

Public Health in Practice: Implementation of the CDC Lewis Public Health Scholars Programs

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ABSTRACT

The CDC John R. Lewis Undergraduate Public Health Scholars Program is a multi-institutional pathway initiative designed to prepare undergraduate and recently graduated students for future education and careers in public health through integrated didactic and experiential learning. Although program models vary by site in modality, duration, and curricular emphasis, all seven partner institutions include 4 pillar components: didactic instruction, experiential learning, research development and dissemination, and professional development. Since its launch in 2012, the program has expanded from four to seven sites and has served an estimated 2671 scholars. Across sites, scholars have contributed substantial public health practice hours through experiential learning placements in more than 240 governmental, academic, Tribal, health care, and community-based organizations. These findings illustrate how diverse implementation models can support a shared framework for undergraduate public health training and inform future pathway program design, adaptation, and scale.

KEY WORDS: pathways program, public health workforce, academic partnership, community

Introduction

The CDC John R. Lewis Undergraduate Public Health Scholars Program provides undergraduate students and recent graduates—defined by the CDC as anyone who graduated from a 4-year university within 12 months of the start of the program and who has not been accepted to graduate school—with foundational public health training and applied learning experiences. The program is implemented across seven partner institutions. This

model is consistent with the Daggett¹ Framework, which posits that high-level learning is achieved when rigorous academic instruction is paired with relevant, real-world application.

Despite variation in modality, institutional context, and program emphasis, each Lewis Scholars program incorporates 4 pillar components: didactic instruction, experiential learning, research development and dissemination, and professional development. These elements collectively support scholars' academic growth, professional identity formation, and readiness for future education and careers in public health. Prior research shows that experiential learning, particularly when paired with mentorship, is critical for preparing undergraduates for public health careers and graduate training.² Pathway programs that embed professional development and community engagement are associated with improved career readiness and increased participation of students from historically underrepresented backgrounds.³

Approach

The first cohort of the Lewis Scholars Program launched in the summer of 2012 at Columbia University, Kennedy Krieger, Morehouse College, and the University of Michigan. The program has since

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expanded to include 3 additional sites, with UCLA added in 2018 and the University of Pittsburgh and Southern Plains Tribal Health Board (SPTHB THESIS) added in 2023. Although all seven sites share common educational goals and outcomes, implementation varies in modality, duration, and other programmatic features (Table 1). Program lengths range from 8 to 11 weeks and are delivered through in-person, hybrid, or virtual formats during the summer months (May–August). SPTHB THESIS is the only site that offers a fully virtual model, enabling national participation without relocation. Another unique implementation model is the Kennedy Krieger program, which offers 4 concurrent programs receiving standardized training but localized mentorship and internship opportunities: one at the home institution in Baltimore, and 3 others at partner sites at the University of South Dakota, Aaniiih Nakoda College, and the University of California Davis MIND Institute. These program differences reflect institutional capacity, geographic context, and population focus areas, while maintaining alignment with undergraduate public health competencies and workforce development priorities and expanding reach across diverse communities.³

Didactic instruction

Scholars engage in presentations, seminars, and interactive workshops that cover foundational and applied areas of public health. The curricula are grounded in public health theory and evidence-based frameworks, including the 10 Essential Public Health Services,⁴ health impact pyramid,⁵ and de Beaumont Foundation's Public Health Strategic Skills framework,⁶ to ensure that students are trained on best practices and prepared to navigate the current public health landscape. Training introduces scholars to key domains, including the social determinants of health, epidemiology, public health practice, and research methods. Sessions highlight community engagement and demonstrate how public health interventions are developed and implemented in real-world communities. Some programs have specializations, such as SPTHB THESIS, which prioritizes American Indian and Alaska Native public health perspectives.

Through lectures and hands-on workshops, scholars engage with public health professionals and researchers, gaining insights into the field's theoretical foundations and practical applications. At Morehouse, this is complemented by the opportunity for participants to earn 6 academic credits. Training at all sites prepares scholars for applied public health work, community-focused initiatives, and future graduate

study in public health and related disciplines. For example, at Columbia University, instruction is grounded from day 1 through a guided tour of the Washington Heights neighborhood, which is home to the campus, led by local community members and partners, helping scholars contextualize their learning and applied work within the lived experiences of the surrounding community.

Experiential learning

Programs emphasize hands-on application of public health concepts. Scholars participate in experiential learning opportunities through internships at health departments, community-based organizations, academic research centers or health systems, reflecting the breadth of career paths within public health practice. Scholars attend their internships 3 to 5 days per week in person, hybrid, or remotely. Scholars are paired with mentors and engage in defined projects that contribute to ongoing and meaningful public health initiatives and priorities, such as conducting community outreach and education, needs assessments, data collection, and evaluation activities. Internship sites work on a range of public health issues. For example, Scholars at UCLA have completed internships with organizations addressing environmental justice surrounding the Port of Los Angeles; youth development and empowerment in low-income communities; and food insecurity and chronic disease prevention.

