The Flint Public Health Youth Academy (FPHYA) Model for Youth Engaged Writing and Publishing

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Submitted 6 January 2025, revised 13 June 2025, accepted 30 July 2025.

Key, K. D., Lewis, L., Bailey, S. B., Graham, E., Donald, A., Shannon, K., Mays, C., Mays, M., Brady, T., Calvin, K., de Danzine, V., & Carrera, J. (2025). The Flint Public Health Youth Academy (FPHYA) model for youth engaged writing and publishing. Progress in Community Health Partnerships. Advance online publication.
5 October 2025.

Conflicts of Interest: The authors declare that they have no conflicts of interest.

Human Participant Compliance Statement: This manuscript is a conceptual model/theory submission, it is not research. No IRB approval is required.

Acknowledgements: We would like to thank all of the FPHYA interns, mentors, administrators and collaborators. We would like to thank the Community Based Organization Partners, Michigan State University College of Human Medicine, Department of Public Health, Community Foundation of Greater Flint, and the C.S. Mott Foundation and the Mentoring Leadership Makes the Difference program.

ABSTRACT:

Background: The engagement of youth in research is a fundamental and strategic shift towards cultivating a more inclusive research team. Although approaches to research have evolved to involve youth in research, there remains part of the research process in which their involvement is lacking, the writing process for manuscripts and publications.

Methods: The FPHYA Youth Writing Model described in this article combines the Youth Empowerment Theory with the Continuum of Community Engagement to produce six key domains identified by youth for scientific writing. This model includes a framework that ensures equitable engagement and decision making for youth in the writing process and is supported by effective mentorship.

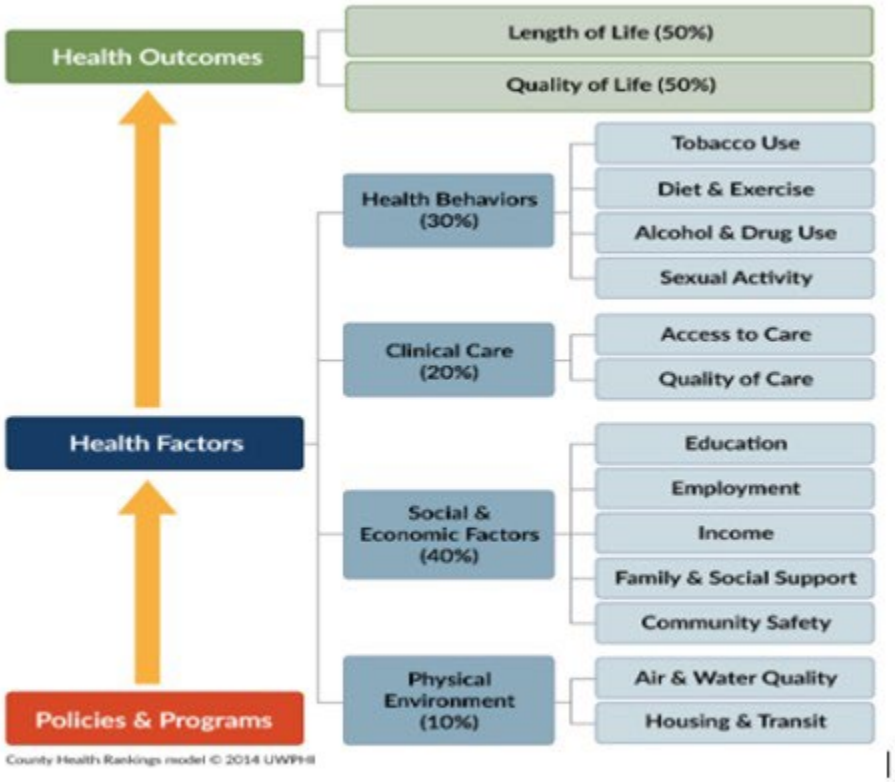
Conclusion: Youth engagement in the writing process prepares youth for success in scientific career field trajectories and increases the potential for workforce development.

