6], health planners need structures and systems that can increase community voice and action in community health planning. Our pilot experience with the YLCHLI along with evidence from the YPAR field[9,10,12] provide foundation for engaging youth via high school and community-based organizational settings in youth-led CHA that can enhance the CHA/CHIP planning process. Future research on the creation of a network of youth-led CHA across communities as well as the benefits of youth-led CHA for youth participants holds potential to advance the field of community health planning as well as strategies for healthy adolescent development.

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