Research development and dissemination

Scholars work to develop an academic research/practice poster aligned with their interests and guided by mentors. Projects cover a variety of topics, such as quantitative analysis of secondary data, literature reviews, community needs assessments, and policy reviews, allowing scholars to apply public health concepts to real-world issues while building research literacy and analytical skills. Posters are developed individually or in groups. For example, at UCLA, scholars work in teams to develop their research posters, reflecting the collaborative nature of public health practice. Scholars present their research at their program showcase to a local interdisciplinary audience of public health professionals. In addition, some scholars at the University of Pittsburgh and Kennedy Krieger are sponsored to present their posters to the broader public health community at the American Public Health Association (APHA) Annual Meeting and the Annual Biomedical Research Conference for Minority Students (ABRCMS) conferences, respectively.

TABLE 1**Summary of Implementation Features by Site**

Program Name	Year of First Cohort	Duration of program	Modality	Total Didactic Hours	Total Experiential Hours	Unique Features	Experiential Learning Sites	Range of Didactic Instruction Topics
Columbia University Summer Public Health Scholars Program (SPHSP)	2012	10 wk May–July	In person	150	150	Didactic instruction: day 1 walk around the Washington Heights community alongside a community partner as students are remotely paired with their mentors before the start of the program	Internal and external to higher education institutions (In addition to schools within Columbia University, this includes other New York schools such as CUNY, SUNY, NYU) In person or hybrid around NYC	Intro to Epidemiology Intro to Biostatistics Intro to Public Health (History and Ethics) Policy management
Kennedy Krieger Institute MCHC/RISE-UP	2012	8-10 wk May–July	In person	80	320	Professional development—scholars are paired with a mentor coach for a well-rounded experience	Nonprofit, community orgs, health care, government In-person, hybrid or remote opportunities at corresponding sites in Maryland, South Dakota, Montana, California	Social and political determinants of health Adverse childhood experiences Maternal mortality -Developmental disabilities Mental health promotion Substance abuse prevention
Morehouse College Project IMHOTEP	2012	11 wk May–July	In person	80	360	Didactic instruction—scholars can earn 6 academic credits by participating in the program	Federal agencies (CDC, EPA, FDA, USDA); state and local health departments; academic institutions; health care settings; community-based health organizations. Primarily Atlanta, GA; partner institutions nationally (e.g., U of Michigan, UNC Chapel Hill, Tougaloo college). Primarily in-person (unless host institution requires otherwise).	Introduction to public health Introduction to biostatistics and computer applications Scientific writing
University of Michigan Future Public Health Leaders Program (FPHLP)	2012	10 wk May–July	In person	108	180	Professional development—scholars participate in wellness coaching and financial literacy workshops	Nonprofit/community-based organizations; health systems; governmental health agencies; research institutions	Community-based participatory research Advocacy in public health

(continues)

TABLE 1**Summary of Implementation Features by Site (Continued)**

Program Name	Year of First Cohort	Duration of program	Modality	Total Didactic Hours	Total Experiential Hours	Unique Features	Experiential Learning Sites	Range of Didactic Instruction Topics
							Remote, hybrid, or in-person in Ann Arbor, Ypsilanti, Detroit, Flint, MI	Health in Native American communities
UCLA Public Health Scholars Training Program	2018	8 wk June–August	In person	136	140	Research development and dissemination—scholars work in teams to develop their research posters	Nonprofit organizations, community-based organizations, public health agencies, and health care institutions Primarily in person, with limited hybrid opportunities (up to 1 remote day per week) in the Greater Los Angeles area	Introduction to Public Health Practice Racism and health community engagement
Southern Plains Tribal Health Board (SPTHB) Tribal Health Experiential Student Internship Summer (THESIS)	2023	8 wk May–July	Virtual	68	225	Didactic instruction—cultural and community-focused curriculum that prioritizes American Indian and Alaska Native public health perspectives	Federal, state, tribal, academic, and nonprofit sites National placement network, primarily virtual	Data Analysis and Visualization (CDC WONDER, Census) Program evaluation and community planning Grant writing and qualitative methods
Pitt Public Health Undergraduate Scholars Program	2023	8 wk June–August	In person	80	220	- Research development and dissemination—scholars present their research posters at the APHA Annual Meeting	Community-based nonprofits, health systems, government agencies, and universities to offer public health-focused internship opportunities for students. In-person or hybrid in Pittsburgh	Health disparities and structural influences on health outcomes Community health assessment and community based interventions Maternal and child health, chronic disease prevention and education

APHA, American Public Health Association.