KEYWORDS: Youth Engagement, Community Engagement, Dissemination, Scientific Manuscripts, Writing Models

Background:

The impact of the SDOH on the health and wellness of communities has been documented in the literature for over three decades.[1] SDOH has gained increasing prominence and has been associated with chronic diseases such as: diabetes[2], stroke[3], and asthma[4] to name a few. In addition, social determinants such as racism[5,6] and socioeconomics[7] are documented social drivers that impact an array of health outcomes. A plethora of systematic reviews and scoping reviews of hundreds of studies conducted nationally and globally conclude that SDOH are contributing factors to inequities and disparities including racism[8], infant mortality[9] , epigenetics[10], mental health/depression [11], and heart failure.[12] In more recent years, focus has been on the impact of SDOH screenings for adults and youth in clinical care settings[13] and emphasis on specific disease screenings such as cancer.[14] In fact, zip code (where one lives) is an SDOH and is a predictor of life expectancy alongside a person's genetic code.[15,16] Finally, the County Health Rankings Model shows that SDOH related items impact eighty percent (80%) of an individual's overall length and quality of life, while clinical care impacts twenty percent (20%) (see Figure 1).[17] To address the multi-faceted needs of communities, a comprehensive multisectoral structure is needed to create solutions. Given the complexities of the problems and concerns related to SDOH in communities across the country and specifically for marginalized communities, a unifying effort across SDOH domains is needed.

Figure 1. County Health Rankings Model: The impact of the SDOH



Remington, P. L., Catlin, B. B., & Gennuso, K. P. (2015). The county health rankings: rationale and methods. *Population health metrics*, *13*, 1-12.)

Figure 1: County Health Rankings Model: The Impact of SDOH

SDOH in Flint, MI

The city of Flint Michigan, like most rust belt cities, has been met with social and economic struggles due to divestment and population decline. In 2014, residents of Flint Michigan were exposed to toxic water due to a flawed democratic system steeped in racism.[18] The Michigan Civil Rights Commission reported that racism was the root cause of the Flint Water Crisis and the government, on all levels, failed the citizens of Flint.[19] For Flint residents this linked public health

and racism as key components related to crisis and disparities. This created synergies and interest in both public health and anti-racism approaches amongst Flint's broader community.

Subsequently, in 2020, Flint/Genesee County, Michigan joined municipalities around the country in declaring racism a public health crisis. This was a pivotal moment in time, as it identified racism as a driver in social and health inequities directly mapping to SDOH.[20] The SDOH (a public health framework) identified other social drivers, such as income, employment, access to health care, etc., that create negative outcomes manifesting in food apartheid, maternal health disparities, mental and physical health outcomes, life expectancy, and low education attainment. The SDOH framework coupled with the racism as a public health crisis resolution, generated interest among many Flint residents to address the impact of racism via a systems lens as opposed to isolated incidents. The SDOH framework domains aligned with most systems in which disparities (both social and health) manifest (i.e., education, employment, housing, economics, built environment…). Groups such as the Greater Flint Taskforce on Racial and Social Equity (https://www.cfgf.org/impact/greater-flint-taskforce-on-racial-and-social-equity), the Beyond Rhetoric Project (https://www.beyondrhetoricmovement.com) and the Social Determinants of Health Solutions Lab were birthed out of, and/or, strongly aligned with, the SDOH Framework and the resolution. This has created cross disciplinary engagement in Flint with residents and stakeholders.

