

Education and Training

Teaching Health Equity:

A Medical School and a Community-Based Research Center Partnership

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ABSTRACT

To address the persistent health inequities in the U.S., medical education must prepare future physicians to understand the systemic causes of these inequities, as well as healthcare's role in alleviating them. Limited time and faculty expertise often necessitate innovative strategies to augment existing medical education curriculum with content and experiences to expose medical students to these facets of health inequity. In this report, we describe a partnership between the Chicago Medical School (CMS), a community-based medical school, and the Sinai Urban Health Institute (SUHI), a community-focused research center in Chicago, Illinois. As a part of this partnership, SUHI hosts a summer internship for 7 to 15 medical students per year to teach about health equity, population health, and public health research. The internship includes project-based learning, a structured curriculum, and community tours and volunteering. A total of 62 CMS medical students have participated. Student surveys consistently showed high levels of satisfaction with the program across all years (2013-2018, 2020). Almost all students report that they were exposed to new ideas and issues (96.6%), and that the new knowledge and skills were applicable to their future work as physicians (91.7%). Other medical schools may benefit from collaborative models with public health research organizations to complement existing curriculum, opportunities for research, and engagement with marginalized populations.

KEYWORDS: Public Health, Urban Population, Education, Medicine, Community Health Partnerships, Health Disparities, Internship, Curriculum Development, Interprofessional Education, Social Determinants of Health

Introduction

Medical education now prioritizes topics related to the social determinants of health (SDoH) and health equity,¹ recognizing the duty of medical schools to educate physicians who are responsive to social, economic, and environmental determinants of health, in addition to biological determinants.²⁻⁶ Many medical education programs have made progress incorporating educational content about health inequities and social justice, through dedicated electives, population health courses, or curricular threads.⁷⁻¹² Other programs have gone further, and include options for students to follow a specific track or certificate program, with some leading to a combined MD/MPH degree.¹³⁻²¹

Despite these advances, innovation is needed within undergraduate medical education regarding training on the SDoH and health equity, in light of the stark racial and socioeconomic health inequities in the U.S.²²⁻²⁵ Much of the existing curricula focuses on improving students' awareness of the existence of health inequities and SDoH.²⁶⁻³¹ While valuable, these efforts often overlook the systemic, societal reasons for the persistence of inequities, leading to a focus on individual interventions, which are less effective for improving population health outcomes.³²

Partnerships between medical schools and public health agencies or community-based public health organizations represent one promising strategy to improve medical students' knowledge of SDoH and health inequities.³³⁻³⁵ These partnerships provide access to applied and interprofessional knowledge and experiences to supplement the formal curriculum, and offer medical school faculty and students stronger community connections and awareness. Such

partnerships also continue the long tradition of physician-activism in academic medicine.¹

Despite these benefits, the most recent Graduation Questionnaire (2020) from the Association of American Medical Colleges (AAMC) revealed that only 36% of graduating medical students had participated in community-based research.³⁶ Thus, many medical schools may benefit from this type of partnership to better prepare students to address social risk factors and health inequities.

In this report, we describe a unique, collaborative internship offered by the Sinai Urban Health Institute (SUHI), a community-based research center in Chicago, Illinois, to students at the Chicago Medical School (CMS) at Rosalind Franklin University of Medicine and Science (RFUMS). The goals of the internship program are to: 1) enhance student understanding of the SDoH and health inequities, and evidence-based best public health practices; 2) improve student research skills; and 3) increase student interest in serving marginalized populations.

Methods

The CMS is a community-based medical school located in Lake County, Illinois, an area with vast socioeconomic disparities.³⁷ Neighborhoods within Lake County range from the 1st percentile (least disadvantaged) to the 100th percentile (most disadvantaged) on the Area Deprivation Index scoring system.³⁷ In alignment with its mission as a community-based school, CMS has numerous initiatives to engage students and faculty with the community, and to engender a spirit of service.

SUHI is the research arm of Sinai Chicago, the largest, private safety-net healthcare system in Illinois. Established in 2000, SUHI's vision is to serve as a leading urban health research institute for eliminating health inequities. SUHI's mission is: "To achieve health equity among communities through excellence and innovation in data-driven research, interventions,

evaluation, and collaboration.” SUHI is composed of a diverse staff of more than 45 individuals, including epidemiologists, community health researchers, evaluators, project managers, research specialists, health educators, and community health workers (CHWs). This work is guided by the Sinai Model for Health Equity (Figure 1), which integrates community input at each stage of the research process.³⁸

Using this model, SUHI researchers have led numerous local and national efforts to document health inequities (and the social determinants of these inequities) at the local level.³⁸⁻⁴⁰ SUHI has also developed, implemented, and evaluated a wide range of community-based interventions utilizing CHWs, including initiatives addressing inequities within asthma, breast health, diabetes, and complex care needs.⁴¹⁻⁴³ SUHI’s work is funded predominantly by grants from national and local foundations.

