The CHAMPIONS NETWork: Training Chicago High School Students as Health Advocates to Improve Health Equity

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In Chicago, major disparities exist across ethnic groups, income levels, and education levels for common chronic conditions and access to care. Concurrently, many of Chicago's youth are unemployed, and the number of minorities pursuing health professions is low. In an effort to eliminate this health equity gap, the University of Illinois at Chicago convened a community-university-hospital partnership to implement the CHAMPIONS NETWork (Community Health And eMPowerment through Integration Of Neighborhood-specific Strategies using a Novel Education & Technology-leveraged Workforce). This innovative workforce training program is a "High School to Career Training Academy" to empower underserved youth to improve population health in their communities, expose them to careers in the health sciences, and provide resources for them to become community and school advocates for healthy lifestyles. This program differs from other traditional pipeline programs because it gives its students a paid experience, extends beyond the summer, and broadens the focus to population health with patient contact. The CHAMPIONS NETWork creates a new type of health workforce that is both sustainable and replicable throughout the United States.

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INTRODUCTION

Chicago is simultaneously one of the most diverse and most segregated cities in the United States (Silver, 2015). This segregation is associated with major health disparities across ethnic groups, income levels, and educational background for common conditions such as cardiovascular disease and cancer. Compared with Whites, coronary heart disease and cancer mortality rates are higher for Blacks by 10% and 50%, respectively. Similarly, diabetes mortality rates are also disproportionate with a rate of 20% for Whites, 31% for Hispanics, and 38% for Blacks (Chicago Department of Public Health, 2012). The most significant barriers to staying healthy in Chicago are tied to economic hardship: unemployment, lack of insurance, and affordability

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Authors' Note: This work was supported by the University of Illinois Hospital and Health Sciences System, the Pritzker Traubert Family Foundation, and the Baxter International Foundation (grant number 19176). Address correspondence to Sara Heinert, Department of Emergency Medicine, University of Illinois at Chicago, 808 South Wood Street, M/C 724, Chicago, IL 60612, USA; e-mail: sheinert@uic.edu. issues including the cost of care (Chicago Department of Public Health, 2012). From 2000 to 2009, the number of Chicagoans who "avoided the doctor due to cost" increased by 100%, and the highest increases were among Hispanics and people without college degrees (Chicago Department of Public Health, 2012).

A diverse and culturally aware workforce is a critical element in the delivery of quality health care (Nivet, 2011). Diverse health care professionals can provide care that is mindful of various belief systems and cultural biases, which can be more effective for patients from a wide range of backgrounds (Cohen, Gabriel, & Terrell, 2002). Greater cultural competency can improve the quality of care due to better providerpatient communication (Kington, Tisnado, & Carlisle, 2001). Physicians from minority backgrounds are significantly more likely to practice primary care and practice in medically underserved areas than White physicians (Association of American Medical Colleges, 2014), which can increase access to high-quality health services for the underserved (Cohen et al., 2002; Kington et al., 2001).

Yet the proportion of minority health professionals is well below what would be expected based on their population share. Only 9% of physicians identified as Black, American Indian or Alaska Native, or Hispanic (Association of American Medical Colleges, 2014), although these groups represented 32% of the United States population in 2015 (U.S. Census Bureau, n.d.). Approximately 11% of registered nurses, 3% of dentists, and 6% of pharmacists are Black. Similarly, only 5% of registered nurses, 6% of dentists, and 4% of pharmacists are Hispanic (National Center for Health Workforce Analysis, 2015).

Of special concern are the high youth unemployment rates in Chicago, especially for minority groups. Among 16- to 19-year-olds, 12.5% of Blacks and 7.8% of Hispanics were out of work and out of school compared with 5.6% of Whites. Among 20- to 24-year-olds, 39.5% of Blacks and 18.2% of Hispanics were out of work and out of school compared with 6.3% of Whites (Cordova, Wilson, & Morsey, 2016). In 2016, the Mayor of Chicago specifically issued a call to improve safety and security through increased opportunities for Chicago's youth to stay on track to graduate high school and go to college (Office of the Mayor City of Chicago, 2016).