The Flint Water Crisis (FWC) is believed to have had significant consequences for the lives of Flint residents including up to ten deaths due to Legionnaires' disease and potential reductions in fertility.[21,22] The subsequent years following the onset of the FWC coincide with an increase in

infant mortality, which although cannot be directly linked to the water crisis, can be understood to be a consequence of a worsening context for health best examined through a social determinants of health lens.[23] This context was made worse through the interaction of the COVID-19 pandemic and the legacy of the FWC, as the three-year average for infant mortality peaked at 18.1 infant deaths per 1,000 live births from 2020-2022. The U.S. national average around the same time was around 5.5 infant deaths per 1,000 live births.[24]

Formation of the SDOH Solutions Lab

Objective:

We highlight two sets of objectives in this section. *The objectives of this manuscript are to:* 1) outline the evolution of the Flint/Genesee SDOH Solutions Lab; 2) share the SDOH-SL Model; and 3) describe lessons learned from this process. In addition to the objectives of this manuscript, we also highlight *four central objectives of the SDOH-SL*: 1) to create an SDOH agenda (programming, education, policy, and community engagement) for Flint/Genesee County; 2) to create a yearly SDOH calendar of events to provide continuous educational offerings and forums for community and local decision makers; 3) to provide and facilitate a platform for the ideation and creation of community-driven programs, policies and interventions; and 4) to reduce siloes and increase collaboration among sectors addressing SDOH domains. The anticipated impact of the SDOH-SL is greater awareness of SDOH and its role in health disparities, the reduction and ultimate elimination of siloed efforts, and engaging non-health sector leaders and elected official/policymakers in understanding their role advancing community health.

Methods:

The Partnership:

In 2011, the Michigan State University College of Human Medicine met with over 100 local organizations in Flint, Genesee County, Michigan to discuss anchoring a medical school in downtown Flint.[25,26] To ensure that the medical school was driven by community need, MSU faculty and community partners created a survey to assess the health needs and priorities of Flint residents. Nearly 3,000 surveys were collected, and the following health priorities were identified: behavioral health, healthy behaviors, and chronic disease. Flint community residents requested that these three areas be examined through the context of the SDOH towards understanding health disparities. Additionally, the community requested that research should focus on interventions. These priorities become the focus of the (then Division of Public Health and now) Charles Stewart Mott Department of Public Health (DPH).

To keep community voice at the helm, guiding the direction of the DPH, monthly Community Engagement (CE) meetings were organized to provide a platform for community to articulate their health needs, shifting priorities, and engage in networking opportunities. In 2022, community members reiterated the need to focus on the SDOH. This was prompted from the American Rescue Plan Act (ARPA) funds that were issued to the City of Flint (https://www.cityofflint.com/arpa/). Residents were concerned that elected officials did not understand the health impact of the SDOH based on how ARPA funds were being distributed. Furthermore, efforts had been made by the Greater Flint Taskforce on Racial and Social Equity to

engage and educate leadership on the county municipal level in hopes that ARPA dollars would be allocated to addressing the SDOH needs of Genesee County (https://home.treasury.gov/system/files/136/Genesee-County_2021-Recovery-Plan_SLT-1765.pdf). Seeing a need to unify SDOH efforts, eliminate silos and work towards solutions, 25 members of the MSU CE group formed the SDOH-SL and began meeting monthly. Many members have intersectional identities representing both as a community resident and the organizations/institutions they work in (see Table 1).

Recruitment:

The initial recruitment for SDOH-SL members began at the 4th Monday Community Engagement Monthly meeting sponsored by MSU DPH. Approximately 40-50 community members attend the meetings regularly. Members were invited to populate a new group that would focus on the SDOH needs in Flint/Genesee County. Initially 15 members joined, for the first meeting and 10 others joined subsequently. After the first event, an additional 40 plus event participants joined the SDOH-SL. Our recruitment and engagement efforts have been effective leveraging our monthly CE meetings, events, existing collaboratives, and word of mouth. Finally, on our monthly SDOH-SL agenda, a standing agenda item is "who is missing from the table" this affords the space to identify and leverage social capital to invite other groups and individuals to our monthly meetings. We have been intentional to engage policymakers, law enforcement, and other sectors typically not present for health convenings.

