



Kaiser Permanente Health Care Career Scholarship Program

Perspectives on the Scholarship and an Evaluation of
Its Impact

September 2015

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of Its Impact

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About Education Northwest

Founded as a nonprofit corporation in 1966, Education Northwest builds capacity in schools, families, and communities through applied research and development.

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Executive Summary

This scholarship had a huge impact on my decision to pursue medicine, and it reminded me that anything is possible with hard work, regardless of what your background may be.

—Kaiser Health Care Career Scholarship Recipient

The Kaiser Permanente Health Care Career Scholarship Program began offering scholarships to students in the graduating class of 2009 to help students pursue a postsecondary education and join the health care workforce. Specifically, the program is designed to increase college access and participation in the health care profession among students from diverse socioeconomic backgrounds. To meet this goal, additional consideration is given to applicants who are the first in their families bound for college, in financial need, members of diverse/underrepresented groups, and/or bilingual.

From 2009 to 2014, Kaiser Permanente Northwest (KPNW) awarded a \$2,000 college scholarship to a qualified senior from each of the 113 high schools in the KPNW service area, which extends from Longview, Washington to Corvallis, Oregon. In the 2014–2015 application cycle, KPNW increased the scholarship award amount to \$5,000 or \$10,000 for 1 in 4 recipients and increased the eligible high schools from 113 to 132.

From 2009 to 2014, a total of 3,366 high school seniors applied for the scholarship; 682 students received scholarships, representing a 20 percent award rate. Recipients are also eligible to apply for a second \$2,000 scholarship in their sophomore year; 75 students were awarded a second scholarship, representing about 10 percent of all recipients. In 2014, Kaiser Permanente began to offer paid summer internship opportunities exclusively to scholarship recipients.

During 2014–2015, Education Northwest worked with KPNW to conduct the first major external evaluation of the scholarship program in order to better understand its effect on recipients and inform program improvement efforts. This evaluation spans the scholarship program years from 2009 to 2014. The evaluation comprises two components: an analysis of survey data and a quantitative impact study.

Analysis of Survey Data

Education Northwest administered a comprehensive survey to all students who received scholarships from October 2014 to January 2015; 409 recipients responded, representing a 60 percent participation rate. The survey gathered data related to recipients' 1) characteristics and outcomes, including their college experiences and persistence in a health care course of study or career; 2) scholarship experiences and the role the scholarship has played in helping

them achieve their postsecondary goals; and 3) challenges in achieving their postsecondary goals. The key findings from the survey are as follows:

Postsecondary Experiences

- *Academic preparedness is tied to both college and health care career persistence.* Respondents who had already earned a certificate or an undergraduate degree (called “graduates” in the report) were less likely to have taken noncredit-bearing developmental English and mathematics courses, compared to respondents who were still in college (called “undergraduates”) or had left college. This suggests a potential link between college completion and academic preparedness. Additionally, those who had completed or were currently in a health care course of study identified “doing well in their classes” as a top factor in persisting in this field.
- *Most respondents work and take part in extracurricular activities,* suggesting that recipients are very active and engaged college students. Many of these activities are related to health care careers, which may support recipients’ health care and college persistence since research finds a positive relationship between engagement in activities related to academic pursuits and college grades and persistence (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).
- *Respondents reported high levels of persistence in a health care course of study or career.* Eighty-four percent of undergraduates are currently enrolled in a course of study related to health care, 55 percent of graduates completed an undergraduate course of study related to health care, and 55 percent of graduates are currently working in a health care field. The most common profession undergraduates planned to pursue was nursing, followed by medicine. The most common profession of graduates was nursing, followed by occupations in the dental field.
- *Only nine respondents left college;* when asked what assistance they needed to help them reenroll and persist in college, the top response was “financial support to help pay for college.”

Experience With the Scholarship

- *Only a small number of respondents applied for the second scholarship,* primarily because they were unaware of the opportunity and/or did not have time to apply.
- *Internship participants found the experience important for professional development and for graduate or professional school applications.*
- *Respondents enjoyed various aspects of the scholarship application process, but found the essay challenging.*
- Although survey respondents reported the scholarship was smaller than other financial assistance they received, *about half indicated that the scholarship made it financially possible for them to attend college.*
- *Almost two-thirds of respondents reported that the Kaiser Scholarship reduced the number of paid employment hours they needed* while pursuing their college degree.

- Respondents also *credited the scholarship with providing other (nonfinancial) support and motivation* to attend college.

Challenges Faced in Achieving Postsecondary Goals

- Survey respondents noted *two primary ways to improve persistence* in a health care course of study and in college: *providing additional financial assistance and offering real-word experiences in health care.*

Quantitative Impact Study

Using student-level data from the Oregon Department of Education (ODE) and the State of Washington Education Research & Data Center (ERDC), we examined the postsecondary outcomes of scholarship recipients compared to applicant “nonrecipients” to provide an objective picture of the college trajectories of these two groups of students. We also used statistical methods to tease out the precise contribution of the Kaiser Scholarship to recipients’ postsecondary outcomes.

Descriptive Findings

- *Almost all applicants went to college*; 90 percent of nonrecipients and 94 percent of recipients enrolled in postsecondary education, and most enrolled immediately after graduating from high school.
- Applicants attended fairly similar types of colleges, but *recipients were significantly more likely to attend an in-state community college and significantly less likely to attend an out-of-state, private four-year institution than nonrecipients.* This suggests that recipients were more likely to stay close to home when they first enrolled in college.
- *Among the first cohort of scholarship recipients* who graduated from high school in 2009, *51 percent earned a certificate or degree and 16 percent were still enrolled in college* by spring 2014.

Impact Study Findings

- *The scholarship had a significant effect on college enrollment and selection of a major.* Scholarship recipients were about 6 percentage points more likely to enroll in college and major in a health care field than were similar nonrecipients.
- The scholarship *did not impact the longer term outcomes of first to second term persistence and degree attainment.*

Considerations for Program Improvement

While supporting recipients’ academic preparedness for college is outside the scope of the scholarship program, it is important to recognize that *recipients reported rates of enrollment in*

developmental (i.e., remedial) English college courses that are higher than the national average. Additionally, some of the challenges survey respondents mentioned about the application, such as the essay requirement, may be due to difficulties in mastering the English language. Therefore, as part of the larger Community Health Careers initiative, Kaiser Permanente may want to *consider investing in, or partnering with, organizations that provide writing resources and language supports to high school students*, particularly English learners.

An early commitment to a major or degree program and a clear understanding of course requirements are related to college persistence and completion. While the scholarship program successfully contributes to an early commitment to the health care field, as evidenced by the survey and impact study findings, *the program may need to reach out to students during their college years to have a real impact on health care persistence.* This might involve reminding recipients to meet with an academic advisor regularly or requiring them to provide a letter from a pre-health or major advisor at their institution in order to apply as sophomores for the second scholarship. KPNW may also want to consider *investing in organizations or programs that provide academic resources and supports* to students who plan to pursue a health care course of study in college.

Survey respondents emphasized the need for better financial support to persist in a health care career and, more generally, in college. Only a small number of respondents, however, applied for the second scholarship. *Thus, it is important to improve recipients' awareness of the second scholarship through maintaining accurate contact information and communicating with them periodically about this opportunity.*

Survey respondents repeatedly noted the *importance of real-world experiences* to support their persistence in a health care field. It was the number one support undergraduates thought they needed to complete their education, and it was a top priority of graduates who had already finished their studies. *The program change most requested by respondents was more internship opportunities in health care.* These findings provide added motivation for Kaiser Permanente to expand the scholarship program's existing internship program and ensure that more recipients know about and have access to such opportunities.

Overall, the Kaiser Permanente Health Care Career Scholarship Program is a promising model—one KPNW should consider developing further. The scholarship successfully targets and awards funds to students underrepresented in the health care field, and it provides these students the added motivation to enroll in postsecondary education and make an early commitment to a health care profession. As one scholarship recipient pointed out, the recognition and support that accompany the award can make a substantial impact in a student's life:

The scholarship made a positive difference in shaping my first year in college. Knowing that Kaiser believed in my ability to succeed motivated me to continue striving for academic excellence throughout my educational career.

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Chapter 1

Introduction

This scholarship had a huge impact on my decision to pursue medicine, and it reminded me that anything is possible with hard work, regardless of what your background may be.

—Kaiser Health Care Career Scholarship Recipient

The Kaiser Permanente Health Care Career Scholarship Program

The Kaiser Permanente Health Care Career Scholarship Program (abbreviated as “Kaiser Scholarship” in this report) began offering scholarships to students in the high school graduating class of 2009. The goal is to impact community health by helping students pursue a postsecondary education and join the health care workforce. In recognition of the positive impact that both educational attainment and a diverse health care workforce have on health, the scholarship program aims to help economically and/or socially disadvantaged students enter college and the health care professions. However, all students who meet the basic eligibility requirements are encouraged to apply.

From 2009 to 2014, Kaiser Permanente Northwest (KPNW) awarded a \$2,000 college scholarship to a qualified senior from each of the 113 high schools in the KPNW service area, which extends from Longview, Washington to Corvallis, Oregon. In 2012, KPNW added the opportunity for scholarship recipients in their second year of college to apply for an additional \$2,000 scholarship to be applied toward their third year of college.