Professional development

Professional development is integrated across all sites with scholars receiving exposure to diverse public health careers and graduate school guidance, including the application process, degree types/programs, funding, and engagement with current graduate students. Training topics across the sites encompass career preparation and advancement, leadership and personal growth, communication and professionalism, and how to access supportive resources and experiences. Collectively, these implementation features reflect evidence-based approaches that enhance workforce readiness and support student participation from historically underrepresented backgrounds in public health.³

Notable professional development resources include wellness coaching⁷ and financial literacy workshops offered through the University of Michigan's Wellness and Financial Skills initiative, as well as the Kennedy Krieger program's approach of pairing each scholar with a mentor coach to support a well-rounded professional public health experience.

Evaluation

Each site implements a structured evaluation process to assess program effectiveness and identify areas for improvement. Evaluation methods include both quantitative and qualitative data collection through surveys administered to participants and mentors at multiple time points. These include pre- and postprogram assessments, check-in evaluations (conducted weekly or every other week during the program), and annual alumni follow-up surveys to track academic and professional trajectories. In addition, all seven sites participate in cross-site meetings to exchange best practices and identify opportunities for program improvement. Together, these components demonstrate how diverse implementation models can operationalize a shared framework for undergraduate public health training.

Outputs

Since the partnership began, an estimated 2671 scholars have participated across the seven programs. Each site offers approximately 10 hours per week of didactic instruction led by renowned faculty, public health professionals, and program staff. Each summer, this totals approximately 700 total didactic learning hours.

In addition, scholars contribute 140–360 hours to public health practice depending on their site. In 2025 alone, scholars contributed more than 49 000 hours to experiential learning internship host sites. Since program

inception, more than 240 organizations—including community-based organizations, governmental public health departments, academic sites, health care sites, tribal health organizations, and more—have served as an internship host site for scholars and benefitted from this infusion of work.

Discussion

The Lewis Scholars program has successfully trained more than 2600 scholars since its inception. Through this, scholars have gained valuable public health training, professional development, and hands-on internship and research experience that help build a pathway to future education and careers in the field. More than 240 community sites across the country have contributed to the growth of scholars by serving as a host site while also benefiting from the scholars' meaningful contributions.

The seven programs share many commonalities in implementation. All have a similar structure and provide a stipend to ensure scholars can participate without economic hardship. In addition, each

Implications for Policy & Practice

- Multi-institutional undergraduate pathway programs can expand the public health workforce by delivering coordinated, competency-based training paired with applied learning.
- Providing stipends and covering participation costs promotes equitable access, enabling students from diverse socioeconomic backgrounds to fully engage in intensive training experiences.
- Structured didactic instruction combined with mentored internships prepares participants to contribute to public health practice, research, and community-based initiatives.
- Applied research experiences for conference-style dissemination strengthen communication skills and support skill development in scientific and professional settings.
- Structured mentorship and career-focused programming facilitate networking, career exploration, and graduate school readiness, particularly for students from historically underrepresented backgrounds.
- Flexible program models (in-person, hybrid, virtual) can increase accessibility.
- Cross-site evaluation supports continuous improvement and informs replication or scaling of undergraduate public health pathway programs.

program takes advantage of local and regional opportunities to immerse scholars in the surrounding communities and in public health. They also all provide well-rounded mentorship, which will be described in a separate manuscript.

The programs also vary in significant ways, which helps serve the needs of students across the country. For example, program dates vary, with UCLA and the University of Pittsburgh starting later to accommodate students with later academic term end dates.

Although most programs are in-person to maximize hands-on interaction, the SPTHB THESIS program is fully remote. This helps make the program accessible to participants throughout the country and opens up a broader array of internship opportunities within the topic area of American Indian/Alaska Native health.

The programs face a variety of implementation challenges. Rising housing and transit costs have complicated budgeting, leading some programs to reduce cohort sizes. There are also a number of logistical challenges, including recruiting mentors, sites, and speakers to the program; tailoring the experience to scholars with varying levels of public health knowledge and experience; and managing expectations for participants and mentors. At the same time, the programs have benefited from cross-site meetings and communication, which provide a venue to share emerging challenges and identify potential solutions.

Despite challenges, the programs have been successful in implementing a well-rounded, immersive public

health experience, each with its own unique area of focus and benefits of participation. Taken together, the Lewis Scholars programs provide a valuable array of complementary opportunities for students to explore public health, build relevant knowledge and skills, develop professional networks, and access a structured, supportive pathway toward their public health academic and career goals.

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