The partnership between CMS and SUHI originated in 2000, when SUHI was contracted to lead the clinical epidemiology course at CMS. SUHI has continued to co-teach this course for the past two decades. In 2012, the CMS/SUHI partnership expanded to include a summer internship program in health equity research, education, and advocacy for CMS students (the focus of the current paper), as well as internships during the academic year. In addition to the teaching and internships, SUHI and CMS faculty have increasingly collaborated on research grants.

CMS provides funding to SUHI for developing and maintaining the internship program. SUHI staff provide all program administration, teaching, and mentoring. The program is run by a senior epidemiologist (MRB), who has an adjunct faculty position with CMS. The program director has part-time support from various SUHI colleagues, including fellow epidemiologists,

evaluators, and research specialists who serve as mentors, as well as administrative support. The program director and CMS leadership meet annually to review progress and discuss potential changes for future years.

The CMS/SUHI summer internship is an intensive, 8-week program in June-July. This internship provides public health research experience for between 7-15 CMS students annually. The internship takes place at SUHI, which is located within Mt. Sinai Hospital in the North Lawndale neighborhood on the west side of Chicago. Students are recruited for the CMS/SUHI summer internship through an on-campus presentation and applications are accepted in February-March of each academic year. The internship application asks students to explain their prior research experiences, interest in the internship, and how they feel it will supplement their education.

To achieve the program goals, the internship is based on a three-pronged educational approach: 1) project-based learning; 2) structured curriculum of seminars and workshops (Table 1); and 3) community tours and volunteering opportunities.

Project-Based Learning and Scholarly Activity

Interns are assigned to current SUHI research projects based on their skills and interests. Individual interns, or small groups of interns, are matched with a SUHI investigator. All project timelines are mapped out at the onset and students receive extensive guidance from SUHI staff through weekly team meetings and individual feedback.

Interns have assisted with community-based interventions by developing health education materials, conducting literature reviews, and aiding with the recruitment of study participants. Other projects include participation in epidemiological studies, with students co-authoring papers

on topics such as: racial disparities in disease mortality in large U.S. cities;⁴⁴ predictors of food insecurity;⁴⁵ and data briefs to disseminate findings from the *Sinai Community Health Survey 2.0*.^{40,46} Projects associated with population health issues have included the creation of a set of infographics about diabetes risk and prevalence in nine different Chicago communities and writing a data brief about city-level disparities in breast cancer mortality. Interns are required to present their work as a poster presentation for SUHI staff, and as a poster presentation for the annual CMS student research fair, which is held every fall. Interns are also encouraged to disseminate the work they complete during the CMS/SUHI internship through conference presentations and in the peer-reviewed literature. We tracked the number of manuscripts and conference presentations that stem from program activities as a measure of scholarly output.

Structured Curriculum

All interns attend required seminars on over 25 topics and skill-building workshops related to research methodology, public/population health, and health inequities. (Table 1) Several seminars are specific to Chicago, including a description of the city's history of racial segregation and its persistent effects on health inequities. Interns also attend a number of interactive sessions and skill-building workshops including invited panels, journal club discussions of seminal books, and workshops on reading scientific literature and data visualization. Finally, interns are exposed to SUHI's past and present community health interventions and research projects. Seminars and workshops are led by an interprofessional team from SUHI, including researchers, physicians, CHWs, and epidemiologists. CHWs have provided feedback on the session selection and development over the years. Whenever possible,

CHWs lead or co-lead the sessions about the specific health interventions in order to emphasize the community and patient perspectives.

Community Tours and Volunteering Opportunities

During the internship, students take part in structured tours of the following three Chicago neighborhoods: 1) North Lawndale, a predominantly African American community that was briefly home to Dr. Martin Luther King, Jr., but is now one of the poorest communities in Chicago; 2) South Lawndale, also known as Little Village, home to over 62,000 Mexican-Americans and a bustling commercial area; and 3) Humboldt Park, a neighborhood of majority Puerto Rican, Mexican-American immigrants, and African Americans known for its culturally diverse street art. The communities were selected based on the geographic areas served by Sinai Chicago and SUHI. As one of the most racially segregated U.S. cities, the neighborhoods in Chicago are uniquely distinct from each other (even contiguous ones).⁴⁷