In 2014, KPNW began to offer paid summer undergraduate internship opportunities exclusively to scholarship recipients with sophomore or higher status in college through the Kaiser Permanente Scholar Internship Program. In addition, in the 2014–2015 scholarship application cycle, KPNW expanded the number of eligible high schools from 113 to 132 in anticipation of increasing their service area. KPNW also increased scholarship amounts, awarding \$5,000 and \$10,000 scholarships to the top applicants, accounting for 25 percent of the scholarships awarded to high school seniors. The \$5,000 and \$10,000 awards are split into two equal payments, distributed in fall of the first and second years of college.

This evaluation spans the scholarship program years from 2009 to 2014. This evaluation does not include the 2014–2015 scholarship application cycle but does explore the impact of the 2014 Kaiser Permanente Scholarship Internship Program.

Application Process

To be eligible for the scholarship, applicants must be graduating seniors attending high school in the KPNW service area. They also must pursue a career in a medical or dental health care field, have a minimum cumulative 2.5 GPA, and enroll in at a U.S. accredited college or university as a full-time, degree/certificate-seeking, first-year student in the year following their graduation from high school. To apply for the scholarship, students are required to submit high school transcripts, a teacher nomination, and a letter of recommendation from an adult familiar with their extracurricular activities. Applicants must also share their top three college choices, planned major and health career, and answer questions related to their community/vocational activities and career goals. All applications and accompanying materials are submitted online.

The scholarship program aims to increase college access and participation in the health care professions, particularly among students facing social and/or economic disadvantage. To meet this goal, additional consideration is given to applicants who are first-generation college-bound students, are in financial need (defined as 185% of the federal poverty guideline), are fluent in a second language, and/or are from diverse and/or underrepresented racial/ethnic backgrounds.

Scholarship Recipients

From 2009 to 2014, 3,366 students applied for the Kaiser Scholarship (Table 1-1). Of those applicants, 709 attended Washington state high schools and 2,657 attended Oregon high schools. Twenty percent of applicants received the scholarship.

*Table 1-1
Number of Scholarship Recipients and Nonrecipients*

Award Year	Recipients	Nonrecipients	Applicants	Percent Awarded Scholarship
2009	100	273	373	27%
2010	129	487	616	21%
2011	119	550	669	18%
2012	110	468	578	19%
2013	108	579	687	16%
2014	116	327	443	26%
All Years	682	2,684	3,366	20%

Source: Authors' analysis of Kaiser Permanente's scholarship applicant database

Reflecting the mission of the scholarship—to award college scholarships to students from socially and/or economically disadvantaged backgrounds—students from diverse and underrepresented ethnic populations, first-generation college students, bilingual students, and students from low-income households are awarded the scholarship at a higher rate than their counterparts. Half of the applicants are from diverse and/or underrepresented ethnic groups, and nearly two-thirds of these students are awarded a scholarship (Figure A1 in Appendix A). First-generation students comprise a little more than half of scholarship applicants, and nearly three-quarters are awarded a scholarship (Figure A2 in Appendix A). About one-third of

applicants are bilingual, and over half of these students are awarded a scholarship (Figure A3 in Appendix A).

Since the second scholarship was implemented in 2012, 100 recipients have applied for it; KPNW distributed the second scholarship to 75 students who completed the application, representing 13 percent of eligible recipients (i.e., all recipients beginning with students who received the scholarship in 2010 and were sophomores in 2012).

Brief Background on Financial Aid Programs

In the United States, college financial aid programs are extremely expansive, numerous, and diverse (Dynarski & Scott-Clayton, 2013). There are now more aid programs than ever before. The amount of aid from each program is increasing, and since the 1970s, average aid per student has tripled. In 2011–2012, full-time undergraduate students attending American postsecondary institutions received, on average, \$13,200 in financial aid (College Board, 2012). The programs are also reaching far more students, not just those who are low-income. Today, two-thirds of college students are eligible for some form of financial aid.

There are many different forms of financial aid. The largest source of support to undergraduates comes from federal grants and federal loans (Dynarski & Scott-Clayton, 2013). All 50 states provide financial support for undergraduates to attend public, state colleges, but state grant programs make up a very small share of the total support to undergraduates.

In general, financial aid has largely positive benefits; studies have consistently found that federal grants, merit aid scholarship programs, and federal tax benefits (e.g., the Hope and Lifetime learning credits) have had a direct effect on increasing college enrollment and persistence (Bettinger 2004; Desjardins, Ahlburg, & McCall 2002; Dynarski & Scott-Clayton, 2013; Dynarski, 2003). Even students who receive relatively modest grants and scholarships of \$1,000 are more likely to enroll in postsecondary institutions and less likely to leave them before they complete their studies (Castleman & Long, 2013; Goldrick-Rab, Kelchen, Harris, & Benson, 2012). In addition, financial aid has contributed to more equitable educational outcomes by improving college enrollment and graduation rates for low-income students (Dynarski & Scott-Clayton, 2013).

However, the effects of financial aid can and do vary greatly, depending on the type of program (Dynarski & Scott-Clayton, 2013), and identifying the *causal* effect of financial aid can be challenging. For example, the types of students who take the initiative and apply the effort to complete a financial aid or scholarship application may have a higher level of innate motivation and/or family support compared to students who do not; they also may be more likely to enroll and succeed in college, regardless of whether they receive aid. In this evaluation, we identify the causal impact of the Kaiser Scholarship by *comparing the outcomes of Kaiser Scholarship recipients to students who likely have the same level of motivation because they applied, but did not receive, the scholarship.*

Evaluation

Over the course of 2014–2015, Education Northwest has worked with KPNW to conduct the first major external evaluation of the scholarship program for the 2009–2014 program years. There are two components of the Kaiser Permanente Health Care Career Scholarship Program evaluation: an analysis of survey data and a quantitative impact study. Overall, this program evaluation seeks to describe respondents’ perspectives on the scholarship and their postsecondary educational and career experiences; identify the direct effect of the scholarship on recipients’ postsecondary educational outcomes; and provide useful information that will help the Kaiser Permanente staff develop successful future programming that promotes educational attainment in the community and diversifies the health care workforce.

Chapter 2 describes the results of the survey analysis, while Chapter 3 describes the results of the impact study. Chapter 4, the concluding section, includes overall evaluation findings and suggestions for program improvement drawn from the survey analysis and impact study.

Chapter 2

Survey Analysis

Survey Administration, Purpose, and Analysis

We developed the survey in partnership with the Kaiser Scholarship program manager, and then administered it through email using Survey Gizmo, a trusted online survey platform that enables creation, distribution, and tracking of surveys. The program manager provided a list of all 682 Kaiser Scholarship recipients' email addresses. We sent recipients an initial request to complete the survey in October 2014, followed by an additional nine reminders sent between October 2014 and January 2015. Individuals who completed the survey received a \$5 Starbucks gift card as an incentive. Upon closing the survey in February, 409 Kaiser Scholarship recipients had responded—a response rate of 60 percent.

The survey was designed to answer the following three questions:

1. *What are the (self-reported) characteristics and outcomes of scholarship recipients?*
2. *What are recipients' scholarship experiences and perspectives on the role it has played in helping them achieve their postsecondary goals?*
3. *What challenges do scholarship recipients still face in achieving their postsecondary goals?*

Upon closing the survey, we analyzed the data by running frequencies on all responses and comparing results across subgroups. Qualitative data analysis consisted of examining and grouping responses into categories and themes and pulling out key quotes to highlight the findings.

To understand the *scholarship recipients' characteristics and outcomes*, we discuss the following survey findings:

- Recipients' colleges and degree programs
- College experiences
- Health care persistence
- Post-college plans
- Reasons for leaving health care
- Experiences of students who left college

To assess *scholarship experiences* and *the role the scholarship has played in recipients' lives*, we then discuss the following findings:

- Who applied for the first scholarship
- Who applied for the second scholarship
- Who applied for the internship
- What recipients enjoyed about the scholarship process
- What was most challenging about the scholarship process

- What role the scholarship played in terms of paying for college and pursuing a health care career

In the last section, to understand *how to address challenges recipients face in achieving their postsecondary goals*, we present findings on:

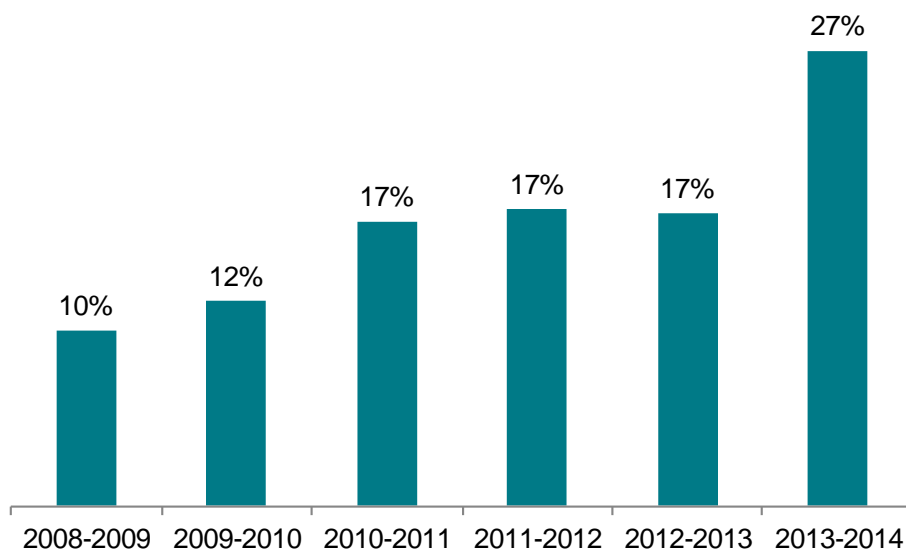
- What recipients need to persist in college and pursue a health care career

Respondent Sample Size by Scholarship Year

The largest number of respondents came from the most recent scholarship year of 2013–2014, making up nearly 30 percent of total respondents (Figure 2-1). The number of respondents by scholarship year gradually decreased in relation to preceding years.

