Health Careers Opportunity Program

Academic Years 2015-2020

The Health Resources and Services Administration (HRSA), is the primary federal agency for improving health care to people who are geographically isolated or economically or medically vulnerable. HRSA programs help those in need of high quality primary health care by supporting the training of health professionals – focusing in particular on the geographical distribution of providers to areas where they are needed most.

Since 1972, the Health Careers Opportunity Program (HCOP) has provided grants to educational institutions to create health professions pipeline programs for individuals from economically and and/or educationally disadvantaged backgrounds.[1] Awardees perform the following activities:

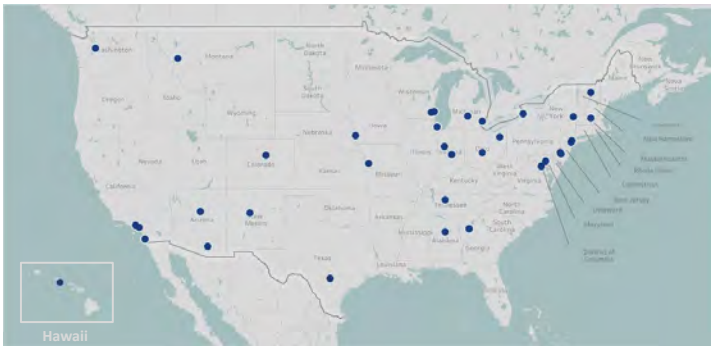
- ✓ **Recruit qualified individuals from disadvantaged backgrounds,** and facilitate entry into health professions training programs
- ✓ **Address academic, social, and financial needs** to improve retention, matriculation, and graduation rates
- ✓ **Provide training opportunities in primary care settings,** especially in medically underserved and rural communities

Where did HCOP operate in AY 2015-2020?

As the map below illustrates, HCOP awardees were distributed across the U.S. Thirty-eight HCOP awardees[2] contributed data for this report, and these awardees represented a variety of institutions:

- 25 medical schools or universities with medical schools
- 22 state schools
- 15 private universities
- 4 historically black colleges and universities
- 2 community colleges
- 1 Area Health Education Center

Figure 1: HCOP Awardees, Academic Years 2015-2020 (N = 38)



These institutions partnered with local school districts for their K-12 activities and worked with local organizations to offer field-based training opportunities to students.

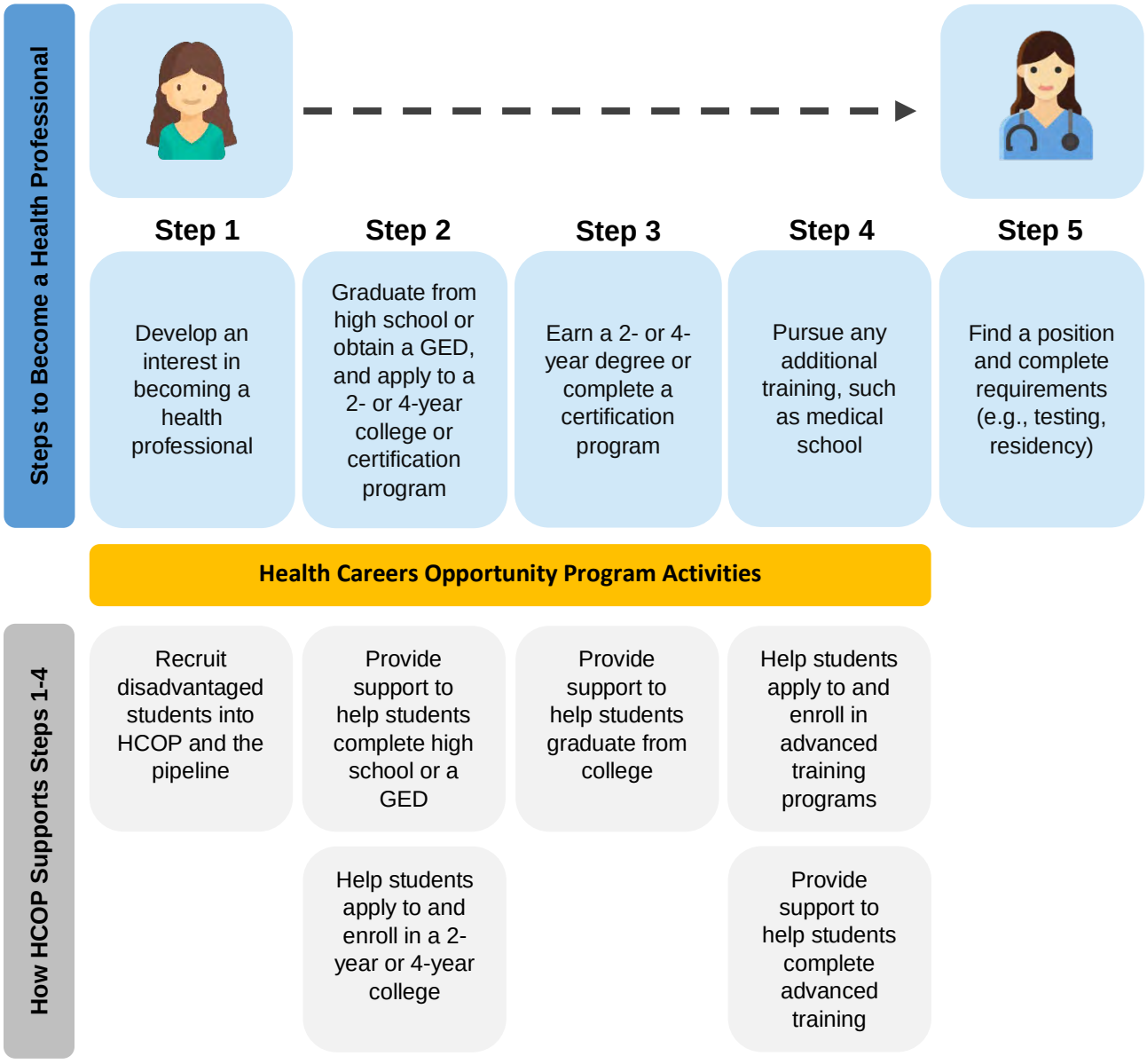
[1] "Economically disadvantaged" means an individual's family has an annual income less than 200 percent of the U.S. Department of Health and Human Services' poverty guidelines. "Educationally disadvantaged" means an individual's social, cultural, or educational environment inhibited them from obtaining the knowledge, skills, and abilities needed to succeed in a health professions training program. See the 2018 HCOP Notice of Funding Opportunity (pages 9-11) and the Bureau of Health Workforce Glossary for more information: https://bhw.hrsa.gov/glossary.