The SDOH-SL endeavors to embody an authentic community-engaged leadership model. Three community members serve on the leadership team along with an Academic Administrator

from MSU-CHM-DPH. The leadership worked with the SDOH-SL members to identify a consensus decision making process, a logo for branding and marketing, and a meeting frequency of the third Monday of each month. SDOH-SL leadership also meets monthly to organize meeting agendas and strategic planning. In addition, two subcommittees, planning, and communications, have been developed to assist with the operations of the SDOH-SL. The SDOH-SL utilizes a community engaged approach to convene and mobilize community/residents, policy makers (city and county), and other stakeholders in educational and strategic initiatives to create and advance an SDOH agenda for Flint/Genesee County. The role of the SDOH-SL is to serve as an educator, convener, and collaborator for SDOH activities and to assist leaders in all sectors and systems aligning with the SDOH domains in understanding their role in optimizing health for all residents. In the first year of the SDOH-SL, efforts focused on two areas: 1) to host our first annual SDOH convening/event; and 2) to provide strategic planning and collaboration opportunities for local stakeholders and systems leaders in assessing the SDOH needs of the community at the first event.

Figure 2. Flint/Genesee SDOH Solutions Lab Model

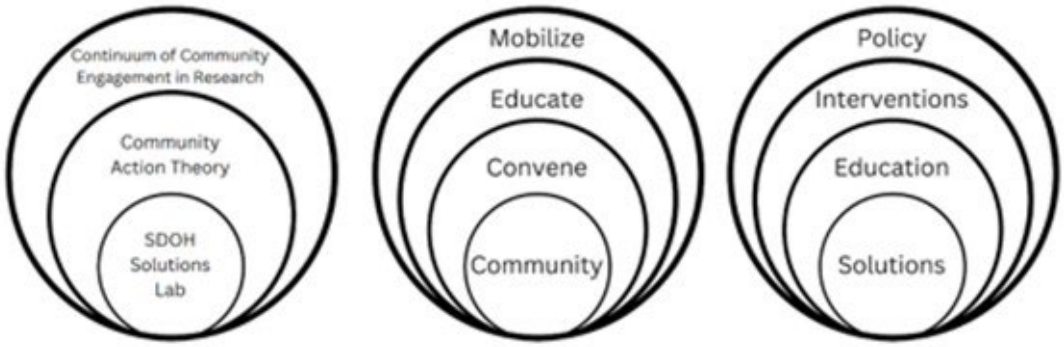


Figure 2. Flint/Genesee SDOH Solutions Lab Model

The SDOH-SL Model (See Figure 2) has three primary areas of focus: 1) SDOH Solutions Lab, 2) Community, and 3) Solutions. The model begins with the SDOH-SL embedding itself in Community Coalition Action Theory (CCAT) and the Continuum of Community Engagement in Research (CCEnR) approaches to connect community members to SDOH through convenings, educational offerings and mobilization efforts. The result is that every opportunity for community engagement around SDOH lends itself to developing solutions in the form of education, policy development and/or interventions.

The SDOH-SL has adopted a conceptual framework and action theory as their guidepost to ensure equity in the engagement and governance processes. To ensure equity and contextual factors are centered in operations and processes of the SDOH-SL, the CCEnR[27] was adopted (See Figure 3). This framework serves as a road map to engagement. It depicts the various points of engagement along the continuum. The uniqueness of this framework is the contextual factors and equity indicator domains. Contextual factors include history, trust, transparency, respect, and relationship building, which are paramount to community engagement. Equity indicators include power and control, decision-making, ownership, mutual benefit, and resource sharing. These indicators speak to the importance of community to benefit mutually alongside institutional partners. It also speaks to governance structures with power and decision-making. Key et al. 2019, posit that no matter where you land along the continuum, one must account for those two domains as they will impact engagement.[27]

In addition, to ensure effective leadership and governance processes were implemented, the CCAT[28] was adopted (see Figure 4). This theory provides guidance for coalitions in three stages of development: Formation, Maintenance, and Institutionalization. In the Formation Stage, recruitment, leadership, and governance guidance are the core areas of focus. In the Maintenance Stage, resource sharing and allocation, member engagement, and planning strategies and assessments are the focus. In the Institutionalization Stage, coalition strategies and multifaceted interventions, community change outcomes, community capacity, and specific outcomes are the focus (See Figure 3).