Figure 2-1

Percentage of Respondents by Year Scholarship Received (N = 409; all respondents)



Source: Authors' analysis of survey data.

Characteristics and Outcomes of Scholarship Recipients

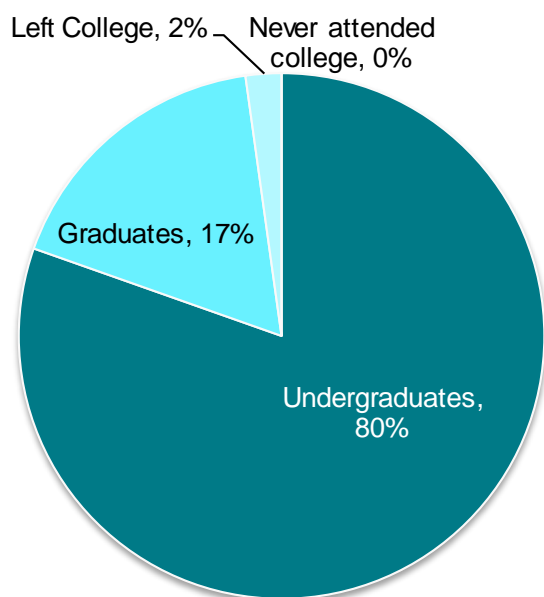
The survey asked scholarship recipients whether or not they had ever attended college and if so, if they had earned or were currently pursuing a certificate or degree. Based on responses to these questions, we categorized respondents into three degree status subgroups: “left college,” “undergraduate,” and “graduate.” No respondents specified that they had never attended college.

“Left college” means the respondent attended college but left before earning a degree or certificate. “Undergraduate” means the respondent is in college, currently pursuing a certificate, associate’s degree and/or a bachelor’s degree. “Graduate” means the respondent has earned a certificate, associate’s degree, and/or a bachelor’s degree and is not currently pursuing an

additional undergraduate degree but may be enrolled in a graduate program. In this section, we discuss survey results for each of these three subgroups.

Of the survey respondents, 80 percent were undergraduates (N = 329); 17 percent were graduates (N = 71); and only 2 percent left college (N = 9) (Figure 2-2).

Figure 2-2
Degree Status of Scholarship Recipients (N = 409, all respondents)



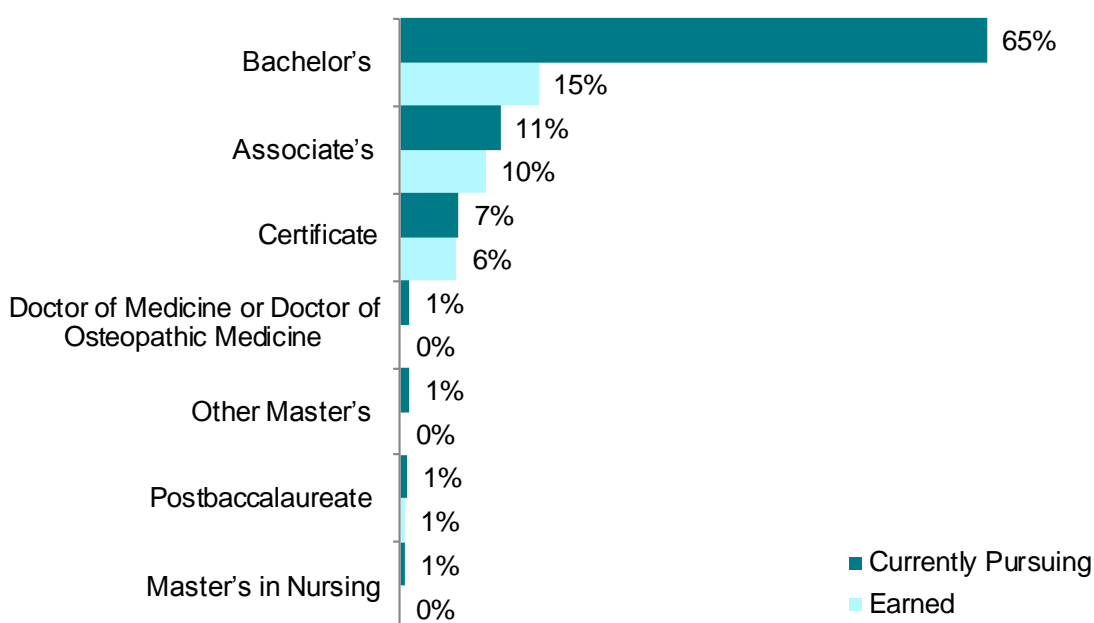
Source: Authors' analysis of survey data.

Colleges, Degrees, and Programs

Most undergraduates (85%) and graduates (93%) reported they currently attend or attended college in Oregon or Washington. This aligns with findings from administrative data we report in the next chapter (i.e., most recipients remained in their home state for college). Of undergraduates who are currently attending college, Clark College and the University of Washington are the two most popular colleges in Washington, and Oregon State University and Portland State University are the top two colleges in Oregon (Table B1, Appendix B).

A bachelor's degree is the most common degree being pursued or earned (Figure 2-3). Eighty percent of survey respondents are currently pursuing (65%) or have earned (15%) a bachelor's degree. Twenty-one percent of survey respondents are currently pursuing (11%) or have earned (10%) an associate's degree, and 13 percent are currently pursuing (7%) or have earned (6%) a certificate. A small number of respondents (all graduates) are pursuing a graduate degree or have earned a postbaccalaureate degree.

Figure 2-3
Degrees Earned and Pursued by Undergraduates and Graduates (N = 400)



Note: Degrees earned/pursued by less than 1 percent of respondents are not shown.

Source: Authors' analysis of survey data.

Of the undergraduates and graduates who specified their major or degree program, there were noticeable trends among the top responses. The top bachelor's programs completed or currently being pursued are biology, chemistry, and biochemistry (27% of undergraduates; 23% of graduates) and nursing (24% of undergraduates; 17% of graduates) (Table B2, Appendix B). The top associate's program completed or currently being pursued is a general associate's degree (40% of undergraduates; 60% of graduates). Additionally, a third of undergraduates were currently pursuing an associate's degree in nursing. The top certificate program currently being pursued is nursing (52% of undergraduates). Graduates were more varied in the certificates they earned.

College Experiences

To gain insight into scholarship recipients' college experiences, survey respondents were asked a series of questions that included whether or not they attended full-time or part-time; if they took developmental math and/or developmental English courses; what their work history was while attending college; and what other activities they participated in while attending college.

Nearly all undergraduates (97%), graduates (93%), and those who "left college" (100%) reported they were attending or had attended college full time.

Among undergraduates, 30 percent reported they took a developmental English course and 36 percent took a developmental math course. Graduates had lower developmental education rates—18 percent took a developmental English course while 17 percent took a developmental math course. Those who left college had the highest developmental education rates—33 percent took a developmental English course while 44 percent took a developmental math course.

Nationally, 60 percent of public two-year college students and 33 percent of public four-year college students took developmental math, while 17 percent of public two-year college students and 7 percent of public four-year college students took developmental English (Radford & Horn, 2012). Kaiser Scholarship recipients tend to have higher developmental English enrollment rates, particularly compared to the national rate for four-year-college students. This may be due to the fact that more than half of recipients are bilingual (see Figure A3 in Appendix A). For some of these recipients, English may not be their first or home language, and they may need some additional support to be ready for college-level English. On the other hand, recipients tend to have lower developmental math rates, particularly compared to the national rate for two-year college students.

When asked about their work history and other time commitments, 65 percent of undergraduates reported working for pay while in college; of these students, 27 percent specified working in a health care field. A higher percentage of graduates worked in college—86 percent reported they worked for pay—and of these students, 30 percent specified it was in a health care field. Only 33 percent of students who left college (N = 3) reported they worked for pay while in college; of these students, one specified it was in a health care field. On average, undergraduates reported working 17 hours per week, graduates reported working 19 hours per week, and those who left college reported working the most—28 hours per week. Finally, nearly two-thirds of students who worked across all groups reported that the scholarship helped them reduce their work hours—60 percent of undergraduates, 67 percent of graduates, and two of the three students who left college.

Scholarship recipients' answers about other activities reveal that they took part in numerous activities in college (Figure 2-4). Some activities were related to health care fields, particularly for graduates. Specifically, most undergraduates (85%), graduates (90%), and those who left college (78%) volunteered or participated in community service. Graduates were more likely to participate in a health care-related community service activity (48%) than were undergraduates (28%). A third who left college (N = 3) reported their volunteer or community service activity was in a health care field.