It has been suggested that addressing disparities at the precollege level, through partnerships between hospitals, health professional schools, and local schools, is part of the solution to medicine's diversity gap (Cohen et al., 2002). In an effort to address the gaps in care capacity, the University of Illinois at Chicago (UIC) convened a partnership to build, implement, and evaluate a "CHAMPIONS NETWork" (Community Health And eMPowerment through Integration Of Neighborhoodspecific Strategies using a Novel Education & Technologyleveraged Workforce) model. This innovative workforce training program empowers underserved youth to champion healthy lifestyles and exposes them to career pathways in health care.

This article describes a model curriculum that can be easily scaled and replicated in partnership with health care systems to simultaneously improve community health and address youth unemployment.

METHOD

Program Overview

The CHAMPIONS NETWork aims to advance health equity by empowering high school students from underserved communities to become health advocates for an at-risk population who might otherwise "fall through the cracks" of the health care system. Students are an enthusiastic group who may better inform patients and community members about their health than professionals who may live outside their community. The overarching goals of the program are to empower youth, improve population health, and create a future after high school specifically, geared toward health care careers—one of the fastest-growing segments of the U.S. economy (Torpey, 2015).

The CHAMPIONS NETWork builds on lessons learned from the Illinois Heart Rescue (ILHR) program, a statewide collaborative that has engaged hospitals, community-based organizations, and schools throughout Illinois to teach cardiopulmonary resuscitation (CPR) to improve cardiac arrest survival. By focusing CPR training efforts in underserved "hotspot" neighborhoods with high cardiac arrest burden and low bystander CPR rates (Del Rios et al., 2014; Del Rios, Kotini-Shah et al., 2015; Del Rios, Sasson et al., 2015), ILHR has more than tripled survival in some neighborhoods (Campbell & Del Rios, 2017). School-based programs within ILHR highlight the power of high school student engagement. ILHR created a school-centered "pay-it-forward" educational intervention to increase bystander-initiated resuscitation by training 9th and 10th graders on compression-only CPR and AED (automated external defibrillator) use. Students were then given CPR kits to bring home to teach friends and family. Seventy-one students trained 347 people—a 500% increase in reach. This program has been adopted by multiple Chicago schools with similar results, proving that high school students can be highly effective community

| Demogr | aphic Characteristi | cs of CHAMPIONS | NETWork First Cohor | t Schools |
|------------------------|----------------------|----------------------|-------------------------|-----------------------------------|
| School Type | % White ^a | % Black ^a | % Hispanic ^a | % Free/Reduced Lunch ^b |
| 1. Public/neighborhood | 2.5 | 27.2 | 68.9 | 95.2 |
| 2. Public/neighborhood | 0.7 | 11.9 | 87.1 | 97.1 |
| 3. Public/neighborhood | 9.9 | 27.8 | 42.8 | 82.8 |
| 4. Charter | 0.8 | 3.9 | 95.2 | 97.5 |
| 5. Charter | 2.0 | 25.7 | 66.4 | 85.7 |
| District average | 9.6 | 38.9 | 45.9 | 80.7 |

 TABLE 1

 Demographic Characteristics of CHAMPIONS NETWork First Cohort Schools

NOTE: CHAMPIONS NETWork = Community Health And eMPowerment through Integration Of Neighborhood-specific Strategies using a Novel Education & Technology-leveraged Workforce.

^aData from Chicago Public Schools (Chicago Public Schools, n.d.-b). ^bData from Chicago Public Schools (Chicago Public Schools, n.d.-a).

health advocates (Del Rios et al., 2014). The CHAMPIONS NETWork expands this model to include additional health topics and provides a more comprehensive training program for students.

Components of the CHAMPIONS NETWork-high school student participation in intensive health curriculum, mentorship, and exposure to health careershave been validated as beneficial to students in previous programs (Crump, Ned, & Winkleby, 2015; Rashied-Henry et al., 2012; Sasson, Haukoos, Eigel, Magid, & Shah, 2014; Wallace, Perry, Ferguson, & Jackson, 2015; Winkleby, Ned, & Crump, 2015). The CHAMPIONS NETWork goes beyond the traditional pipeline program to take a more health promotion focus. Unique components of the program include a didactic and hands-on curriculum, real-life experience in an emergency department (ED) setting, and holding students accountable for dissemination of health knowledge. Students interact with patients in a clinical setting to facilitate primary care follow-up. By engaging students to become part of the health care team, the CHAMPIONS NETWork can improve the health of Chicago's most underserved communities while empowering students in a novel way and building a pathway that equips them to join the health care workforce.