To date, the SDOH-SL has utilized the CCAT in the Formation and Maintenance Stages. Indicative of the Formation Stage is the Charles Stewart Mott Department of Public Health (DPH) in the MSU College of Human Medicine serving as the administrative home/lead agency for the SDOH-SL, and the MSU Monthly CE meetings provide a diverse representation of community partners to serve as members of the SDOH-SL. In addition, communication strategies have been developed (internal and external); decision making (utilizing a consensus model) for voting has been established; a co-chair leadership structure (staggered terms) has been implemented to ensure continuity in leadership. In the Maintenance Stage SDOH-SL leadership has established a monthly meeting cadence; a membership engagement strategy has been adopted; a satisfaction evaluation has been designed for SDOH-SL hosted events, with another survey being adapted for the SDOH-SL members that will be issued annually to assess satisfaction. Together this framework and theory has been used to provide structure, strategy, and guidance for the SDOH Solutions Lab.

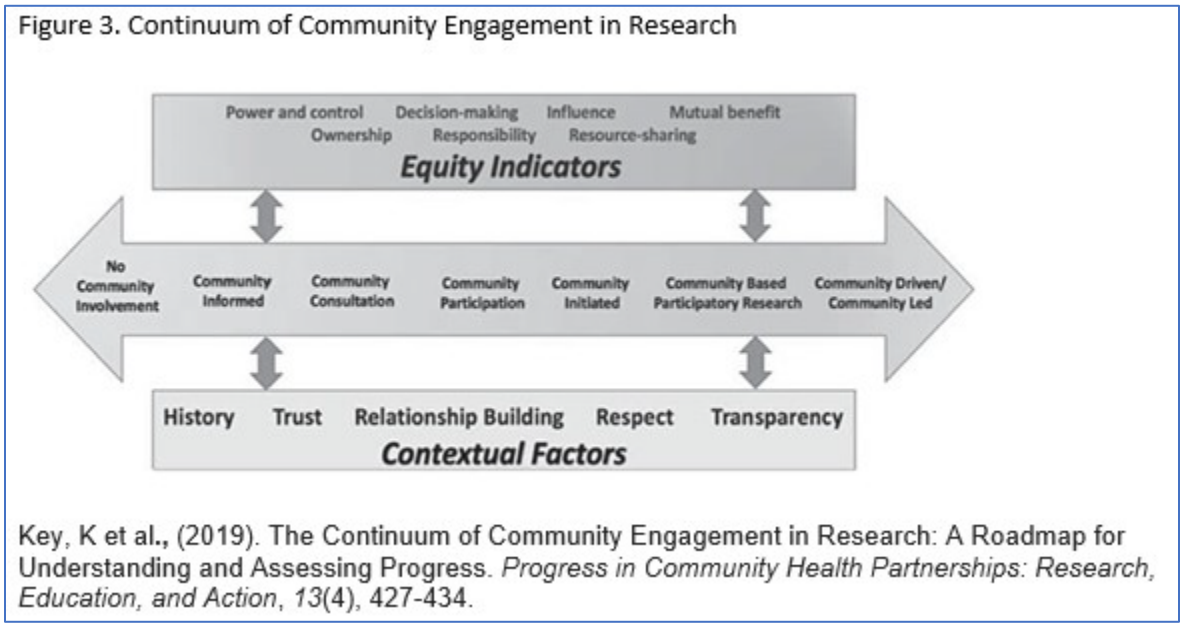


Figure 3: Continuum of Community Engagement Research

In the fall of 2023, Rev. Dr. Sarah Bailey, Flint community member and SDOH-SL member identified an opportunity to partner with Michigan Community Engagement Alliance (MI-CEAL) at the University of Michigan to host the first SDOH-SL community engagement event The SDOH-SL, MI-CEAL, and the Community Based Organization Partners (CBOP) served as key community partners, while Michigan State University (MSU) College of Human Medicine (CHM) Department of Public Health (DPH) served as the academic partner in this endeavor. The leadership team of the SDOH-SL met with leadership of MI-CEAL to organize tasks, identify a venue, implement a communications and recruitment process, facilitate an event registration plan, purchase supplies and food, and create and execute an evaluation plan. A great deal of planning went into strategic agenda setting. The overarching goal of the event was to introduce the broader community to the newly formed SDOH-SL and to assess the community's understanding of SDOH and its impact on health. In addition, the planning team was intentional about having decision

makers from system/SDOH domains such as housing, transportation, education, finance, safety, parks and recreation, city planners who don't see themselves as health professionals to begin to see their role in health, and the need to have them involved in health initiatives. For this event, two main breakout sessions were designed. One was specifically designed for health care providers, to ascertain the role SDOH plays in the health of their patients and clients and to discuss the impact of SDOH screening forms in clinical settings. The other breakout session was for non-health professionals. The focus of this session was for