[2] Awardees were from AY 2015-2018 and/or AY 2019-2022 grant cycles or had no-cost extensions.

What makes HCOP a *pipeline* program?

The process of becoming a health professional takes years and requires multiple steps, which are depicted in Figure 2. While many of HRSA's programs support future or current health professionals (Steps 4 and 5), HCOP is a pipeline program because it encourages students to pursue health professions careers (Steps 1-4).

Figure 2: Diagram of How HCOP Supports Students throughout the Health Professions Pipeline

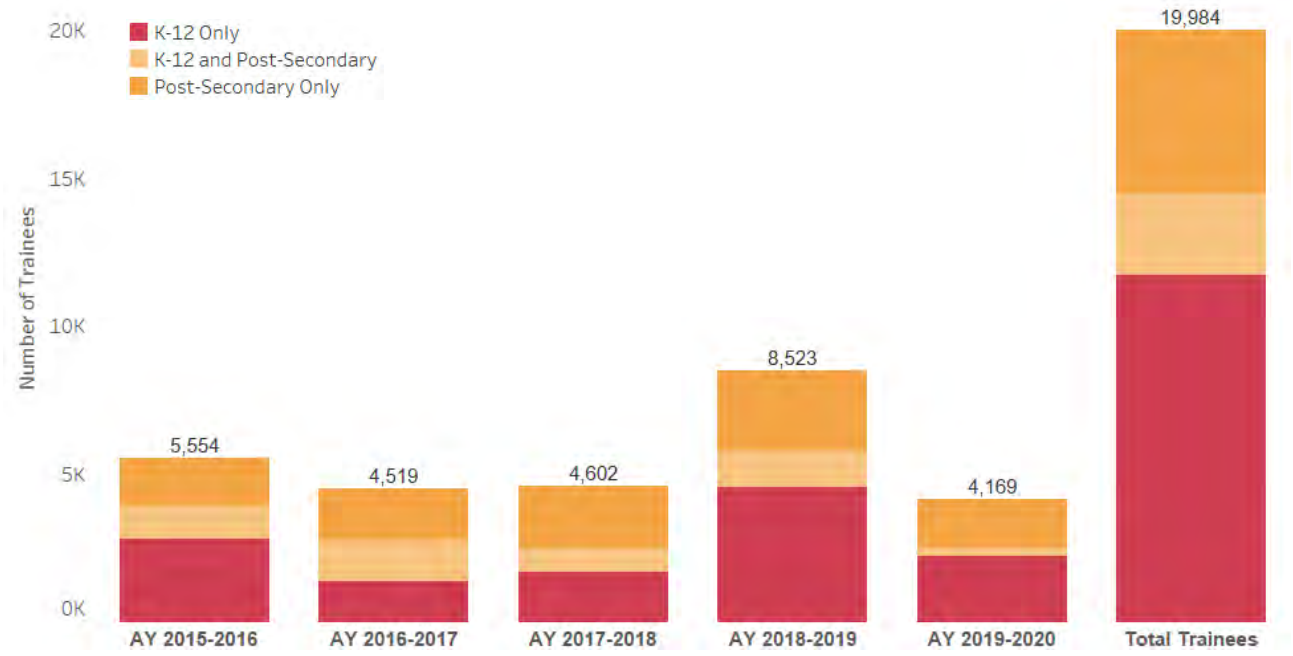


HCOP awardees recruit disadvantaged individuals into HCOP and the health professions pipeline (Step 1). For those individuals who are still in high school, awardees provide academic and social supports to help students graduate from high school and matriculate in 2- or 4-year colleges or health professions certification programs (Step 2). HCOP then provides the academic, social, and financial supports students need to graduate from college (Step 3) and complete advanced health professions training such as medical school (Step 4).