The North and South Lawndale tours were developed in collaboration with SUHI team members who were raised, or who currently live, in the selected communities. SUHI CHWs (often together with other SUHI team members) lead these two tours. The Humboldt Park tour was co-developed with and is guided by a local community-based organization. As community members who regularly interface with the patient populations served by Sinai Chicago, CHWs provide an intimate perspective of the persistent reality of segregation and other challenges of their own communities. Tours include discussions about the effects of gentrification and disinvestment, juxtaposed with the historical and cultural assets that confer community pride and individuality. Tours include visits to selected community-based organizations, landmarks, local businesses, and healthcare facilities in each neighborhood. They generally conclude with a group

lunch at a local restaurant. The content of the tours has been reviewed by program leadership as well as numerous community members from the SUHI team to ensure that the tours focus on community assets and provide opportunities for informal discussions with community members in order to facilitate more meaningful appreciation of the diverse communities and to prevent further stigmatization of marginalized areas. Each tour lasts approximately two to four hours and all are conducted via bus or walking.

Students also have opportunities to volunteer with community agencies during the internship (with the exception of 2020-2021 when the program was held virtually due to the COVID-19 pandemic). Interns have volunteered with a community organization that provides support and healthcare to homeless people throughout Chicago via a mobile clinic vehicle, and with a restaurant that provides free, healthy lunches to community members in need. Other interns have hosted a lunchtime discussion about medical school and the college application process for residents of a group home for local high school students experiencing housing insecurity.

Program Evaluation

Following the internship, all students are asked to complete a post-internship survey (Appendix 1). For this assessment, we included data from 2013-2020 (with the exception of 2019 data, which was not available due to incomplete consent forms). The evaluation of the internship program was designed to inform ongoing implementation, including processes and content; thus, evaluation questions have evolved over time. Below we highlight selected items that have remained constant across years.

Students rated their experience in the CMS/SUHI internship program, including whether the internship was well-organized, suitable to students' level of experience, interesting, improved students' research skills, exposed students to new ideas, and would improve students' resumes. All items were rated with a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

To supplement the numerical ratings of their experience, students were also asked open-ended questions, such as: "What do you think is the most important thing you learned?" and "How has participation in this internship changed your future career plans?" Starting in 2018, an additional reflective writing exercise was added to the internship program. Interns were asked to respond to at least four prompts that covered various aspects of their experience. We selected a sample of responses (and provided their respective prompts) based on their representativeness of the data as a whole.

Data Management and IRB Approval

For this descriptive paper, quantitative data were managed and analyzed using IBM SPSS v25 (Armonk, NY). Regarding the qualitative data, written responses were de-identified, and two reviewers (MRB and SRB) read the responses independently and analyzed them for common themes. The reviewers then shared their individual results, came to consensus on themes, and selected quotations which best represented the common themes and which spoke to the stated objectives of the internship. Evaluation of the CMS/SUHI summer internship was reviewed and approved by the Institutional Review Board of Mt. Sinai Hospital (protocol #19-15).

Results

Participants and Scholarly Output

In total, 62 medical students participated in the CMS/SUHI internship (2013-2018, 2020). Demographics of participating students are provided in Table 2. Of participating students, 58 returned the post-internship evaluation (response rate=93.5%).

Interns' research has been disseminated through presentations at national conferences, including five oral and one poster conference presentations. Student work has also been shared through six peer-reviewed publications.^{44,45,48-51}

Evaluation Responses

Overall, all students rated the CMS/SUHI internship positively, as represented by the results in Figure 2. In response to the open-ended survey question on the most important thing they learned during the internship, many identified learning about health inequities. One wrote: "The disparities within Chicago, how real they are and how steep they are. It's one thing to hear about these issues in other cities, but another to see them first-hand." Another student reflected on learning about the structural causes for these disparities, saying: "Racism is behind many of the health inequities we see," while another highlighted learning about "the prevalence of health disparities in America, the underlying history behind those disparities and the factors that continue to contribute to health disparities today." Similarly, another responded: "Learning about health disparities, how to talk about them, and ways to measure and address them is something I'll be able to refer back to and utilize for my entire career." Finally, another intern wrote about learning "how intricately [SDoH] truly play a role in people's health outcomes... It's fascinating, depressing, and inspiring all at the same time."

Another pattern that emerged from responses to the most important learning item was the importance of learning about the community one serves from members of that community. A

number of interns credited their interactions with CHWs for this understanding. One student wrote: “I learned the value and importance of the CHWs and what their role is to help bridge the gap that exists between patients and their healthcare.” Another student expressed a similar sentiment, reflecting that the CHWs at SUHI made them think about “how I should act as a physician to gain the trust of my patients and establish rapport.” Responses like these highlighted the value of community member-led neighborhood tours as a method of humanizing and contextualizing the reality of health inequities in the communities of Chicago for medical students.