Program Site Characteristics

The 6-week summer program began in June 2016 and took place at UIC and UI Hospital, both located in Chicago, Illinois. The university hosts seven health sciences schools: medicine, dentistry, nursing, pharmacy, public health, social work, and applied health sciences. Shadowing opportunities and the clinical internship took place at UI Hospital. The ED at UI Hospital is a Level II trauma center with an annual census of 47,000 visits serving a predominantly low-income, minority patient population consisting of 35% Hispanic, 35% African American, and 20% non-Hispanic Caucasian.

Recruitment and Eligibility

In Spring 2016, the CHAMPIONS NETWork recruited students from three public and two charter schools in Chicago. The schools were purposefully selected because they were either located in primarily low-income neighborhoods, or their enrolled students came from low-income neighborhoods. Table 1 shows characteristics of the schools by race/ethnicity and financial need (via free or reduced lunch; Chicago Public Schools, n.d.-a; Chicago Public Schools, n.d.-b).

In addition to socioeconomic criteria, we selected our inaugural schools based on the guidance of two programmatic partners—Gaining Early Awareness and Readiness for Undergraduate Programs (GearUp) and Mikva Challenge. GearUp is a program funded by the U.S. Department of Education designed to increase the number of low-income students who are prepared to enter and succeed in postsecondary education (U.S. Department of Education, 2017). Mikva Challenge engages youth in action civics to develop them to be informed and active citizens and community leaders (Mikva Challenge, n.d.). One or both programs had a preexisting relationship with each selected school, and the three public schools had GearUp offices within them. Our partnership with GearUp facilitated a streamlined recruitment process for school-based staff to inform students about the program and how to apply. The two charter schools had extracurricular programming liaisons that were instrumental in aiding in the recruitment process at their school. Through our partnership with Mikva Challenge, we learned best practices of the recruitment process and guidance on some programmatic components.

Forty five students applied for 28 spots in the 2016 summer program. The program application requirements were (1) application form with parent or guardian signature, (2) school transcript, (3) vaccination records, (4) two short essay questions, and (5) recommendation forms from two adults, with at least one from a teacher. Students were eligible to participate if they were rising juniors or seniors and were at least 16 vears old by the start of the program. While transcripts were required as part of the application package, there were no grade point average (GPA) requirements for acceptance into the program. Attendance records and recommendation forms were important considerations for students who had lower GPAs. All students who submitted a complete application were offered a brief, 15-minute in-person interview by program staff.

Participant Characteristics

We enrolled 28 students in the first year of the program. One student left in the first week because of concerns that travel time from her home was too long, leaving 27 students who completed the 6-week summer program. The demographic makeup of the first-year cohort was 52% Hispanic, 33% Black, 4% White, and 11% Other. Seventy-eight percent were female and 78% were rising seniors. Fifty-six percent of students would be the first generation of their family to go to college and 12% contributed to their family's income. A third of students (33.3%) spoke only Spanish at home. The students lived in 14 (out of 77), mostly lowincome minority and immigrant, Chicago community areas with historically poor health outcomes. Table 2 shows health outcomes and socioeconomic factors across these community areas (Chicago Department of Public Health, n.d.; University of Illinois at Chicago Great Cities Institute, 2017).

Program Organization and Delivery

The hospital's volunteer office facilitated screening requirements to attend shadowing experiences and the clinical internship in the hospital, including an orientation on Health Insurance Portability and Accountability Act and patient privacy, background check, and health screening. It was vital to begin the clearance process very early in the program so that clinical components were not delayed.

Each day was divided into a morning (9:00 a.m. to 11:30 a.m.) and afternoon session (12:30 p.m. to 3:00 p.m.) with a 1-hour lunch (11:30 a.m. to 12:30 p.m.). The program took place 6 hours a day, 4 days a week, and students received a \$1,000 stipend, public transportation passes, and lunch every day for the first 4 weeks.

The bulk of the curriculum was delivered by four program coordinators: one medical student, one master of public health student, and two premedical recent college graduates. The coordinators taught program sessions, provided administrative oversight, and served as mentors for the students. They were supervised by a core team of emergency medicine faculty, public health researchers, and representatives from partner organizations. The executive director of the program was the Chair of the Department of Emergency Medicine.