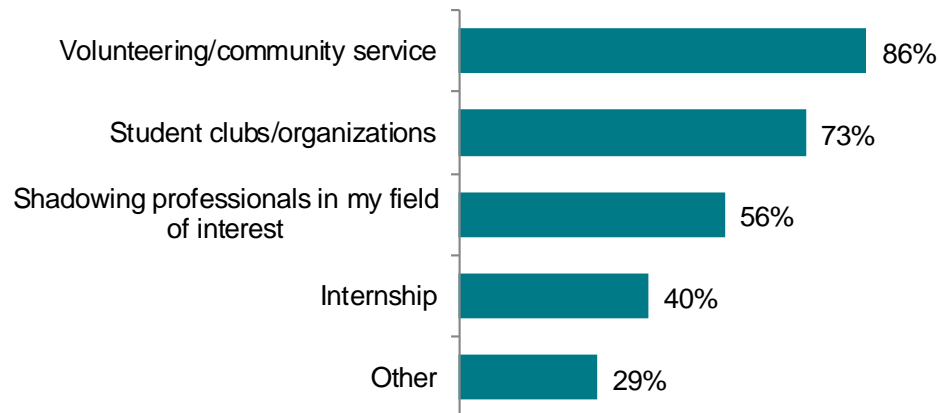
Similarly, a large portion of undergraduates (72%), graduates (79%), and those who left college (56%) also took part in student clubs or other student organizations. Again, graduates were more likely to participate in a health care-related club or student organization (30%), compared to undergraduates (23%) and those who left college (11%).

More graduates participated in shadowing professionals (73%) and/or an internship (60%) compared to undergraduates (52% shadowed professionals and 35% participated in an internship). These activities were also more likely to be health care-related among graduates. Seven recipients who left college participated in shadowing professionals with three reporting it was in a health care field; three participated in an internship, and all three reported it was in health care.

Across all respondents, 29 percent indicated “other” activities, which most frequently included sports teams or other physical activity, church activities, tutoring, student government, undergraduate research, and leadership retreats. Only a small number of these activities were within the health care field (e.g., a club that raises funds for the Make-A-Wish Foundation, undergraduate research, and ROTC nursing).

Figure 2-4

Activities Scholarship Recipients Participated in While Attending College (N = 409)



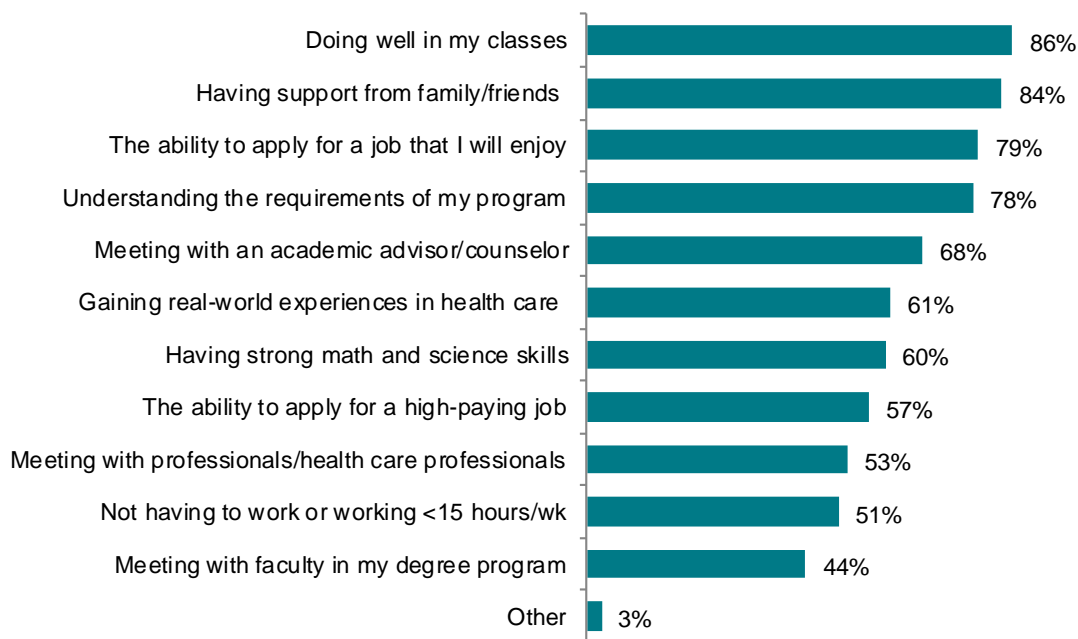
Source: Authors' analysis of survey data.

Health Care Persistence

Of the 329 undergraduates, 84 percent were currently enrolled in a course of study related to health care. Undergraduates reported multiple factors that were helping them persist in health care (Figure 2-5). The top four factors were doing well in their classes (86%), support from their family and friends (84%), the ability to apply for a job they will enjoy (79%), and understanding the requirements of their degree program (78%).

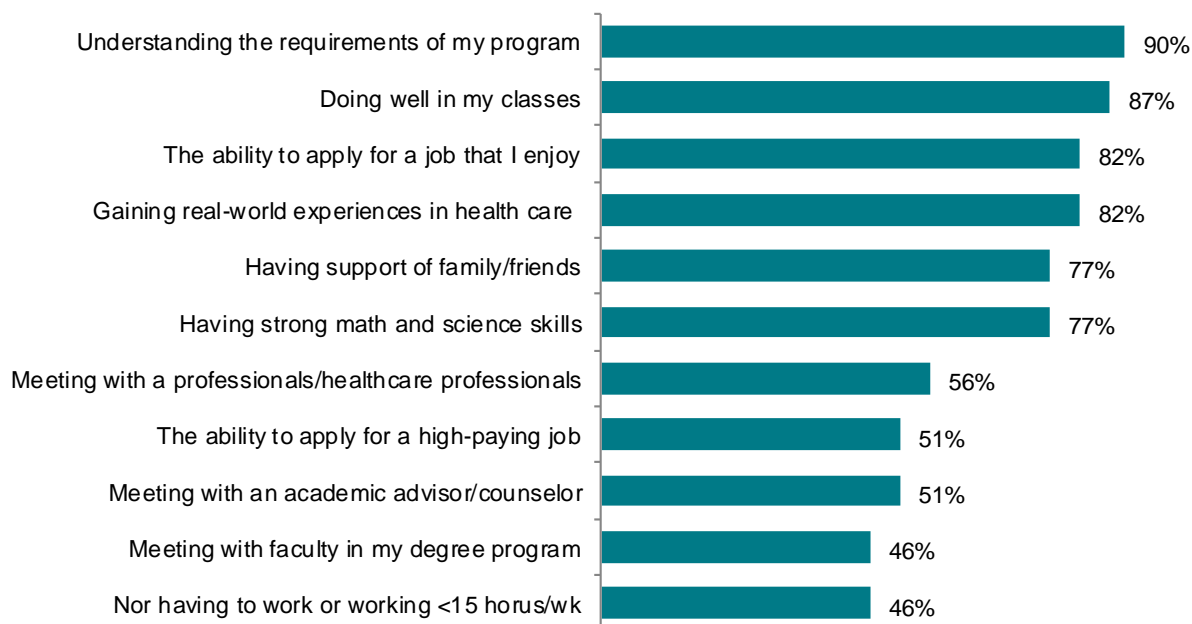
Of the 71 graduates, 55 percent (N = 39) completed an undergraduate course of study related to health care. Graduates shared many of the same top factors for persisting in a health care course of study as undergraduates (Figure 2-6). The top four factors were understanding the requirements of their program (90%), doing well in their classes (87%), the ability to apply for a job they will enjoy (82%), and gaining real-world experiences in health care (82%). Also, 77 percent of graduates reported having the support of their family and friends, as well as having strong math and science skills, as important factors.

Figure 2-5
What Is Helping Undergraduates Pursue a Course of Study in Health Care (N=275)



Source: Authors' analysis of survey data.

Figure 2-6
What Helped Graduates Complete a Course of Study in Health Care as an Undergraduate (N= 39)

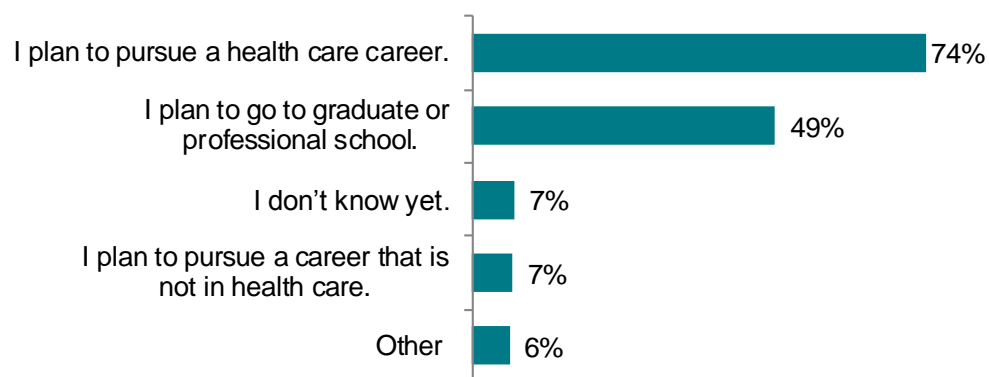


Source: Authors' analysis of survey data.

Post-college Plans

When asked what they plan to do upon graduating from college, nearly three-quarters of undergraduates said they plan to pursue a career in health care, and half said that they plan to attend graduate or professional school (Figure 2-7).

Figure 2-7
Undergraduates' Plans After College (N = 329)



Note: "Other" responses include going into the Peace Corps, pursuing a career in creative writing, becoming an athletic trainer, and designing software in hospitals.

Source: Authors' analysis of survey data.