Reflective Writing

Similar themes emerged from the analysis of the reflective writings. The common themes were: 1) structural racism and the need for physician advocates; 2) community awareness and integration; and 3) the primacy of SDoH. Selected quotations and prompts from the reflective writing exercise are presented in Table 3. Many interns reflected on the stark differences between what they expected to experience when touring the communities based on news media coverage, and what they actually experienced. Having CHWs as the tour guides was a powerful reason for the utility of these tours as learning experiences for students. Students also reflected on how the CMS/SUHI internship gave them an understanding of how patients’ environment and other SDoH would fit into their eventual practice as a physician. Finally, students frequently mentioned that more comprehensive training on health equity and the SDoH was needed as part of their medical education.

In addition to these themes, several responses brought up a desire to work in or advocate for marginalized communities in their future profession. Multiple students reflected on the value

of working in a safety-net health system, like Sinai Chicago. One student said they “would definitely do a rotation [at Sinai]” while another planned to “make sure some rotations are in the inner-city.” Similarly, one student stated: “I started medical school wanting to only practice in underserved areas... my experience [at the research center] has greatly reinforced my decision.”

Discussion

The CMS/SUHI internship provides a unique research experience for medical students, building their awareness of health inequities, structural determinants of health, and community-engaged approaches for equity. Didactic educational sessions and project-based learning allow students to synthesize population health and epidemiology concepts with real-world patient realities and healthcare delivery in a safety-net healthcare system. Importantly, as medical education increasingly focuses on raising awareness of SDoH, the community perspective provided by the CMS/SUHI internship gives medical students context for the social risk factors that contribute to health inequities. It also gives interns numerous examples of community-informed initiatives that address structural barriers to good health experienced by marginalized and underserved communities. Finally, the internship offers insight into important next steps for working toward actual change in communities, such as communicating health research to a broad audience, understanding healthcare delivery structures and barriers to care, and methods for advocating for policies and populations.

The CMS/SUHI internship has fulfilled unique needs for both the medical school and research center. For SUHI, whose mission is to improve health equity, the internship allows SUHI to extend its work by helping to better prepare physicians to serve marginalized populations and address health inequities. The internship has also provided SUHI researchers

with the chance to gain teaching and mentoring experience, as well as to have (temporary) research assistance. For CMS, the internship provides an applied experience for training on health inequities, population health, and public health research. The extracurricular structure of the internship removes two commonly reported barriers to incorporation of this content into medical curriculum: dedication of instruction time and identification of faculty members with expertise.⁵² The CMS/SUHI internship also serves as one method by which CMS satisfies multiple Liaison Committee on Medical Education accreditation standards, as outlined in Table 1.

As supported by the post-internship survey and student reflections, the CMS/SUHI internship challenged students to recognize and critically analyze their own opinions of health inequities and the systemic corollaries. This preliminary evaluation of the program provides evidence that the internship is meeting the goals of the CMS/SUHI collaboration by increasing students' understanding of population health concepts, research skills, and interest in serving underserved populations. Given that future physicians will be tasked with considering the social environments of their patients in practice, the CMS/SUHI internship is a novel method for building this knowledge and skill base in medical students. The interprofessional collaboration between clinicians, researchers, community members, and research staff provides a solid foundation for students early in their medical education about the changing team-based landscape of healthcare delivery. Student responses demonstrated an understanding of the need for including community members (like CHWs) in delivering healthcare that meets the needs of the populations health systems serve.

Lessons Learned and Future Directions

This evolving partnership has produced several learnings that may be applicable to other schools and research centers. Adding this type of opportunity in the summer allows students to pursue an interest in population health, while protecting time for other educational activities during the academic year. This internship is offered in the preclinical years of medical education, enabling the awareness of health inequities, SDoH, and other population health issues to influence the majority of curricular and clinical experiences. The involvement of SUHI staff also connects medical students with public health experts, rather than relying on basic science faculty to supplement their existing material with population health concepts, a noted barrier for schools trying to enhance their curriculum in this direction.⁵²

On a practical level, weekly check-ins with all interns, as well as year-end evaluations, have consistently yielded advice for adjustments in content, scheduling, and overall organization. Clear (and written) expectations of intern tasks and timelines are key aspects of mentor and intern satisfaction. Moving the majority of didactic sessions to the first and second weeks of the program has allowed interns to begin their project-based work with a more solid foundation of public health knowledge and skills. In addition, slight changes in the format of the program over the years (such as moving to group-based projects) have improved the feasibility of the program in terms of staffing availability. Broadening the type of research tasks assigned to students (as opposed to interns primarily serving as research assistants on an epidemiologic study) has also increased the value and relevance of their contributions to the dynamic needs of SUHI. Finally, researchers and other SUHI staff receive more preparation, feedback, and standardized templates (e.g. example summer plans for literature review projects) to create a more positive experience for both mentors and interns.