The program was divided into two sections; in the first 4 weeks, the students were trained to become health advocates, and in the last 2 weeks students completed a clinical internship where they used their training to screen and educate patients.

Weeks 1 to 4: Didactic and Enrichment Curriculum. Students were trained as health advocates, using didactic and enrichment curriculum. The didactic curriculum was taught in a classroom by the four program coordinators and faculty in health-related departments throughout the University. All didactic modules were adapted specifically for the CHAMPIONS NETWork program from a preexisting interactive health curriculum by UIC College Preparatory High School that was created for use with high school students. The enrichment curriculum included more hands-on activities, outside of the classroom. Table 3 lists a sample of curriculum topic and activities.

Weeks 5 and 6: Clinical Internship. During their clinical internship, the role of the students was similar to that of a community health worker (CHW). CHWs have recently emerged as a workforce that can be used as a cost-effective strategy to provide health care to the underserved. They are lay members of local communities who usually share ethnicity, language, and socioeconomic status with the community members they serve. CHWs can provide culturally appropriate health promotion and health education and assist in accessing medical services (U.S. Health Resources and Services Administration, 2007).

After training and teach-back, students put the training they received during the first 4 weeks into action by interacting with patients as health screeners and educators in the ED and the clinical decision unit of the University hospital. They specifically focused on cardiovascular disease, cancer, and healthy eating and exercise, while also connecting patients to primary care resources. The students were supervised by one or two program coordinators. They wore business casual attire with a provided CHAMPIONS NETWork polo shirt, as well as their hospital ID badge. The students were assigned participation in four 5-hour shifts per week.

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|---|---|---|---|--|--|---|---|---|---|
| Community Area | Out of Hospital Cardiac Arrest Rate (per 100,000) ^a | % Bystander CPR ^a | Mortality Rate—Cancer (All Sites) ^b | Mortality Rate— Diabetes Related ^b | Mortality Rate—Stroke (Cerebro- vascular Disease) ^b | % Below Poverty Level ^b | % No High School Diploma ^b | % Unemployment ^b | % Out of Work and Out of School—16 to 24 Years Old ^{e,d} |
| Chicago Lawn | 163.8 | 16.5 | 179.3 | 73.0 | 61.7 | 22.2 | 31.6 | 11.9 | 31.1 |
| Edgewater | 400.5 145.8 | $^{4.8}_{15.0}$ | 230.8 162.0 | 97.3 48.8 | 47.5 31.5 | 39.7 16.6 | 20.2 9.0 | 9.0 9.0 | 30.1 10.1 |
| Gage Park | 74.7 | 6.7 | 171.0 | 65.0 | 51.2 | 20.8 | 54.1 | 14.0 | 19.6 |
| Humboldt Park | 208.0 | 18.2 | 211.1 | 94.1 | 53.5 | 32.6 | 36.8 | 12.3 | 30.1 |
| Logan Square | 111.5 | 30.0 | 148.7 | 75.7 | 31.9 | 17.2 | 18.5 | 7.5 | 11.7 |
| Lower West Side | 116.2 | 15.0 | 141.3 | 61.9 | 39.2 | 27.2 | 44.3 | 13.0 | 7.0 |
| McKinley Park | 140.8 | 8.7 | 148.4 | 61.4 | 51.7 | 16.1 | 31.8 | 11.9 | 17.3 |
| Rogers Park | 104.8 | 22.8 | 176.9 | 77.1 | 33.7 | 22.7 | 18.1 | 7.5 | 10.1 |
| South Chicago | 291.9 | 17.1 | 227.3 | 86.9 | 50.6 | 28.0 | 28.2 | 17.7 | 21.2 |
| South Lawndale | 117.9 | 9.8 | 127.4 | 65.0 | 37.3 | 28.1 | 58.7 | 11.5 | 30.1 |
| Uptown | 130.4 | 19.7 | 183.3 | 80.0 | 41.7 | 22.7 | 13.6 | 7.7 | 10.1 |
| West Ridge | 177.3 | 21.9 | 155.9 | 60.5 | 34.7 | 15.1 | 19.6 | 7.9 | 12.6 |
| West Town | 94.8 | 20.3 | 139.6 | 107.0 | 33.3 | 15.7 | 13.4 | 6.0 | 7.0 |
| Chicago average | 190.4 | 15.5 | 194.3 | 71.9 | 46.5 | 20.3 | 21.6 | 13.3 | 17.0 |
| NOTE: CHAMPIONS NETWork = Community Health And eMPowerment through Integration Of Neighborhood-specific Strategies using a Novel Education & Technology-leveraged Workforce. "Data from Chicago Cardiac Arrest Registry to Enhance Survival Data—2013-2016. ^b Data from Chicago Department of Public Health (2005-2011) (Chicago Department of Public Health, n.d.). ^c Data from University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute, 2017). ^d Data calculated at the Public Use Microdata Area (PUMA) level (2015), which combines multiple (2-5) community areas into each PUMA. This is the smallest geographic united used by the Census for tabulating this data (University of Illinois at Chicago Great Cities Institute, 2017). Therefore, areas in the same PUMA share the same value for this rate. | NETWork = Commu Workforce. urdiac Arrest Registry). ^c Data from Univers ic Use Microdata Are insus for tabulating th | unity Healt to Enhance itty of Illinoi a (PUMA) la nis data (Un | 1 And eMPowerr Survival Data—2 is at Chicago Gree evel (2015), which iversity of Illinoii | ment through 013-2016. ^b T at Cities Inst h combines r s at Chicago | a Integration Of ata from Chicago titute (2015) (Univ nultiple (2-5) com Great Cities Instit | Neighborhc Departmen /ersity of II /munity are :ute, 2017). | ood-specific t of Public H linois at Chii as into each Therefore, a | ity Health And eMPowerment through Integration Of Neighborhood-specific Strategies using a Novel Education & Ehhance Survival Data—2013-2016. ^b Data from Chicago Department of Public Health (2005-2011) (Chicago Department ^v of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute (2015) (University of Illinois at Chicago Great Cities Institute, 2017). Therefore, areas into each PUMA. This is the smallest geographic data (University of Illinois at Chicago Great Cities Institute, 2017). Therefore, areas in the same PUMA share the same | Jovel Education & hicago Department titute, 2017). ^d Data mallest geographic MA share the same |