professionals in housing, transportation, education, employment etc. to see their role in the SDOH and the impact their sector has on the overall health of communities. This session was strategic in that most of these representatives are rarely invited to health focused spaces, and their role in these spaces are usually unclear. We used a multi-tiered approach for event recruitment. The event was advertised broadly via social media, existing community networks and groups, word of mouth, and special invitations from SDOH members.

Results/Lessons Learned:

In February 2024, the SDOH-SL hosted its first community-wide event. The planning team anticipated approximately 40 attendees. As the registrations for the event came in, it became clear that the planning team would need to pivot to accommodate the 103 registrants for the event. A total of 97 attendees participated (in-person) at the event. This was an unanticipated outcome for the SDOH-SL and planning committee. In addition, the SDOH-SL membership gained 40 new members. Key themes lifted from the event included: 1) the strong desire for residents to be

engaged in SDOH activities; 2) eagerness for systems/SDOH domain leaders to engage across silos; and 3) a commitment from the broader community to work towards the development of an SDOH agenda (programs, policies, and interventions). In addition to the success of the SDOH-SL's first community event, the SDOH-SL has accomplished yearly goals including its formation, governance, leadership and membership (see table 2).

Key Lessons Learned

Many of the lessons learned from the development of the SDOH-SL are aligned with the equity indicators and contextual factors of the CCEnR (see table 3). There were several key lessons learned in the development of the SDOH-SL from launching its first community event. 1) **Community Engagement must be Demonstrative and not Performative.** Utilizing the CCEnR provided a guide for the SDOH-SL membership to discuss and collectively decide what engagement should look like. In addition, it provided the contextual factors and equity indicators that were critical to ensure decision-making, power, history, trust, and other key elements were embedded into the foundation of the SDOH-SL. 2) **Incorporate a Consensus Decision-Making Model.** Agreeing on a consensus model allowed members of the SDOH-SL to discuss important issues until they could reach a consensus. Unlike the traditional voting model, where numbers decide the decision, this model afforded an opportunity for deep and deliberate conversations centered around decision-making. The consensus decision-making process was also led and facilitated by the community leaders on the leadership team. In addition, the leadership team was self-selected (by consensus) by the general SDOH-SL membership. This self-selection process was essential to being a community driven entity. Only community members could nominate and