The CMS/SUHI partnership continues to evolve, with potential new collaborative work related to teaching population health and equity topics in the CMS curriculum and expanded internship opportunities. SUHI is considering how increasing internship opportunities could result in improved outcomes through an expanded core of teachers, more interprofessional interactions, the provision of academic credit, and greater geographic and educational diversity of students. Options for including elements of the didactic sessions provided to SUHI summer interns to the entire CMS class are also being pursued as part of the school's broader efforts to increase awareness and understanding of health inequities and structural racism. In 2020, the number of internship positions available increased from 10 to 15 per year and further expansions are being explored.

Limitations

Several limitations should be acknowledged related to the evaluation of the CMS/SUHI internship. We have presented a preliminary evaluation of the program through qualitative and quantitative data captured from participating interns. However, a full evaluation, including pre/post-assessments and longitudinal data for participants, would provide a more rigorous examination of internship effectiveness. We expect, but do not know, that participation in this internship would influence numerous longer-term outcomes, such as the likelihood of working with underserved populations after training or continued involvement in research, based on existing evaluations of similar programs.^{13,53-55} Expansion of our assessment to include this type of longitudinal analysis is an important future direction of the program. Additionally, the number of students who have participated is relatively small, only representing one medical school, and

may be biased toward students who already have an interest in population health or health equity due to the optional nature of the internship.

We also acknowledge that many medical schools interested in pursuing this kind of partnership may not have access to an organization like SUHI. For these schools, it may be possible to pursue a similar partnership with a local city or county health or public health department. Alternatively, schools may look to partner with organizations affiliated with the National Network of Public Health Institutes (NNPHI) within their area. The NNPHI represents a number of public health institutes throughout the U.S., as well as provides educational resources, and may be a useful resource for medical education institutions. Finally, partnerships similar to the one described here may be achieved through collaborations with local departments or schools of public health (whether or not they are affiliated with the medical school). For CMS, which does not have a school of public health within the broader university, SUHI has fulfilled this need and provided the expertise that may be available in-house for other institutions.

Conclusion

The CMS/SUHI internship provides an opportunity for students to broaden their understanding of research, health equity, and SDoH. Being based in a safety-net hospital, the internship provides exposure to timely public health issues through a pragmatic and authentic lens. Importantly, many of these experiences are led by community members from marginalized areas, which provides essential, real-world context to physicians in training. The model developed for this partnership may be of interest for adaptation by other institutions to provide similar opportunities for their students, particularly for other medical schools with missions related to health equity or community health improvement. Organizations like SUHI are

uniquely poised to offer opportunities in public health research and community engagement, and to engender competence in these areas in medical students. Increasing the number of opportunities for medical students to interface with underserved populations during education is essential to prepare the next generation of physicians to address health equity in their eventual practice.

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Appendix 1

Intern Evaluation – Questions from Post-Internship Survey

To help us improve our internship program, please answer the following questions. Your responses will remain confidential and will only be reported in aggregate. If you have additional comments, please feel free to contact us by email or phone (*information redacted*). Thanks for your feedback!

- 1. How would you rate your internship overall?**
Response choices: Excellent, Very Good, Good, Fair, Poor

- 2. What do you think was the most important thing you learned?**

- 3. Of this summer's LECTURES AND SESSIONS, please rank their usefulness to you:**
(LIST OF ALL LECTURES AND SESSIONS)
Response choices: Not Useful, Slightly Useful, Moderately Useful, Very Useful

- 4. Of this summer's COMMUNITY TOURS, please rank their usefulness to you:**
(LIST OF ALL COMMUNITY TOURS)
Response choices: Not Useful, Slightly Useful, Moderately Useful, Very Useful

- 5. Of this summer's READINGS AND RELATED DISCUSSIONS, please rank their usefulness to you:**
(LIST OF ALL READINGS AND RELATED DISCUSSIONS)
Response choices: Not Useful, Slightly Useful, Moderately Useful, Very Useful