| Didactic | Enrichment |
|--|--|
| Health modules: "Determinants of health" "Health disparities" paired with relevant documentary and debrief "What is a community?" "Access to health care" "Rights and responsibilities" "What's in a drink?" | Hands-on learning opportunities: CPR certification Simulation lab—suturing, ultrasound Anatomy lab with animal organs Cadaver lab—emphasis on physiology of cardiovascular disease Mentorship from health professionals: Lunch and learn Leadership café (speed networking) Career panel Clinical shadowing |
| Life skills and cultural modules: • Resume workshop • Health career survival skills • Cultural competency • Professional communication • Leadership styles • College life • Scholarship opportunities | Expert speakers with accompanying discussion on topic: Cureviolence/ceasefire (neighborhood violence) Lead poisoning Oral health Asset mapping of community resources Homework assignments: Train family CPR at home |

TABLE 3 Sample of CHAMPIONS NETWork Curriculum Topics and Activities

NOTE: NOTE: CHAMPIONS NETWork = Community Health And eMPowerment through Integration Of Neighborhood-specific Strategies using a Novel Education & Technology-leveraged Workforce; CPR = cardiopulmonary resuscitation.

Students were responsible for conducting cardiovascular and cancer risk assessments with patients, as well as assessment of healthy living such as exercise and nutrition in the ED. The students then reviewed with the patient a one-page health information fact sheet related to the information asked in the screening form. The sheet included statistics and suggestions for healthy living based on topic-specific health advocacy organizations, such as the American Heart Association and American Cancer Society. Being sensitive to literacy issues, all information was verbally read to the patient and was presented at no greater than an eighthgrade reading level, and patients were able to take the information sheet home with them. In addition to English, materials were available to share with patients in Spanish. A sample of questions from the risk assessments and health information sheet statements can be found in Table 4.

Our university is unique in that we have a federally qualified health center (FQHC) within the health system. This relationship made it feasible to have students assist with referrals to this FQHC. The students made appointments for patients who did not have a primary care provider or wanted a new one. Students also made follow-up phone calls to patients who had been screened in order to keep those patients engaged with the health care system and see if they needed further assistance in obtaining a primary care appointment.