Did HCOP succeed in recruiting individuals from disadvantaged backgrounds?

- As shown in Figure 3, HCOP awardees trained approximately **4,000 to 8,500** disadvantaged students per year, reaching a total of **19,984** disadvantaged students from AY 2015-2020.[3]
- HCOP participants were at different stages of the health professions pipeline. Overall, **58.7 percent** of disadvantaged HCOP trainees were in programs for K-12 students (mostly grades 9-12), **27.6 percent** were in programs for post-secondary students (i.e., out of high school, in college, or in graduate/professional school), and **13.8 percent** were in combined K-12/post-secondary programs.[4]

Figure 3: Disadvantaged HCOP Trainees per Year by Stage in the Health Professions Pipeline



Why does HCOP include students in grades K-12?

Early intervention in the health professions pipeline is important because disadvantaged students lack access to resources that shape a young adult's vocational aspirations, such as school- and parent-based vocational guidance, internships, and occupational role models.[5]

Through activities that included **(11.6 percent)** or focused exclusively on K-12 students **(35.7 percent)**, HCOP awardees reach disadvantaged students at Steps 1 and 2 of the health professions pipeline. HCOP's mixed K-12 and post-secondary programs have the added benefit of connecting K-12 students (particularly high school students) to potential role models who are just a step or two ahead of them in the health professions pipeline.

[3] "Total trainees" de-duplicates students who participated in HCOP across multiple years.
[4] HCOP activities for younger students focus on rising juniors and seniors. However, when reporting on younger participants, awardees are limited to selecting either "K-8" or "9-12" to describe a student's grade level. As some K-8 students were included in HCOP activities, this report uses "K-12" to describe younger participants, with the understanding that the majority of these participants were in high school.
[5] Diemer, Matthew A, and Saba Rasheed Ali. 2009. "Integrating Social Class into Vocational Psychology: Theory and Practice Implications." *Journal of Career Assessment*, 17(3):247-265.

What were the other demographic characteristics of HCOP participants?

- Structured activities are a series of curriculum-based training activities given to a person or group of people over a specific period.[6]
- During AY 2015-2020, **6,856** individuals participated in structured HCOP activities, including **2,677** K-12 students and **4,179** post-secondary students (Figure 4).
- As illustrated in Figure 4, K-12 and post-secondary students in structured activities were more likely to be female (**75.5 percent** and **72.6 percent**).
- K-12 and post-secondary students in structured HCOP programs were less likely to have rural backgrounds (**11.3 percent** and **12.4 percent**).
- The majority of K-12 and post-secondary students in structured programs were from URM populations (**74.9 percent** and **72.8 percent**).
- The average K-12 participant in a structured HCOP program was **17.1** years old when they began HCOP, while the average post-secondary participant was **24.1** years old.

Figure 4: Demographic Characteristics of HCOP Participants in Structured Activities