vote. **3) Leverage Social Capital and utilize a Social Network approach.** The impact and success of the SDOH-SL first community engagement event was due to its members' ability to leverage social capital from their social networks. Personalized invitations and messages were sent to key systems/domain leaders, community influencers, and other stakeholders by SDOH-SL members. Members leveraged their relationships to create synergy and "buy-in." This created a mechanism for credibility and accountability for the SDOH-SL. In addition, those networks were used to recruit new members to the SDOH-SL. **4) Connect the SDOH domains to Systems.** To operationalize the resolution of racism as a public health crisis, it was imperative to connect and identify the domains of the SDOH as *Systems*. This alignment of domains/systems made it evident that a systems level approach (which encompasses power, decision making and policy) must be incorporated with the SDOH framework to achieve transformative change in health outcomes in the community. **5) Underscore the emphasis on "Solutions" in the SDOH-SL.** It was important to the members and leadership of the SDOH-SL that they do not focus on problems related to the SDOH, but move towards community driven solutions.

We believe that the success of the SDOH-SL is due to the vast array of skill sets, expertise, and social capital that each member brings to the collective. Understanding that we all cannot do everything, our leadership team assessed the SDOH-SL membership via an expertise matrix to underscore members strengths, expertise, and capacity (i.e., grant writing, evaluation, program administration, youth engagement, finance management and policy/advocacy, etc..). Based on that expertise, SDOH-SL members have populated 5 main committees/subcommittees (see table 4).

Upcoming Plans and Next Steps:

As we continue to expand our structure using the CCAT. We are working to identify grant dollars to support and scale-up the work of the SDOH-SL. Our next steps are to build and adopt processes and procedures with a focus on community capacity building as identified in the Institutionalization Stage of the CCAT. We are also looking to incorporate youth voices into our work. We plan to partner with various youth groups throughout Flint/Genesee County to engage them in educational activities related to the SDOH. We are hosting our next community event in January 2025. This event will focus on the role of policy/decision makers and law enforcement in operationalizing policies that address the SDOH, such as Health in All Policies.

Conclusion:

Established in Flint/Genesee County, Michigan, with the goal of creating greater awareness of the SDOH. The SDOH-SL's aims to create an SDOH Agenda to advance health equity, strengthen cross-sector collaboration and reduce siloes. More importantly, its formation is a direct response to the community's request for MSU-DPH to address health disparities using a SDOH framework. Its creation and mere presence are an example that community voice is essential to community health. It is a testament that community members across disciplines and sectors have a desire to work collaboratively and collectively to create equitable outcomes via the SDOH framework. To sustain our work, the SDOH-SL has one grant under review, and a capacity building grant is currently being written to support the infrastructure of the lab and to advance its

work. Grants are co-written by SDOH-SL leadership, membership and MSU administrators. It is our desire that the SDOH-SL framework and the lessons learned can be tailored and implemented to address complex health concerns including disparities and inequities in diverse communities across the country.

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Table 1. SDOH Solutions Lab Members and Partnering Organizations

Community Members	10 residents who did not identify as a member of an organization
Faith Based Orgs	Bethlehem Temple Church; Faith Deliverance Center; Greater Holy Temple Church
Community Based Orgs	Michigan United; Community Based Organization Partners (CBOP); Bridges into the Future; Flint Innovative Solutions; Flint Development Center
Philanthropic Partners	Community Foundation of Greater Flint
Healthcare Partners	Hurley Medical Center; Genesee County Health Plan; Greater Flint Health Coalition; Genesee Health Systems
Academic Partners	Michigan State University; University of Michigan Flint