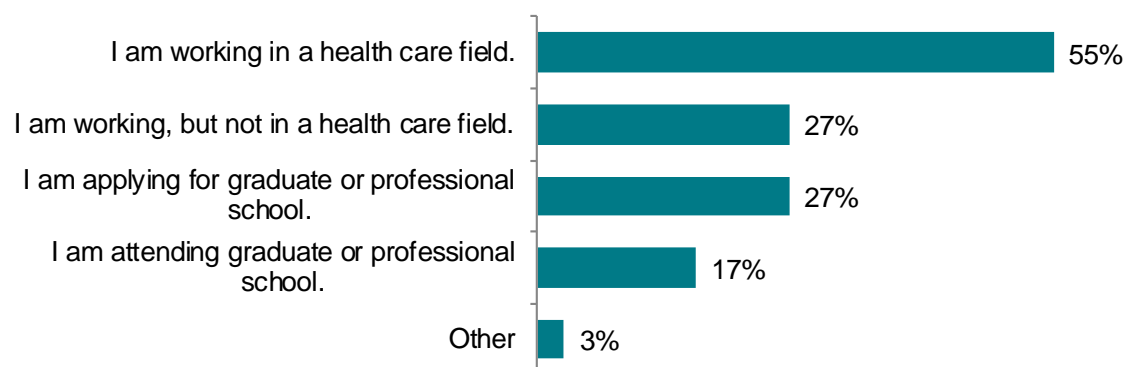
Of the undergraduates who indicated they plan to pursue a health care career, the majority (86%) provided specifics on their health care career plans (Table B3, Appendix B). Nursing was the predominant career path (33%), followed by becoming a physician (24%). Of the undergraduates not pursuing a health care career after college (7%), 19 indicated a variety of other career plans, including pursuing jobs in film and TV production, accounting, teaching, criminal justice, and social work, along with becoming a business owner.

Of the 49 percent of undergraduates who indicated they plan to attend graduate or professional school, the largest proportion (28%) plan to get a doctorate in medicine or osteopathic medicine (Figure B1, Appendix B). This was followed by 12 percent who reported they did not know, and 10 respondents who plan to get their master's degree in nursing.

When asked what they are doing now that they have earned a certificate or degree, over half of graduates said that they are working in health care (Figure 2-8). The top fields identified were nursing (32% of working graduates), the dental field (13%, perhaps as hygienists or assistants), and pharmacy technicians (6%).

Of the 27 percent of graduates who reported they are working, but not in a health care field, 19 specified various professions such as tutor, teacher, or school counselor (N = 4), grocer (N = 2), and analyst (N = 2).

Figure 2-8
What Graduates Are Currently Doing (N = 71)



Note: "Other" responses included taking the nursing licensure exam.
Source: Authors' analysis of survey data.

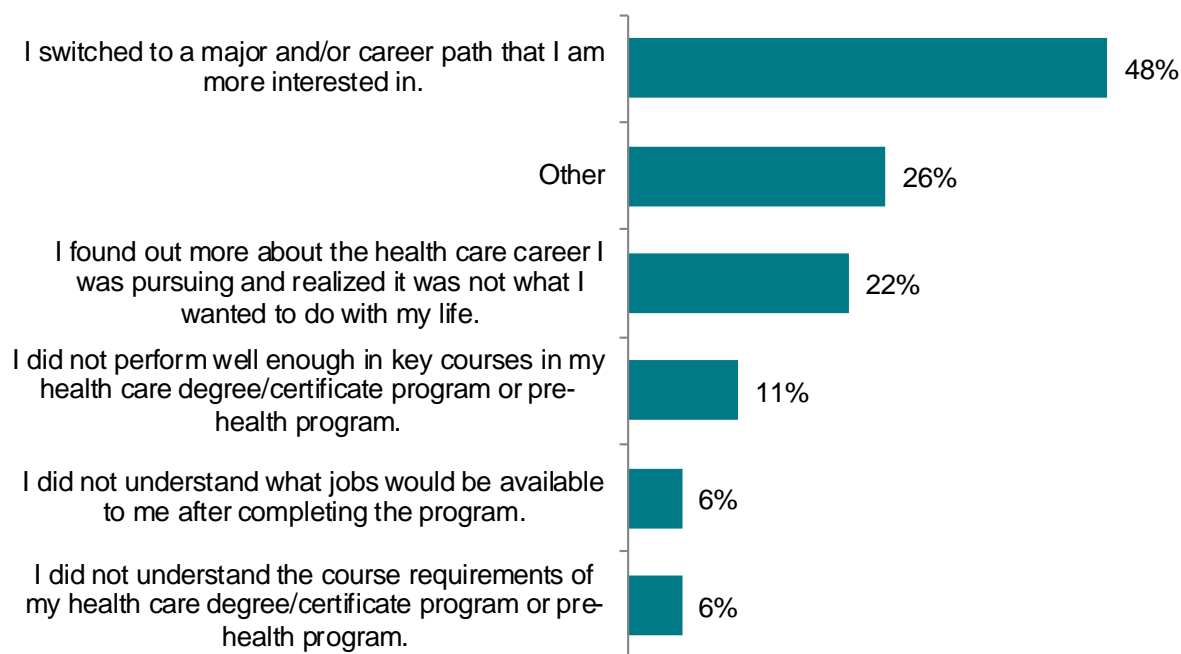
Over a quarter (27%) of the graduates were applying to graduate or professional school and an additional 27 percent were currently attending graduate or professional school. Graduates who indicated they were currently attending or planning to apply to a graduate or professional school were asked to specify their chosen degree, but only 17 gave responses (Figure B2, Appendix B). The top degrees sought were a doctorate in medicine or osteopathic medicine (24%) and a master's degree in physician assistant studies (12%).

Reasons for Not Persisting in Health Care

Undergraduate scholarship recipients provided various reasons why they are no longer pursuing a course of study in health care (Figure 2-9). Almost half (48%) indicated that they had switched their major or career path and 22 percent indicated that they realized they no longer wanted to pursue a health care career as they learned more about it. About one-quarter indicated "other," and five provided a specific response. Reasons varied, including taking time off to have a baby, taking basic prerequisite courses first, and taking a year to gain experience in the field. Similarly, graduates were asked why they did not complete the education required to pursue a health care career. Of the three who responded, two said, "I switched to a major or career I was more interested in." One respondent indicated "other."

Figure 2-9

Reasons Undergraduates Are No Longer Pursuing a Course of Study in Health Care (N = 54)



Source: Authors' analysis of survey data.

Nineteen graduates also responded to the question about why they were not working in the health care field. About one-quarter changed their major while in college, while others were currently pursuing and applying for jobs in the health care field (11%), working on getting licensed or certified prior to pursuing a full-time job (11%), pursuing work where income levels are higher than in health-related fields (11%), or completing a health care course of study and then deciding to pursue a different career (11%).

Experiences of Students Who Left College

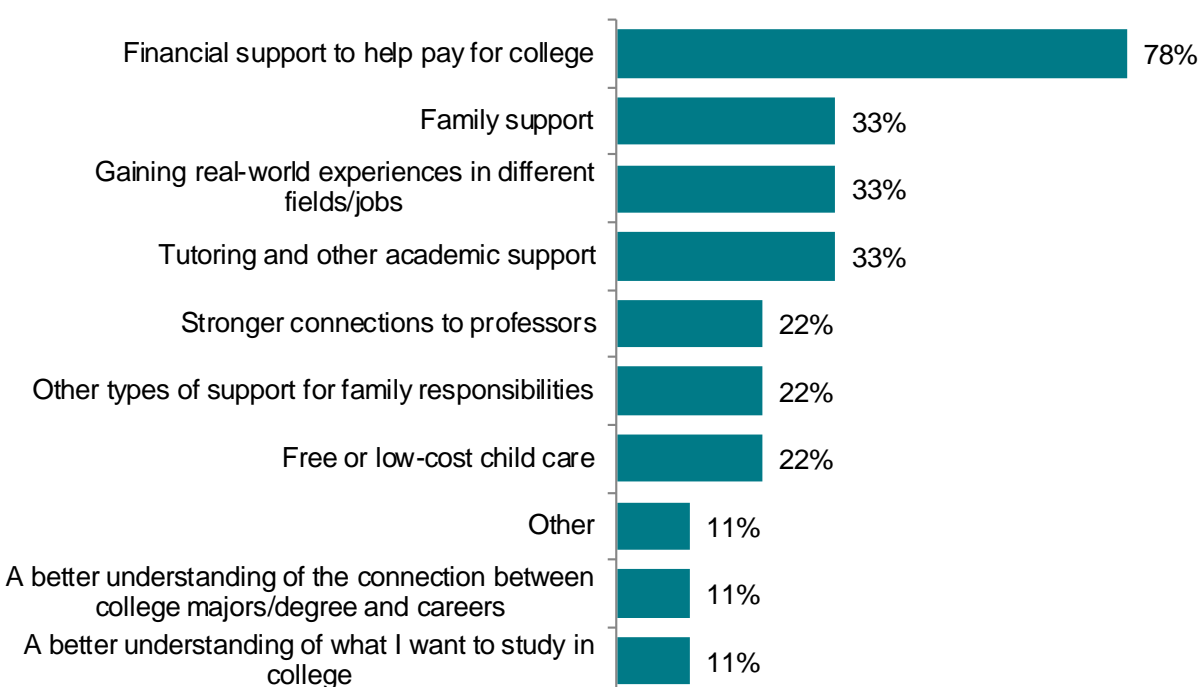
When asked what they were doing now that they were no longer enrolled in college, six recipients reported they were currently working. Three specified a health care profession — certified nursing assistant, volunteer EMS, and medical assistant. (These careers typically require some type of college certificate, suggesting that perhaps these students were mistaken in responding that they had not earned or were currently pursuing a certificate or degree.) Another three individuals specified their professions as a secretary, farmer, and caterer. The remaining three individuals reported they were “unemployed due to maternity reasons,” “applying for permanent residence in Canada,” and “a full-time mom and married.”