- 6. What was your favorite activity or lecture?**

- 7. What was your least favorite activity or lecture?**

- 8. How do you feel about the ratio of planned activities to project work during the internship?**
Response choices: I liked it - I would not change anything; I did not like it - I would have preferred more planned activities; I did not like it - I would have preferred fewer planned activities

- 9. What topics might be of interest to future interns?**

- 10. Which project did you work on?**

- 11. Please rate your internship on the following attributes:**

- a. **Met my needs**
- b. **Suitable to my level of experience**
- c. **Interesting**
- d. **Improved my research skills**
- e. **Exposed me to new ideas and issues**
- f. **Will improve my resume**
- g. **Time commitment was reasonable**

Response choices: Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

12. Please rate the following logistical issues:

- a. **Office space was adequate**
- b. **Hours and dates were appropriate.**
- c. **Application/selection process was straightforward.**
- d. **Overall organization was good.**

Response choices: Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

13. To what extent do you think you can apply what you learned to your future work as a physician?

Response choices: Not at all, A little bit, Some, Quite a bit, A lot

14. Have the ideas and information you learned from this internship changed any of your future plans?

Response choices: Yes, No

If yes, please describe:

If no, please explain:

15. Will you recommend this program to other students?

Response choices: No, definitely won't; No, probably won't; Yes, probably will; Yes, definitely will

16. Are you interested in an academic-year internship with the research center after the summer?

Response choices: Yes, No, Maybe

17. After graduation, do you plan to work in a vulnerable or underserved population?

Response choices: Yes, No, Maybe

18. What type of residency program do you plan to apply for?

19. Do you plan to conduct, or be involved in, research in your career? (Yes, No, Maybe)

Response choices: Yes, No, Maybe

20. Are you planning on getting additional degrees, such as an MPH?

Response choices: No, Yes - MPH, Yes - other, Maybe)

21. Do you have any other comments or suggestions?



Figure 1. The Sinai Model begins with a rigorous needs assessment, data collection effort, or data analysis to assess community challenges and assets, in collaboration with key stakeholders. The second step involves dissemination of the results to a diverse audience, including community members and organizations, academic forums, health care providers, advocates, funders, and elected officials. The third and fourth steps involve working with community-based organizations to develop or adapt evidence-informed initiatives, obtain funding, and implement them. This is followed by rigorous assessment for effectiveness and ability to scale up.

Figure 2. Internship Participant Ratings of Experience (n=62).