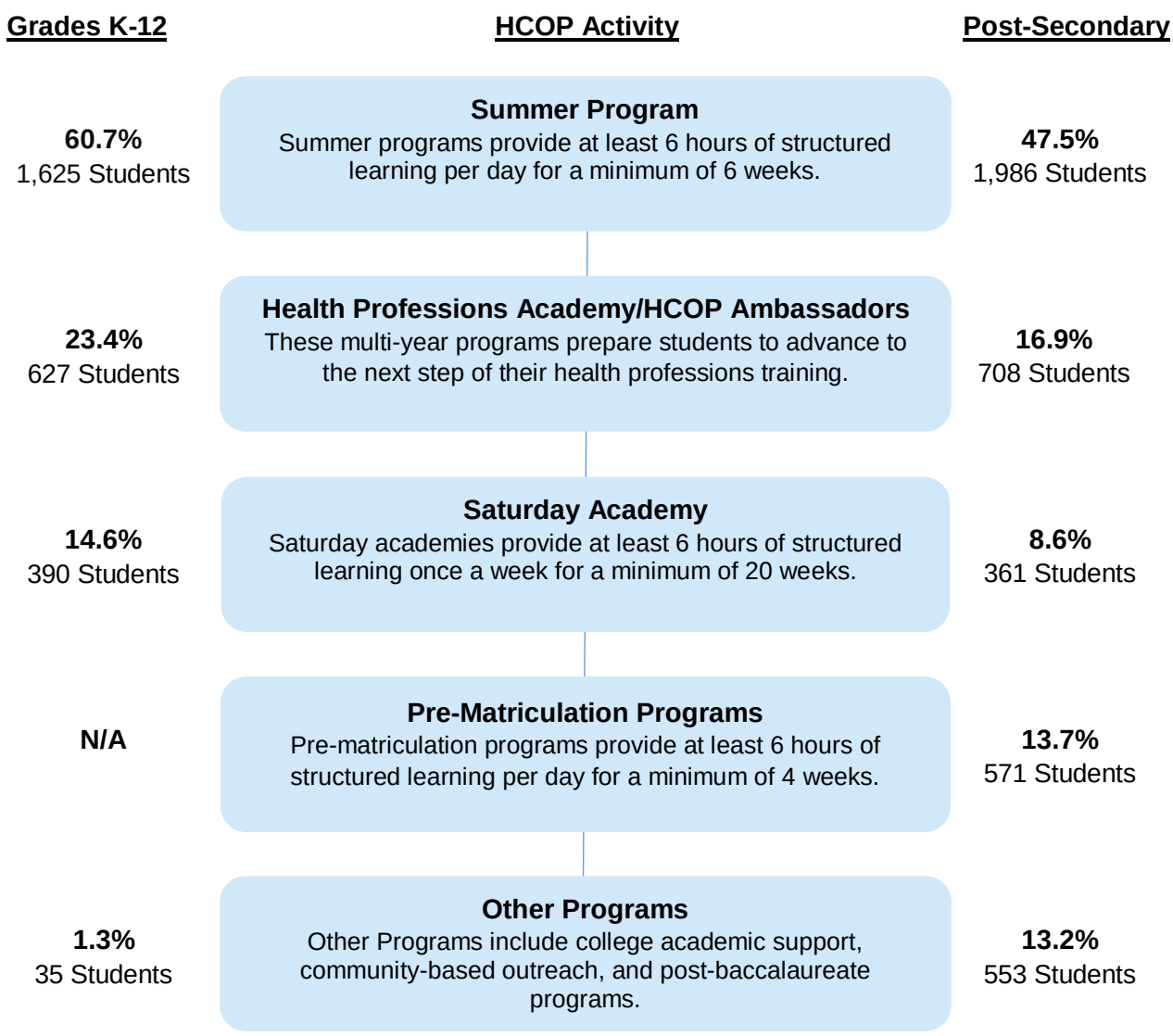
Demographic Characteristics	**K-12** Structured Activities (*N* = 2,677)	**Post-Secondary** Structured Activities (*N* = 4,179)
Age	17.4 (average)	24.1 (average)
Female	75.5%	72.6%
Underrepresented Minority	74.9%	72.8%
Rural Background	11.3%	12.4%

How many students did awardees reach through structured HCOP activities?

- Across all structured activities with specific time requirements (i.e., summer programs, Saturday academies, and pre-matriculation programs), awardees provided over **800,000** hours of structured learning to HCOP students (Figure 5).[7]
- Most K-12 students in structured HCOP activities participated in six-week summer programs **(60.7 percent)** or multi-year health professions academies/HCOP Ambassadors programs **(23.4 percent).** Another **14.6 percent** participated in 20-week Saturday academies.
- Similarly, most post-secondary students in structured HCOP activities participated in summer programs **(47.5 percent)** or health professions academies/HCOP Ambassadors programs **(16.9 percent)**.
- In addition to Saturday academies **(8.6 percent)**, post-secondary students also participated in pre-matriculation programs **(13.7 percent)** that helped prepare them for the next phase of the health professions pipeline.

[6] See the Bureau of Health Workforce Glossary: https://bhw.hrsa.gov/glossary.
[7] This was calculated by multiplying the time requirements for each program by the number of students per program.

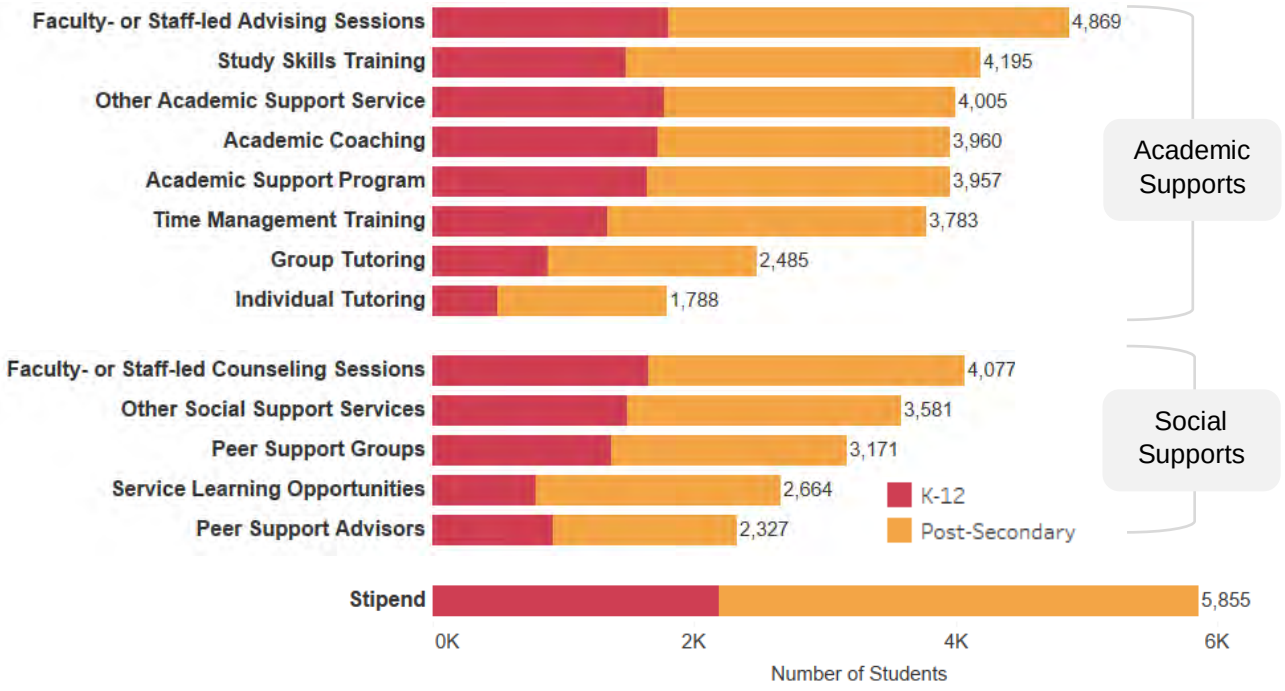
Figure 5: Participation in Structured HCOP Activities by Education Level (N = 6,856 Students)