Scholarship recipients who indicated they left college before earning a certificate or degree were asked if they planned to go back to school, and if yes, what course of study they planned to pursue. Six recipients reported they planned to go back to college but didn't know what they

would pursue. Two reported they were unsure of their future plans, and one said, no, s/he would not be going back to college.

When asked what would help them enroll and persist in college, seven respondents reported they needed financial support to help pay for college (Figure 2-10). Three also reported they needed family support, stronger connections to professors, and real-world experiences in different jobs/fields. Only one to two recipients indicated that each of the remaining options would help them enroll and persist in college.

Figure 2-10
What Recipients Who Left College Need To Reenroll and Persist in College (N = 9)



Source: Authors' analysis of survey data.

Scholarship recipients who left college reflected on the challenges they faced while in college. The main challenges focused on paying for college (67%), balancing family and college (56%), and balancing work and college (56%). Some additional challenges reported by one or two scholarship recipients who left college included performing well in courses, understanding degree or certificate requirements, and selecting an educational program to pursue.

Recipient Characteristics and Outcomes—Main Findings

Four main findings emerged from the survey. First, *academic preparedness is tied to both college and health care career persistence*. Recipients who had already earned a certificate or degree had lower rates of developmental education enrollment compared to students still in college and those who had left college. Additionally, almost half of the recipients who left

college had taken a developmental math course, which may be tied to their college attrition. Under-preparedness in math is an enormous stumbling block for college students and is connected to dropping out of college (Hodara, 2013). Finally, a top factor for persisting in a health care course of study among undergraduates and graduates is doing well in their classes.

Second, *recipients are very busy and active college students*. The vast majority (96%) attends or attended college full-time and most undergraduates (65%) and graduates (86%) worked while in college. All subgroups also reported a fairly high level of participation in activities while attending undergraduate college. Graduates participated in more activities in the health care field compared to undergraduates. Many of these activities are related to health care careers, which may support recipients' health care and college persistence since research finds a positive relationship between engagement in activities related to academic pursuits and college grades and persistence (Kuh et al., 2008).

Third, *survey results reveal a high level of persistence in health care among recipients*. Eighty-four percent of undergraduates are currently enrolled in a course of study related to health care, 55 percent of graduates completed an undergraduate course of study related to health care, and 55 percent of graduates are currently working in a health care field. Across both undergraduates and graduates, one of the top contributing factors to health care persistence is participants understanding the requirements of their program. Research finds that college students are much more likely to complete college "if they choose a program and develop an academic plan early on, have a clear road map of the courses they need to take to complete a certificate, and receive guidance and support to help them stay on plan" (Bailey, Jaggars, & Jenkins, 2015).

Finally, the results provide insight about a group rarely surveyed in postsecondary research—students who leave college. These students are engaged in a variety of professions, and some would like to go back to college. *The top response for what recipients need to reenroll and persist in college is "financial support."*

Kaiser Scholarship Experiences and the Role the Award Has Played in Recipients' Lives

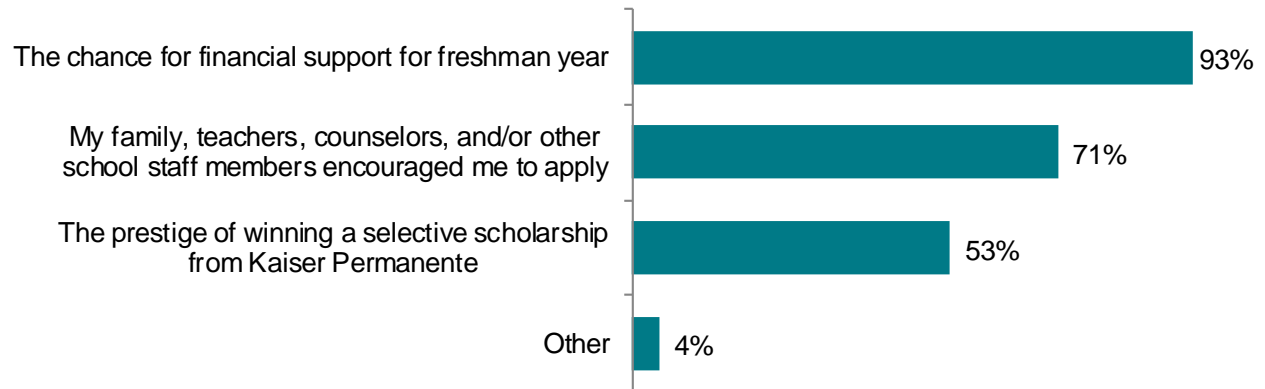
Findings in this section are combined across all survey respondents because responses did not vary greatly by subgroup (undergraduates, graduates, and those who left college) nor according to health care persistence.

Who Applied for the First Scholarship?

Most scholarship recipients (93%) were motivated to apply for the scholarship for financial support for their freshman year (Figure 2-11). Many (71%) were encouraged to apply by their family, teachers, counselors, or other school staff; slightly more than half (53%) were motivated by the prestige of winning the scholarship. Over half (56%) of those who responded "other"

indicated that they were motivated to apply for the scholarship because of its health care focus. Examples of other motivations included a desire to specifically work with Kaiser in the future, being recognized for accomplishments, and “the fact that one of Kaiser’s main goals was to help minorities seek and achieve a career in the medical field.”

Figure 2-11
What Motivated Scholarship Recipients To Apply? (N = 409; all respondents)

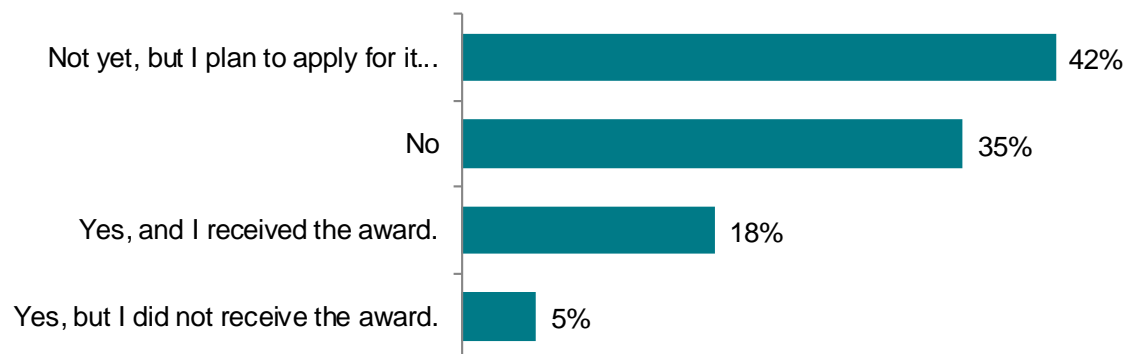


Source: Authors' analysis of survey data.

Who Applied for the Second Scholarship?

Only a small number (18%) of respondents who received the first scholarship applied for and received the second scholarship (Figure 2-12). The majority (77%) said they had not applied for a second scholarship, and some (42%) said they planned to apply.

Figure 2-12
Do Recipients Plan to Apply for the Second Scholarship? (N = 409; all respondents)



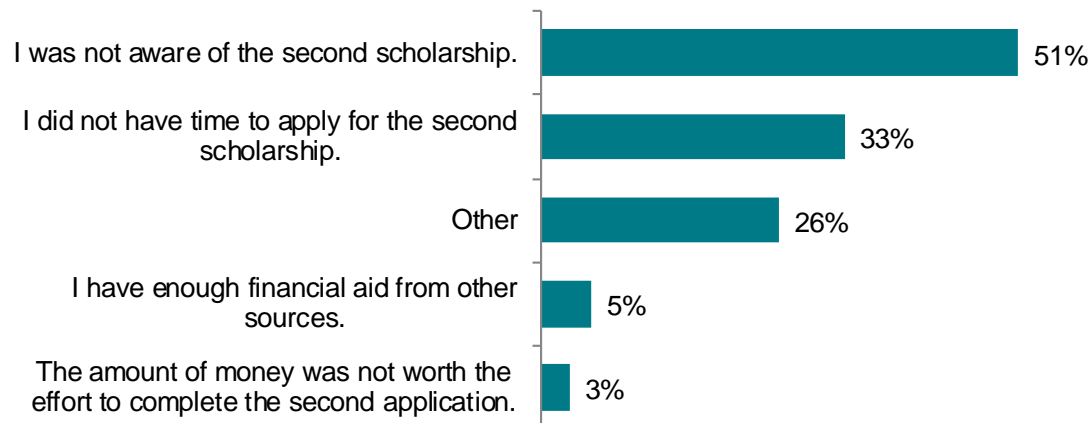
Source: Authors' analysis of survey data.

Scholarship recipients provided reasons why they did not apply for the second scholarship (Figure 2-13). Half (51%) of scholarship recipients reported that they were not aware of the second scholarship, and one-third said that they did not have time to apply. About a quarter

reported “other” reasons, which included deciding not to pursue a degree within the health care field, missing the deadline, not being eligible to apply, not meeting the GPA requirements, and competing family issues.

Figure 2-13

Why Didn't Recipients Apply for the Second Scholarship? (N = 129)



Source: Authors' analysis of survey data.