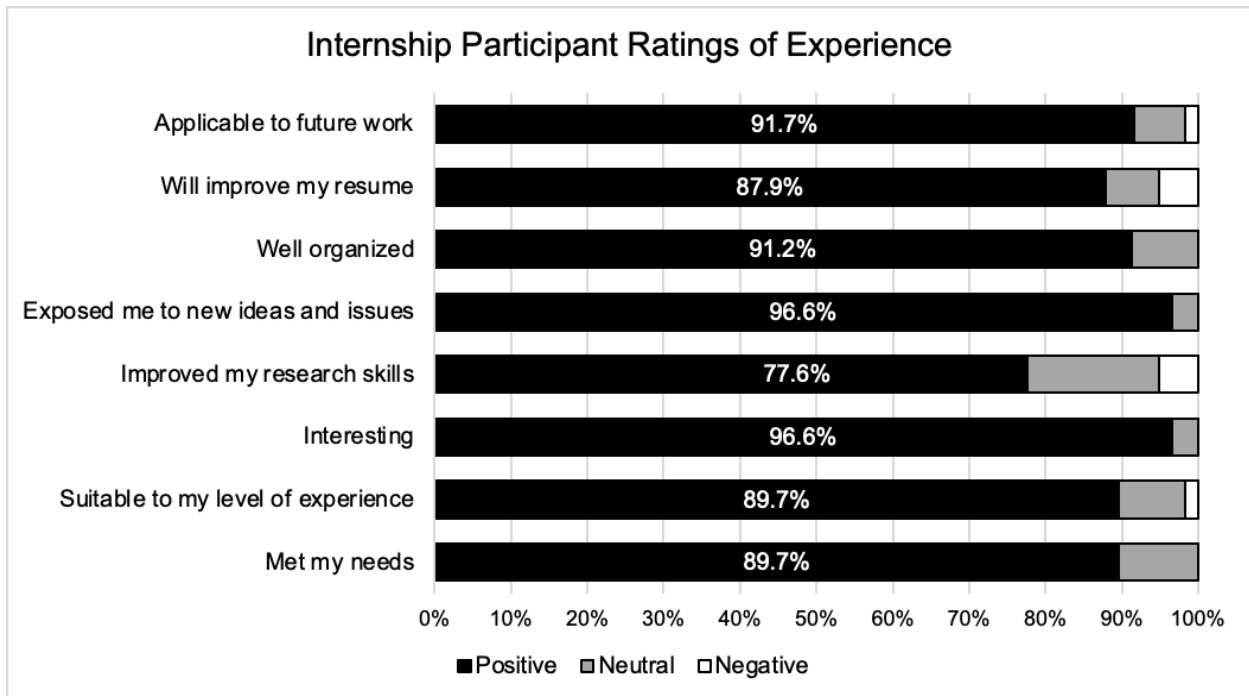


Figure 2: Intern ratings in response to the post-internship survey items. Positive responses were combined Agree/Strongly Agree (4/5), and negative responses were combined Disagree/Strongly Disagree (1/2). Neutral responses are indicative of a rating of 3 on the Likert scale.

Table 1. Summer Internship Program Objectives and Activities.

Program Objectives	Examples of Internship Activities	Relevant LCME Standards ^a
Enhance student understanding of population health concepts, including health equity, social determinants of health, and evidence-based best public health practices	<ul style="list-style-type: none"> • Structured curriculum, including sessions on: <ul style="list-style-type: none"> • Health inequities in Chicago and nationally • Structural racism • Social determinants of health • Research and evaluation of public health interventions • Role of community health workers in care teams • Introduction to population health • Population health management • Positionality and race • Guided tours of diverse Chicago neighborhoods • Community member input on intern research project design • Volunteer opportunities within marginalized communities • Book discussions, including <i>The Spirit Catches You and You Fall Down</i>, <i>Mama Might Be Better Off Dead</i>, and <i>The Death Gap</i> • Film discussions, including <i>70 Acres in Chicago</i> and <i>Just Mercy</i> • Reflective writing on experiences and learnings 	<p>Societal Problems (7.5)</p> <p>Cultural Competence and Health Care Disparities (7.6)</p>
Improve student research skills	<ul style="list-style-type: none"> • Structured curriculum, including sessions on: <ul style="list-style-type: none"> • Epidemiologic methods and statistics • Conducting community health assessments • Qualitative data collection and analysis • Program evaluation • Reading research articles • Writing research articles • Communicating health data through data visualization • Creating effective research posters • Grants 101 • Design, implementation, and evaluation of numerous community-based research initiatives 	<p>Community of Scholars/Research Opportunities (3.2)</p> <p>Scientific Method/Clinical/Translational Research (7.3)</p> <p>Interprofessional Collaborative Skills (7.9)</p>

	<ul style="list-style-type: none"> • Research project participation, including structured interactions with a diverse group of health professionals, including clinicians, epidemiologists, research staff, and community health workers, and mentorship by established public health researchers • Film discussions, including <i>Miss Evers' Boys</i> 	
Increase student interest in serving underserved populations	<ul style="list-style-type: none"> • Structured curriculum, including sessions on: <ul style="list-style-type: none"> • Community engagement in research • Healthcare providers as advocates • Health policy • Screening for social risk factors in hospital settings • Guided tours of diverse Chicago neighborhoods • Volunteer opportunities within vulnerable populations • Reflective writing on experiences and learnings 	<p>Societal Problems (7.5)</p> <p>Cultural Competence and Health Care Disparities (7.6)</p> <p>Interprofessional Collaborative Skills (7.9)</p>

Notes: LCME= Liaison Committee on Medical Education

^aThe most relevant standards were selected. Many standards align with multiple objectives and activities

Table 2. Summer Internship Participant Characteristics ($n = 62$).

Characteristic	<i>n</i>	%
<i>Gender</i>		
Woman	40	65%
Man	22	35%
<i>Race/Ethnicity</i>		
NH White	31	56%
Asian	17	20%
NH Black	6	11%
Hispanic	5	4%
Other/Unknown	3	4%
<i>Total</i>	62	100%

Notes: NH = Non-Hispanic. Data are for 2013-2018, 2020.

Table 3. Selected quotes from interns’ reflective writings organized by themes (2018, 2020).