The program builds on the health impact pyramid framework (Frieden, 2010) where students partook in counseling and education with patients, as well as provided clinical interventions through referrals to primary care. Although these two types of interventions are at the top of the health impact pyramid, suggesting smaller population impact and larger individual effort needed compared with broader changes at the bottom of the pyramid, the interventions were within the reasonable scope of the students' capabilities. Additionally, as the students were educating patients on cancer and cardiovascular conditions and primary care, they were simultaneously increasing their own knowledge on these topics.

Mentorship. Mentorship was an important element of our program. Events included lunch and learn sessions, a leadership café, a career panel, and clinical shadowing. In lunch and learn sessions, health care professionals shared their career path and answered student questions in a relaxed setting over lunch. Modeling after our partner Mikva Challenge, students participated in a speed networking event with 16 mentors from various health fields. In the career panel, students had the opportunity to hear from and ask questions to a

| Question Type | Sample Risk Assessment Questions | Sample Health Information Sheet Statement |
|---------------------------|--|--|
| Cancer | For women in their 40s or older: When was your last mammogram? | The American Cancer Society says that women 45 to 54 years old should get mammograms every year. Women 55 and older can switch to once every 2 years or once a year as desired. Talk to your doctor to know what is best for you. |
| Cardiovascular disease | Do you have diabetes? | People who have diabetes are at higher risk of getting heart disease. If you have diabetes, it is important to talk to your doctor about your heart health. |
| Access to primary care | Do you have a primary care doctor? For any reason, would you like help getting an appointment with a primary care doctor so you can discuss your health with them? | High blood pressure is symptomless which means you can walk around feeling completely healthy but still have high blood pressure. This is why regular check-ups are so important. |
| Exercise | Over the past 7 days, how many times did you engage in moderate to strenuous activity? | What you can do TODAY to lower your cancer and cardiovascular disease risk: Get at least 2 hours of moderate activity a week such as gardening or walking. Eat at least 2.5 cups of fruits/vegetables a day and lower your salt/sodium intake. |

 TABLE 4

 Sample Questions From Patient Risk Assessment and Sample Statements From Health Education Sheet

diverse group of health professionals, including a FQHC chief medical officer, a community health worker supervisor, a family medicine physician, a paramedic, and an emergency medicine resident. Additionally, students participated in 2 days of shadowing health professionals throughout the hospital including physicians in multiple medical subspecialties, medical technicians, dentists, pharmacists, social workers, and nurses. During these experiences, students were paired with a health professional, witnessed them "in action," and were encouraged to ask questions.

Program Funding

Initial start-up funds were provided internally by the University of Illinois Hospital & Health Sciences System. The first year of the summer program cost approximately \$50,000. During this time, the program did not have any full-time staff but engaged more than 80 health professionals from the hospital and university who volunteered their time for program oversight, shadowing opportunities, to teach, and mentor students. As we prepare to expand to 50 students in Year 2, the program has received competitive funding from two foundations. The grant money was invested in two full-time program staff—a program manager and evaluation manager—and will cover other programmatic expenses including student stipends and transportation costs. We anticipate annual costs to be approximately \$250,000, which includes school year continuation of the program.

Program Evaluation

As an outcomes-oriented health program, our longterm goal is to develop an effective pathway for supporting students to graduate from high school and college and become health professionals, while simultaneously improving the health of their communities. Using the five dimensions underlying the RE-AIM framework-Reach, Effectiveness, Adoption, Implementation, and Maintenance—we will estimate the potential public health impact of the CHAMPIONS NETWork (Klesges, Estabrooks, Dzewaltowski, Bull, & Glasgow, 2005). In addition to measuring the success of the program, outcome data can be used to improve and enhance the program in future years by identifying programmatic elements with the greatest effects on students. Elements that were less impactful can be further developed and improved for future cohorts of students. Our evaluation metrics follow the three goals of the program.

Goal 1. Empower Youth to Become Health Champions in Their Own Community. Pre- and postprogram assessments are used to measure changes in students' absences and tardies, grades, self-efficacy, and knowledge of health conditions, including cardiovascular disease and cancer. Long-term evaluation includes tracking the progress of all students within the CHAM-PIONS NETWork over time through a dedicated website and follow-ups with students, school counselors, and advisors.