Who Participated in an Internship?

Kaiser Permanente first began to offer a paid summer internship in 2014 to interested scholarship recipients who were college sophomores or higher. Therefore, only respondents who graduated from high school prior to the 2012–2013 school year were asked about the internship. Eight respondents reported completing an internship.

Those who completed the internship were asked how important they found the internship for professional development and graduate or professional school applications. Everyone (100%) reported that the internship was important for professional development and many (75%) reported that it was very important for graduate or professional school applications. According to one internship participant:

Being a part of the internship program has been invaluable. The connections I made at Kaiser Permanente allowed me to get more shadowing experience, and I was able to get a letter of recommendation from my supervisor.

What Did Recipients Most Enjoy About the Scholarship Process?

In both scholarship application processes, recipients reported they most enjoyed the interview. According to two of the recipients:

I really enjoyed the interview, which I felt like was more of an opportunity to have a genuine conversation about my future and also as an opportunity for self-reflection. It presented some questions that I haven't necessarily thought about in that manner, which was helpful and helped me to see more clearly that medicine was the right path for me.
–First scholarship applicant

I enjoyed the interview over the phone. It was extremely convenient, and the interviewer was great and asked me questions which were extremely important for someone in the medical field. –Second scholarship applicant

Both first and second scholarship applicants also enjoyed sharing their dreams and reflecting about their experiences during the application process. According to two of the scholarship recipients:

I really enjoyed the opportunity to be able to tell part of my life story, highlighting what I have lived and how my experiences have made me become who I am, and most importantly, knowing where I want to be in life and how to get there. –First scholarship applicant

I enjoyed reflecting on my accomplishments from the past, and figuring out my aspirations for the future. –Second scholarship applicant

Other aspects that they enjoyed included the recognition and award ceremony; the ease of the process and helpfulness of the staff; and the fact that they had to reflect on their interest in the health care field.

What Was Challenging About the Scholarship Application Process?

Scholarship recipients particularly reported struggling with the essay requirements because they found it challenging to decide what topics to write about and to balance the essay with other application requirements. Others were challenged by the essay because English is not their first language. In the words of one scholarship applicant:

The essays were very complex and specific. I found them very time consuming because I had to go through and make sure I was specific to the extremely long prompts.

Other challenging aspects of the application process included the interview, knowing how to complete all of the steps involved in the application, being aware that it was a competitive and long process, and coordinating recommendation letters. Overall, the recipients who applied for the second scholarship expressed that the process was less challenging the second time around.

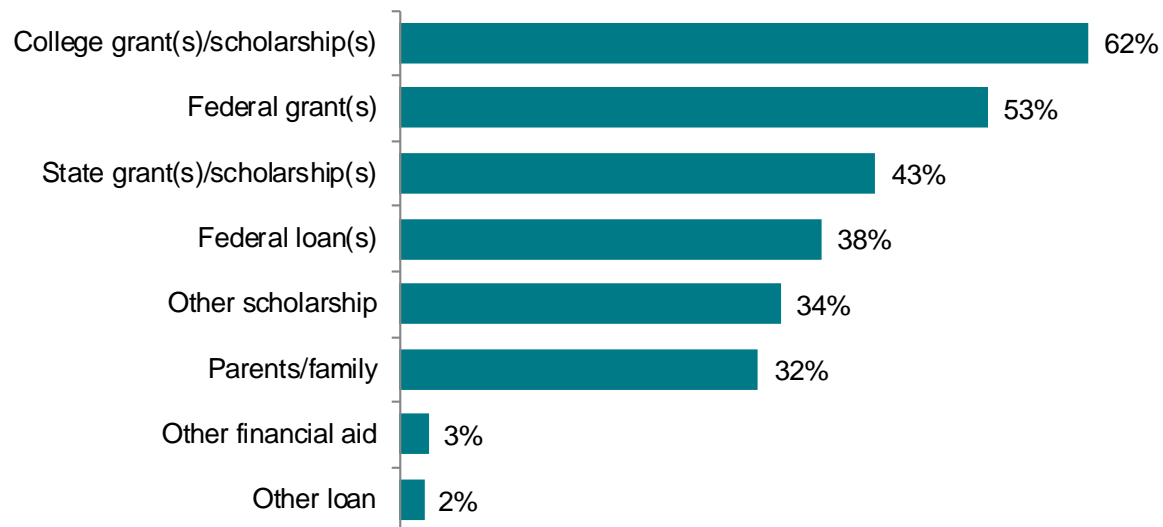
What Was the Scholarship's Role in Paying for College and the Recipient's Pursuit of a Health Care Career?

Most of first (93%) and second (92%) scholarship recipients spent their scholarship on tuition and fees. Other ways that scholarship recipients spent their scholarship were on books and materials (42% of first scholarship; 46% of second scholarship) and on living expenses (19% of first scholarship; 22% of second scholarship).

Most recipients (91%) received other financial assistance for college during their freshman year in addition to the scholarship (Figure 2-14). Across the board, the Kaiser Scholarship was smaller than various types of financial aid with the exception of other scholarships (Figure 2-15).

Figure 2-14

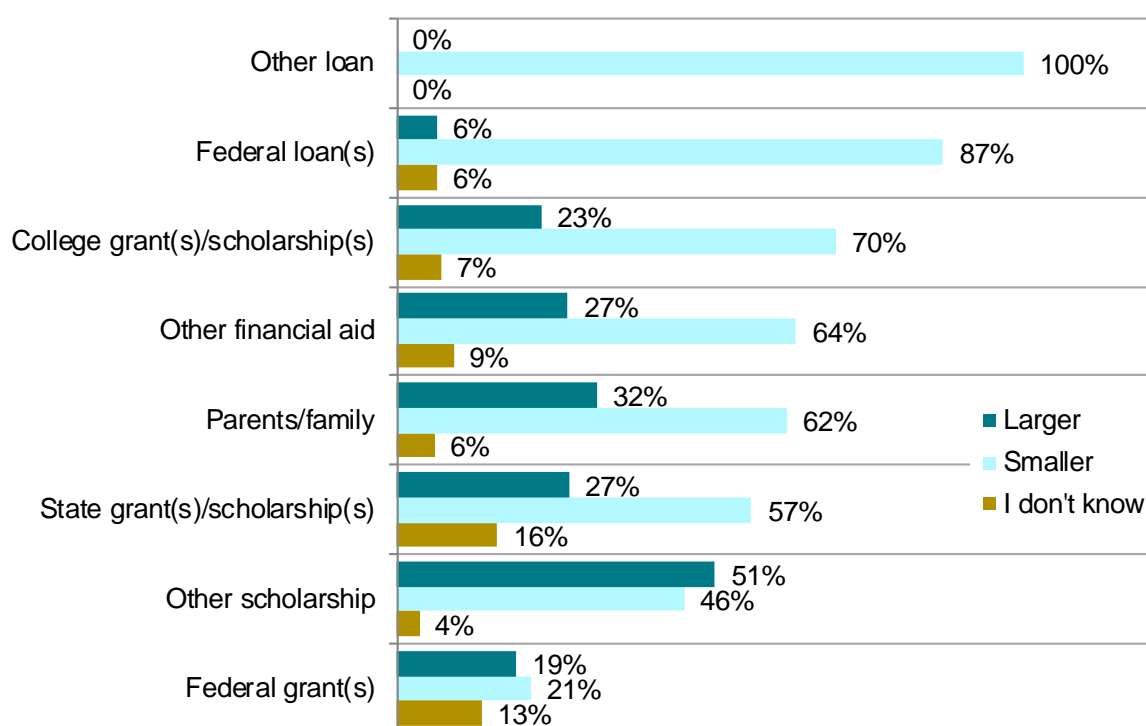
What Types of Financial Assistance Did Recipients Receive? (N = 409; all respondents)



Source: Authors' analysis of survey data.

Figure 2-15

Was the Scholarship Larger or Smaller Than Other Forms of Financial Assistance? (N = 409; all respondents)



Source: Authors' analysis of survey data.

Despite the fact that respondents reported the Kaiser Scholarship was smaller than the other financial assistance they received, about half (51%) of the recipients said that the scholarship made it financially possible to attend college, and some (28%) said that the scholarship provided them with (nonfinancial) support and motivation to attend college. Almost two-thirds (62%) of first scholarship recipients also indicated that the Kaiser Scholarship reduced the number of hours they had to work for pay while pursuing their college degree. Scholarship recipients were also asked whether the scholarship program made it easier for them to pursue a health care career. The majority (81%) of recipients agreed or strongly agreed that the program made it easier for them to pursue a health care career. In the words of some scholarship recipients:

College costs a lot and text books are another story. With the generous amount of scholarship money, it definitely helps and encourages [us] to try to become successful in the future.

The scholarship made a positive difference in shaping my first year in college. Knowing that Kaiser believed in my ability to succeed motivated me to continue striving for academic excellence throughout my educational career.

This might be an overstatement, but I truly believe that this scholarship is what pushed me to continue my path as pre-med. It doesn't seem as though it is a big deal, but it gave me the sense of accomplishment and gave me strength to persist in my education. I will forever be grateful to Kaiser for recognizing my hard work. This scholarship had a huge impact on my decision to pursue medicine, and it reminded me that anything is possible with hard work, regardless of what your background may be.