How did HCOP provide support to students in grades K-12, college, and graduate school?

- Awardees offered a wide range of academic and social supports to help students in structured HCOP activities progress through the health professions pipeline (Figure 6).
- Faculty/staff-led advising sessions were the most common type of academic support for both K-12 **(67.4 percent)** and post-secondary **(73.3 percent)** students.
- Faculty/staff-led counseling sessions were the most common type of social support for K-12 **(61.8 percent)** and post-secondary **(58.0 percent)** students.

Figure 6: Academic and Social Supports Provided to HCOP Participants by Education Level (N = 6,856 Students)



- Financial support was the most common form of support overall, as **81.8 percent** of K-12 participants and **87.7 percent** of post-secondary participants received stipends.
- The average stipend varied between **$816 - $999** for K-12 students and **$1,566 - $2,831** for post-secondary students. In total, HCOP awardees distributed nearly **$15.5 million** in stipends from AY 2015-2020.

Stipends for K-12 Students in Structured HCOP Activities

81.8 percent
Percentage of students who received at least one year of stipend support

1.1 years
Average years of stipend support

$816 to $999
Average stipend across academic years

$2,675,545
Total stipend support distributed

Stipends for Post-Secondary Students in Structured HCOP Activities

87.7 percent
Percentage of students who received at least one year of stipend support

1.2 years
Average years of stipend support

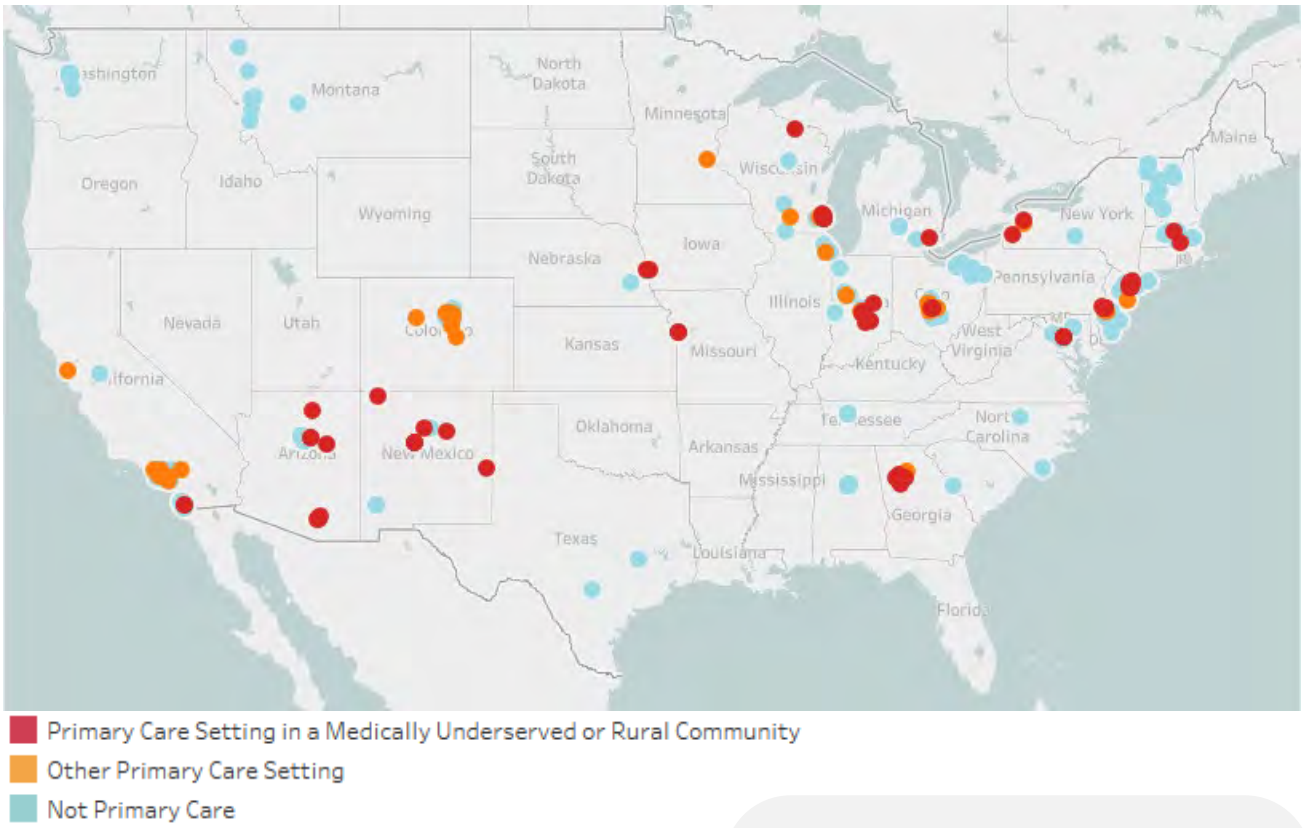
$1,566 to $2,831
Average stipend across academic years