Table 2. Yearly Goals and Accomplishments

Year	Goals	Accomplishments
1	• To formalize a SDOH entity • Identify Conceptual Models/Guidance • Identify Governance Model • Elect leadership • Establish initial membership • Set regular meeting schedule	• Development of SDOH-SL • CCEnR and CCAT were adopted • The CCAT was used for leadership and governance guidance • SDOH-SL identified a co-chair model and elected its leaders • The initial membership was recruited from the MSU=DPH meetings • Established 4th Monday meetings
2	• Expand SDOH-SL membership • Identify collaborative opportunities • Identify subcommittees • Launch Inaugural Community Engagement Event • Identify resources of sustainability	• Membership grew from 25 to 65+ members • Joint planning with Greater Flint Taskforce on Racial and Social Equity, Greater Flint Health Coalition, Genesee Health Plan and the Michigan Institute for Clinical Health Research • Identified and populated planning and communication subcommittees • 97 registrants/attendees at Inaugural Community Event • Successfully submitted one application for funding and identified an additional funding mechanism

CCEnR Equity Indicator	SDOH-SL Application	Outcome	Lesson Learned
Power and Control	MSU DPH serves as the administrative support for the SDOH-SL. Members of the lab elected the leadership team comprising of 3 Community Co-Chairs. The leadership team works with the Administrative Support Team at MSU to oversee all activities of the lab	All decisions directing the work of the lab are made by lab members and led by the Co-chairs. The administrative team works to assist in finding resources and opportunities to support lab priorities.	Community Engagement must be Demonstrative and not Performative. (It should be community led and institute supported).
Decision -Making	A community engaged governance structure was leveraged using the CCAT. A consensus model was established by the members of the SDOH-SL and implemented thereafter. No decisions are made in isolation.	Co-governance approach to decisions- making. This builds trust and transparency which are contextual factors of the CCEnR.	Incorporate a Consensus Decision-Making Model
Influence	In our recruitment efforts, the initial 25 members of the lab leveraged their social capital and influence to invite other key members, stakeholders and organizations to join our effort.	This social networking approach resulted in the growth of the membership and participation in SDOH-SL events. In addition, trust and relationship building was established because of the social capital of SDOH-SL members.	Leveraging Social Capital and utilize a Social Network Approach
Mutual Benefit	The SDOH-SL is designed to create collaborative engagement for all members. Sector/system leaders who did not engage are now working in a collaborative space, identifying joint initiatives, and common interests.	Our summits, collaborative events and SDOH-SL representation on various taskforces and committee throughout the community.	Connecting SDOH domains to systems.
Ownership	The SDOH-SL is owned by a community-academic partnership between MSU DPH and Genesee County residents.	The university does not make any decisions or mandates on behalf of the SDOH-SL. Demonstrating a community-driven/community-led initiative.	Community Engagement must be Demonstrative and not Performative. (It should be community led and institute supported)

Responsibility	Through a shared governance structure responsibility is shared via the membership, Co-Chairs, and Administrative Support team.	Greater buy-in from the community given the level of transparency, participation, and ownership of the SDOH-SL	Incorporate a Consensus Decision-Making Model
Resource Sharing	Because of the collaborative nature of our work to de-silo efforts in the community, we shared resources across institutions and sectors to host large scale events.	The cost for such events were absorbed by many partners and local resources, programs, and services were shared with the broader community at these events.	Leveraging Social Capital and utilize a Social Network Approach (leveraging social networks creates opportunities to share and acquire resources)

Table 3. Applications of the CCEnR Model for the SDOH-SL

Table 4. SDOH-SL Member Engagement\Contributions

Committee/Subcommittee	The Work
Leadership Committee n=8	Met regularly to set monthly agendas, chair meetings, provide meeting minutes, and strategic planning
Planning Committee n=15	Develop, oversee, and implement a calendar of SDOH related events in alignment with State of Michigan SDOH activities per program year
Communications Committee n=14	Responsible for creating and distributing SDOH-SL and SDOH related information to the SDOH-SL listserv and broader community partners and residents
General Membership n=65	Identify focal areas for programming, leverage social capital to invite potential new members to the SDOH-SL (including elected officials and policy makers).
Ad Hoc Funding Committee N=13	Works to identify and secure funding for SDOH-SL programming. Identifies collaborative partners with shared interest to contribute finically to SDOH-SL activities.