	Selected Responses
<p>Theme 1: Structural racism and the need for physician advocates</p>	<p>“It saddens me to know that as a medical community we are mainly focused on treating people after they break and that we are not trained to tackle the social issues which are major contributors to the poor health of many minority groups, especially Blacks.” (1)</p>
	<p>“ Why has it been ignored given the ample research which shows the importance of taking social determinants and racism into account? Why do many physicians still think that racial disparities are due to biological differences? Why do we barely learn about social justice and systemic racism in medical school? Why do we not learn how to be advocates for our patients and how to address systemic racism?” (1)</p>
	<p>“During this internship we had many discussions which highlighted the failures of medicine in the U.S. Some of these failures are: obsession with the biomedical model of medicine, failure to address social determinants of health, and failure to address systemic racism.” (1)</p>
	<p>“After my experience with SUHI I am more aware of the limitations of medical school in teaching me how to be a good advocate for disadvantaged communities and how to best treat them.” (2)</p>
	<p>“As a future physician, I knew I would have many roles, as an educator, healer, leader, decision- maker, etc., however after this summer, I believe I also have a bigger role as a listener, advocate, and most importantly a role in the narrative of cultural humility.” (3)</p>
	<p>“One of the most important things I learned over the summer was about addressing the root causes, which lead to poor health...I want to learn how to use my understanding as a physician to advocate for policy changes which will lead to: investment in poor communities, increased environmental health, and desegregation.” (5)</p>
<p>Theme 2: Community awareness and integration</p>	<p>“I will remember that even within the system, there is a way to fight oppression. I truly enjoyed learning the process SUHI utilizes to both analyze and address systemic racism in healthcare.... Although racism was not a new subject to, I did find it shocking to the extent that people of color in Chicago are systematically subjugated to poorer standards of living conditions.” (6)</p>
	<p>“Previously, in my mind knowing your community simply meant knowing the general demographics of the area; but it is so much more than that. It is important to know the details of the community: what are their resources like? What are the common health issues in the area?” (4)</p>
	<p>“I have realized that those determinants vary for every community and require community specific interventions. There is no one-size-fits-all solution for overcoming health disparities. The only solution is to work with communities and help the communities themselves help themselves.” (2)</p>
	<p>“I feel much more knowledgeable about my community and ready to advocate for positive change. ... After this internship I feel more prepared to be a provider that strives to make a positive difference for my patients and for my community on both a policy and more personal levels.” (3)</p>
	<p>“Prior to the tour the only things I had really known about North Lawndale was what I saw on the news, which did not place the area in the best light. The news mostly depicts the crime, violence, and gangs so I was not sure what to expect going on the tour. Actually going on this tour and being able to experience North Lawndale from people who had lived there all their lives enabled me to really see the beauty of the neighborhood.” (4)</p>
<p>“Physicians take an oath and pledge to help anyone in need, to the best of their abilities. Yet many spend their entire training in predominantly white communities. This is a disservice not only to the patient, but also to the physician. If they were ever thrown into a new setting, a more diverse one, would they know how to help? ... And the best way to learn is to work with diverse communities firsthand, not listen about them in a lecture.” (4)</p>	

	<p>“On almost all the tours the guides have reiterated how important that change and help must come from within a community, and how community members are resistant to outside help due to previous experiences.” (4)</p>
	<p>“I thought the roles of Community Health Workers was eye-opening.” (7)</p>
	<p>“I feel much more knowledgeable about my community and ready to advocate for positive change. ... After this internship I feel more prepared to be a provider at a clinic that strives to make a positive difference for my patients and for my community on both a policy and more personal levels.” (7)</p>
<p>Theme 3: The primacy of social determinants of health</p>	<p>“I think it’s important for physicians to understand that a physician is only a tiny tiny tiny part of a patient’s life. When they enter your office or operating room they are bringing an entire outside life into the room.” (3)</p>
	<p>“Before this internship, I believed, as many do, that prescription and a strict course of medicine was the best way to improve a patient’s health. I’ve since learned that more than half of the determinants of health are not clinical at all.” (3)</p>
	<p>“Over the course of this internship and especially with the community tours, I have come to realize that I don’t really have that solid of an understanding of social determinants of health.” (2)</p>
	<p>“I think public health research and public health education can give some of that perspective to students and clinicians and to show them that there is more to medicine than just diseases and medication. That it also encompasses a lot of the public health factors not addressed by basic sciences but are necessary in a holistic treatment of the patient.” (8)</p>

Selected quotations are organized by the emergent themes from responses. The prompt to which a student was responding is listed following each quotation in parentheses, corresponding to the following prompts: (1) What questions did this experience bring up for you?, (2) What have you learned about yourself through this experience?, (3) How will this alter your future behaviors/ attitudes/and career?, (4) How do you feel about getting to know communities (how did your feelings change from before the tours to afterwards)?, (5) What potential role will you play in the health of populations beyond the care of individuals?, (6) Five years from now what will you remember about these experiences?, (7) How will this alter your future behaviors/attitudes/and career?, (8) Why is it important for clinicians to understand public health research better?