$12,708,505
Total stipend support distributed

Did HCOP participants train in primary care settings and medically underserved and rural communities?

- During AY 2015-2020, **21,028** students gained exposure to health care settings or hands-on experience at HCOP's **519** field placement sites.[8]
- Figure 7 depicts the geographic distribution of the sites, which were in **27** states, the District of Columbia, and **three** U.S. jurisdictions (not pictured): the Federated States of Micronesia, Palau, and the Northern Mariana Islands.
- **25.4 percent** of sites were located in primary care settings and **64.4 percent** of these sites were in medically underserved or rural communities.
- Of the **7,671** students who trained in primary care settings, **92.5 percent** did their training in medically underserved or rural communities.

Figure 7: Map of HCOP Training Sites by Primary Care Setting and Medically Underserved/Rural Community Status (N = 519)



- Structured HCOP participants accumulated **83,582 hours** of training in primary care settings, **550,179 hours** in medically underserved communities, and **43,729 hours** in rural areas.[9]
- Participants trained at sites such as academic institutions (**32.4 percent**), hospitals (**17.1 percent**), community-based organizations (**12.1 percent**), and health centers (**10.6 percent**).

Primary Care Settings

18,422 hours	65,160 hours
Grades K-12	Post-Secondary

Medically Underserved Settings

138,023 hours	412,156 hours
Grades K-12	Post-Secondary

Rural Settings

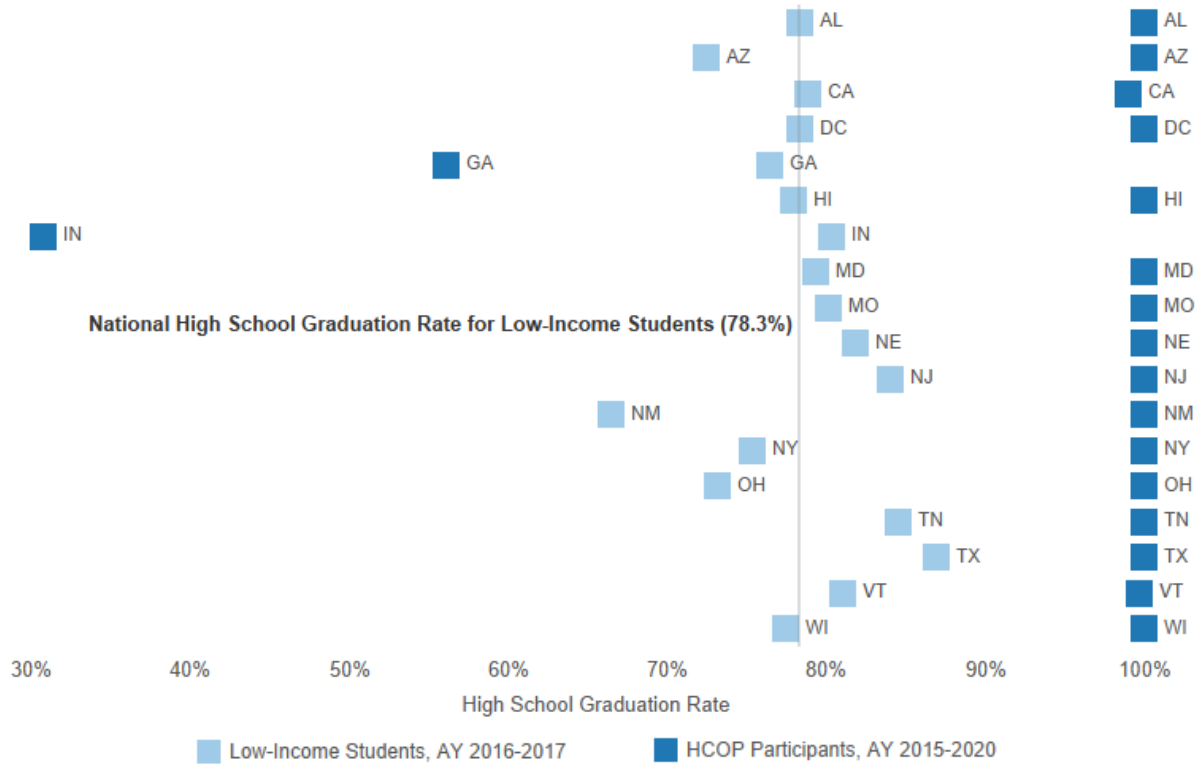
28,771 hours	14,958 hours
Grades K-12	Post-Secondary