Goal 2. Address Health Disparities and Improve Population Health. Students are trained to become community health advocates in order to build a culture of good health in underserved communities. In addition to baseline screening data, students conduct 3-month follow-up telephone interviews on individuals who agreed to share their contact information. Outcomes of interest include percent who followed up with primary care, change in blood pressure, change in body mass index, change in smoking through use of smoking cessation services, and change in self-reported healthy behaviors (e.g., increased fruit and vegetable intake, increased physical activity).

Goal 3. Create a Future After High School Through College and Health Career Pathways. Pre- and postprogram assessments measure high school graduation rates, interest in college, awareness of and interest in pursuing health careers. Longer term evaluation includes tracking high school graduation rates; rates of entrance, persistence, and graduation from college; and pursuit of health care careers.

Daily Feedback From Students. Each day, students completed brief, anonymous, written evaluations to share their preferences of program content and suggestions for improvement. Students rated their experience on a 5-point Likert-type scale from Very Poor to Very Good. After review of the evaluations, we learned that the students most preferred dynamic instructors and hands-on activities. The enrichment curriculum was most popular, but the didactic curriculum was also well-received when the instructor worked to engage the students.

School-Year Program Continuation

On completion of the 6-week summer program, students were offered the option to continue the program into the school year to act as health advocates with their peers and their communities. Students continue to screen and educate patients in the ED and call patients for continued follow-up. They have returned to their communities and participated in screening and education activities such as school health fairs, handsonly CPR trainings, and neighborhood asset mapping of health resources. Students have engaged their classmates and friends to participate in our afterschool curriculum, broadening our program's reach. The first CHAMPIONS NETWork class will be recruiters for the next class and exemplary program graduates will have the opportunity to participate in the next year's program as student leaders. All students are also exposed to scholarship opportunities during the school year including the UIC CHAMPIONS NETWork Scholarship for UIC-bound high school graduates.

DISCUSSION

The CHAMPIONS NETWork fosters career development and student engagement at the grassroots level with a huge impact on improving population health by creating a new type of health workforce that could be sustainable throughout the United States. This community-university-hospital partnership engages youth to become active members of the health care system by empowering them with knowledge and communication tools to become health advocates for themselves, their families, and their communities. Previous youth engagement programs have demonstrated dramatic effects on both the teenage participants and the communities in which they live. Urban summer employment programs for teens have shown that participating teens have fewer violent-crime arrests (Heller, 2014), less probability of incarceration (Gelber, Isen, & Kessler, 2014), and increased academic outcomes (Schwartz, Leos-Urbel, & Wiswall, 2015) compared with students not in the program. Health career pipeline programs for youth have shown that participation has increased motivation and interest in health care careers (Crump et al., 2015; Rashied-Henry et al., 2012), and most lowincome participants attend college and receive their degrees (Winkleby, 2007). Additionally, a teen outreach program that promoted healthy behaviors and life skills resulted in decreased teen pregnancy, school suspension, and dropout compared with students who did not participate (Allen, Philliber, Herrling, & Kuperminc, 1997). CHAMPIONS NETWork brings together several components of these successful programs, so we expect similar profound effects on the underserved students and communities engaged.

The CHAMPIONS NETWork mission, programming, and curriculum clearly align with all six components of the social determinants of health framework (Heiman & Artiga, 2015). We target *economic stability* through health workforce development, *neighborhood and physical environment* by teaching about health disparities and participating in community engagement events. *Education* is targeted through health career pipeline programming with local schools, and *food* by teaching the students about healthy eating for which they then educate their communities. The *community and social context* aspect is addressed by having the students act as health advocates in their communities, and we target the *health care system* through students' screening and education of patients and students' clinical skills development. Initiatives that incorporate these determinants can ultimately contribute to improved health outcomes and greater health equity.

CONCLUSIONS

Considering that there are 130.4 million ED visits annually in the United States (Rui, Kang, & Albert, n.d.), the CHAMPIONS NETWork can be disseminated and translated for implementation in a city-wide, statewide, and eventually national model portable for use in other EDs. As models such as accountable care organizations emerge, sustainability is expected due to the value of the program to health systems through the resultant cost savings incurred from keeping their patient population healthy (Centers for Medicaid and Medicare, 2015). Additionally, the CHAMPIONS NETWork is attractive for municipalities and school systems looking to give their young adults hands-on health-related career opportunities.

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