[8] Students may have been counted twice if they served at multiple sites across multiple years.
[9] Hours served are not mutually exclusive.

Did disadvantaged K-12 students in HCOP complete the program and graduate on time?

- During AY 2015-2020, **11,725** disadvantaged students in grades K-12 completed a structured or unstructured HCOP program.
- For those disadvantaged students who were in structured HCOP programs, **2,104** completed the program by AY 2019-2020, and **1,672 (79.5 percent)** graduated from high school on time, exceeding the national high school graduation rate for low-income students **(78.3 percent).**[10] Note that HCOP participants are economically disadvantaged *and/or* educationally disadvantaged, so the comparison between state graduation rates for low-income students and HCOP students is not completely equivalent.
- Figure 8 shows how the state-level on-time graduation rate for disadvantaged students in HCOP compared with state graduation rates for low-income students. The HCOP graduation rate exceeded the state graduation rate for 16 of the 18 states **(88.9 percent)** with HCOP awardees.
- When outliers Georgia[11] and Indiana[12] are removed from the analysis, the on-time graduation rate for disadvantaged HCOP students is **99.9 percent**, which exceeds the national graduation rate for *non*-low-income students **(90.2 percent)**.

Figure 8: State-Level High School Graduation Rates for Low-income Students and HCOP Students from Disadvantaged Backgrounds[13]



[10] Atwell, Matthew N. et al. 2019. "Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2019." Civic and Everyone Graduates Center at the School of Education at Johns Hopkins University.

[11] One of the HCOP awardees in Georgia reported an on-time graduation rate of 29.5 percent in their annual performance report, but in a separate qualitative report the awardee said 100 percent of their high school participants graduated on time, which suggests there was a data entry error in their annual performance report.

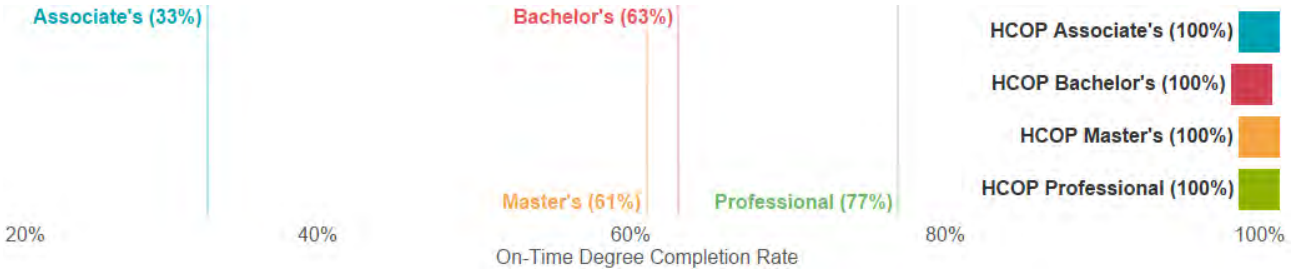
[12] Two of the three HCOP awardees in Indiana reported low on-time graduation rates (34.2 percent and 23.8 percent), while the third awardee had an on-time graduation rate of 100 percent.

[13] State-level graduation rates for low-income students were not available for Alabama and the District of Columbia, so the national graduation rate for low-income students (78.3 percent) was used instead.

Did disadvantaged post-secondary students in HCOP complete the program and graduate on time?

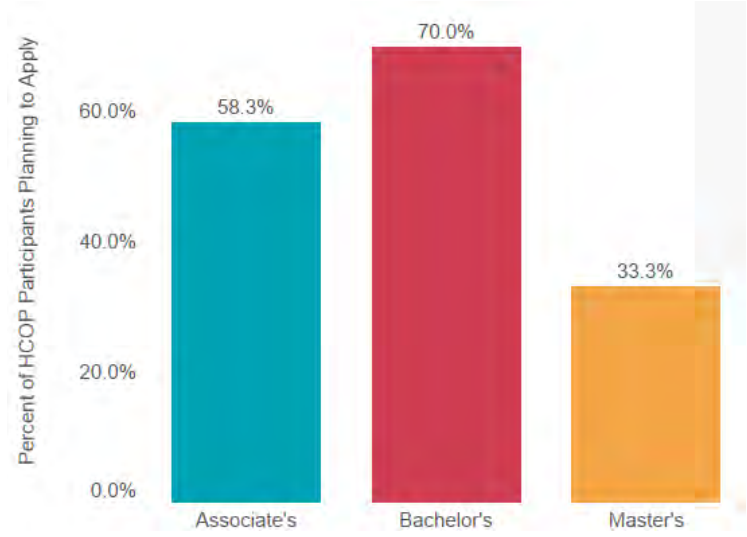
- During AY 2015-2020, **5,509** disadvantaged students out of high school, in college, or in graduate school completed a structured or unstructured HCOP program.
- For those disadvantaged students who were in structured HCOP programs, **2,945** completed the program by AY 2019-2020.
- Additionally, **2,623 (89.1 percent)** of structured program completers from disadvantaged backgrounds earned their degrees on time.
- For those students for whom degree data was available, nearly **100 percent** graduated on time, vastly exceeding the national rates in all degree categories, as illustrated in Figure 9.[14,15]

Figure 9: HCOP On-Time Degree Completion by Degree Type with National Rates as Reference Lines (N = 557)



Did HCOP prepare disadvantaged post-secondary students to advance to the next stage of the health professions pipeline?

Figure 10: Disadvantaged HCOP Program Completers Planning to Apply to a Health Professions Training Program within the Next 12 Months by Degree Earned (N = 538)



- **1,077** post-secondary disadvantaged HCOP completers intended to apply to a health professions training program within the next 12 months, and **623** planned to remain enrolled in their health professions training program.
- **66.5 percent** of disadvantaged HCOP completers that earned associate's, bachelor's, or master's degrees intended to apply to a health professions training program within the next 12 months. This includes **58.3 percent** of those who earned associate's degrees, **70.0 percent** of those who earned bachelor's degrees, and **33.3 percent** of those who earned master's degrees (see Figure 10).

[14] Associate's and bachelor's graduation rates are based on completion within 150 percent of normal time to degree. Associate's degree data comes from a cohort that entered their degree program in 2016, and bachelor's degree data comes from a cohort that began their degree in 2013. HCOP uses a similar time frame for "on-time" completion for both degree types. National Center for Education Statistics. 2021. *The Condition of Education 2021.*

[15] Master's and professional degree data comes from the Baccalaureate and Beyond Longitudinal Study, 1993-2003. Participants completed their bachelor's degree in AY 92-93 and were followed until 2003, so "on-time" degree completion in this context means within the ten years that elapsed between college graduation and study follow-up. HCOP defines "on-time" for professional degrees as completion within five years, but it does not define "on-time" for master's degrees. Baum, Sandy, and Patricia Steele. 2017. "Who Goes to Graduate School and Who Succeeds?" Urban Institute.

What are the long-term impacts of students' participation in HCOP?

- In addition to supporting economically and educationally disadvantaged students, HCOP helps increase the diversity of the health workforce. Health workforce diversity is important because patients with physicians from the same racial/ethnic backgrounds are more satisfied with their care and may have better health outcomes.[16,17]
- **72.8 percent** of post-secondary participants in structured HCOP programs (*N* = 4,179) were underrepresented minorities (URMs).
- Of post-secondary graduates for whom discipline data was available (*N* = 678), HCOP produced **459** URM graduates (**67.7 percent** of all graduates with discipline data) in **20** different professions (Figure 11). Each discipline had at least one underrepresented population (excluding allied health and public health, for which URM workforce data was unavailable).[18]

Figure 11: Underrepresented Minority (URM) Post-Secondary HCOP Graduates by Discipline (N = 678)

Disciplines of Post-Secondary HCOP Graduates	URM HCOP Graduates	Total HCOP Graduates	Percentage of HCOP Graduates That Are URM
Certified Nursing Assistants and Licensed Practical/Vocational Nurses	20	21	95.2%
Social Workers and Psychologists	19	23	82.6%
Dentists, Dental Assistants, and Dental Hygienists	42	54	77.8%
Public Health	109	148	73.6%
Physicians and Physician Assistants	154	211	73.0%
Allied Health	78	140	55.7%
Radiology Technicians and Clinical Laboratory Technicians	6	13	46.2%
Physical Therapists, Occupational Therapists, and Speech Therapists	14	33	42.4%
Pharmacists	9	24	37.5%
Other*	8	11	72.7%

* Includes medical assistants, registered nurses, and chiropractors.

[16] Takeshita, Junko, et al. 2020. "Association of Racial/Ethnic and Gender Concordance between Patients and Physicians with Patient Experience Ratings." *Journal of the American Medical Association Network Open* 3(11).
[17] Alsan, Marcella, Owen Garrick, and Grant Grazian. 2019. "Does Diversity Matter for Health? Experimental Evidence from Oakland." *American Economic Review* 109(12):4071-4111.
[18] U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis. 2017. "Sex, Race, and Ethnic Diversity of U.S. Health Occupations (2011-2015)." Rockville, Maryland.