Scholarship Experiences and Role of the Scholarship—Main Findings

First, *only a small number of respondents applied for the second scholarship, primarily because they were unaware of the opportunity and/or did not have time to apply.* The larger scholarship award (not included in this study), given to one-quarter of 2015 recipients, addresses this concern somewhat since the award is dispersed over a two-year period and helps to ensure that recipients maintain contact with Kaiser Permanente. However, three-quarters of recipients receive a \$2,000 award that disperses once in the fall of the freshman year. For these recipients, we recommend maintaining accurate contact information and communicating with them periodically via channels they are likely to use (e.g. Facebook, text messaging); this may help with uptake of the second scholarship.

Second, *internship participants found the experience important for professional development and graduate or professional school applications.*

Third, *respondents enjoyed various aspects of the scholarship application process, but found the essay challenging.* Respondents especially enjoyed the interview and the opportunity to share their dreams. They also found the second scholarship application process easier.

Finally, although the Kaiser Scholarship was smaller than other financial assistance they received, *recipients reported that the scholarship made it financially possible to attend college and pursue a career in health care.* Additionally, it provided them with support and motivation to attend college, and it allowed them to work less while pursuing their college degree.

Addressing Challenges Recipients Face in Achieving Their Postsecondary Goals

The survey revealed two primary ways to help scholarship recipients complete the education required to enter a health care career and, more generally, persist in college. We describe these below, and then combine them with findings from across the survey and the impact study to suggest overall considerations for program improvement in the concluding chapter.

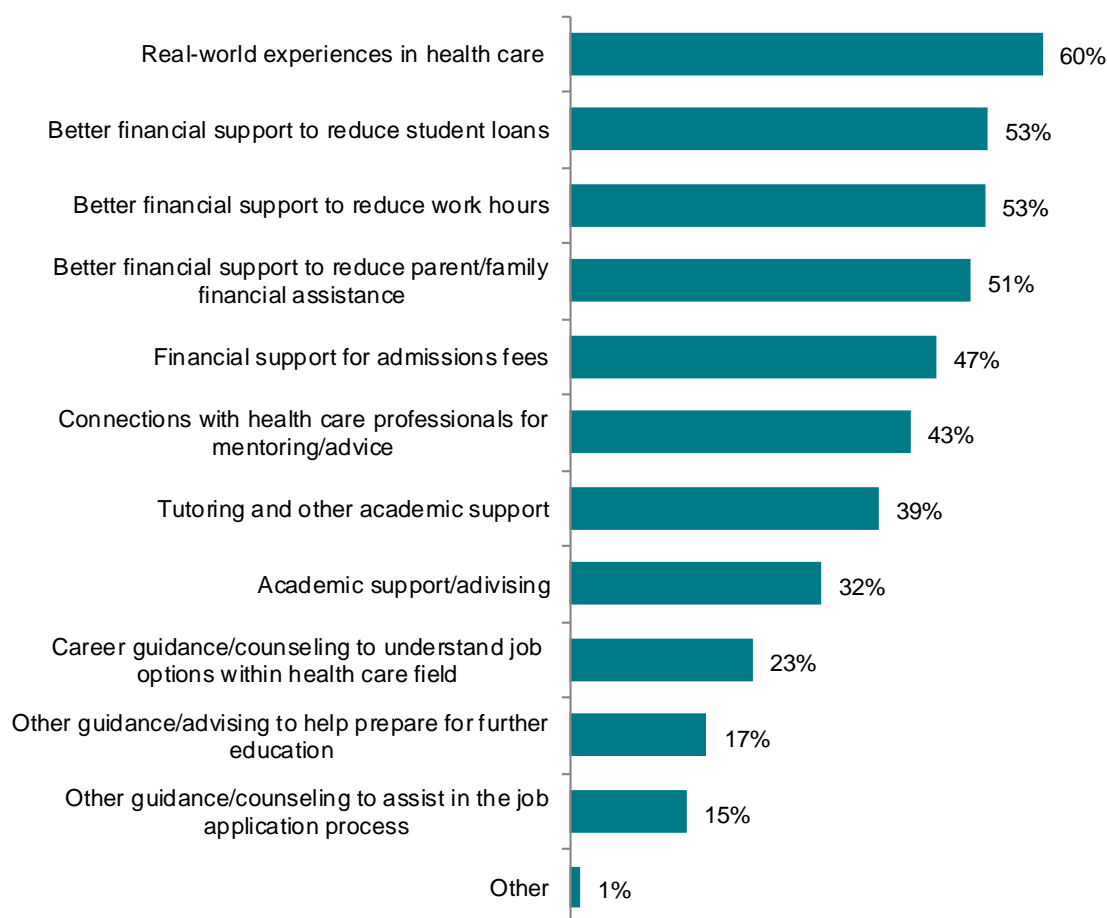
Enhancing financial aid is a primary way to improve persistence in health care fields and, more generally, college. When asked what would help them complete the education required to work in health care, four of the undergraduates' top five responses related to the need for better financial support (Figure 2-16). The top answer was better financial support to reduce student loans. Similarly, the number one response from graduates regarding what helped them

complete the education required to enter a health care career was financial support that reduced their student loans (Figure 2-17). Most recipients who left college reported financial support to help pay for college would help them reenroll and persist in college (Figure 2-10).

Providing real-world experiences in health care is a second main strategy to improve persistence in health care fields and college. Undergraduates' top response regarding what would help them complete the education required to work in health care was real-world experiences in health care (Figure 2-16). About half of graduates who already completed the education required to enter a health care career said real-world experiences helped them; an equivalent percentage cited guidance and advising to prepare them for future education (Figure 2-17). When asked what would help them enroll and persist in college, real-world experiences was the second most reported response by those who left college (Figure 2-10).

Figure 2-16

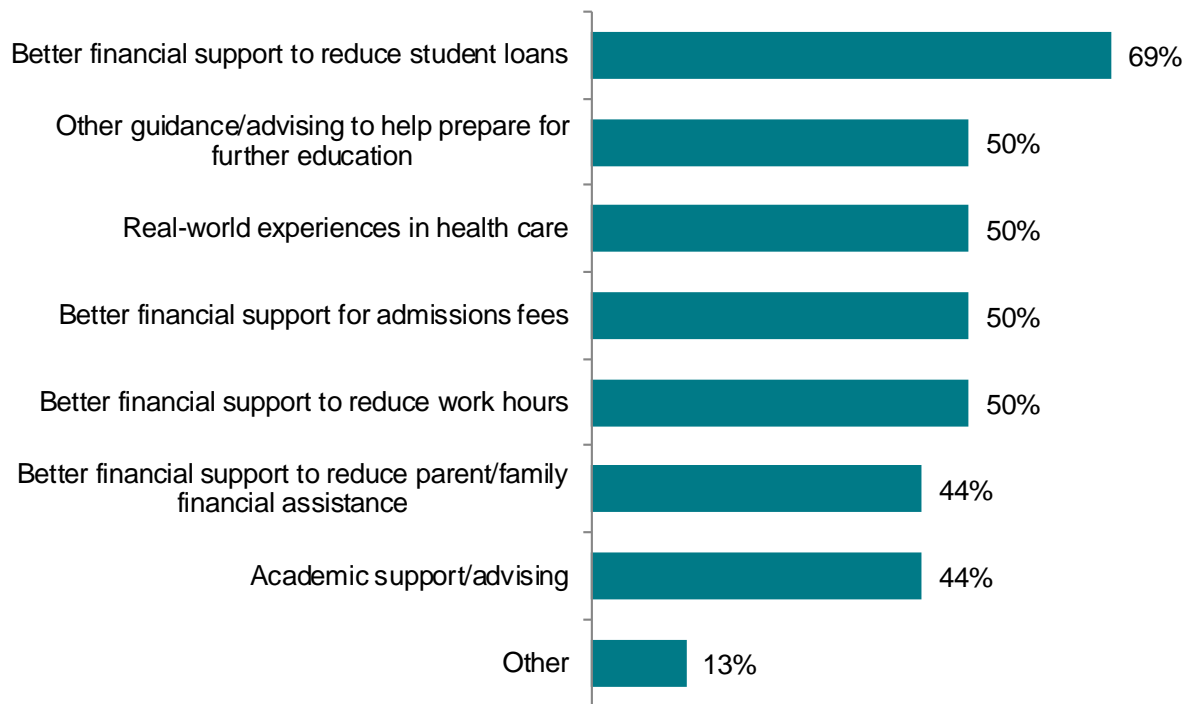
What Would Help Undergraduates Complete the Education Required To Work in Health Care? (N=275)



Source: Authors' analysis of survey data.

Figure 2-17

What Helped Graduates Complete the Education Required To Work in Health Care (N = 17)



Source: Authors' analysis of survey data.

Chapter 3

Impact Study

Research Questions

For this component of the evaluation, we asked and answered the following questions:

1. *Compared to applicant nonrecipients, what are the postsecondary outcomes of recipients?*
2. *Did the scholarship impact recipients' college enrollment, selection of a health care major, persistence, and certificate/degree completion?*

For the first question, we present the postsecondary outcomes of scholarship recipients compared to individuals who applied but did not receive scholarships (called “nonrecipients” for the remainder of this chapter) to provide an objective picture of the college trajectories of these two groups of students. This question simply asks what recipients did after high school compared to nonrecipients. For the second question, we identify the causal impact of the Kaiser Scholarship on recipients' postsecondary outcomes. This question uses statistical methods to tease out the precise contribution of the Kaiser Scholarship on recipients' postsecondary outcomes.

In this section, we discuss if differences between nonrecipients and recipients are **statistically significant**. Statistical significance means the difference between the two groups is real and unlikely to have occurred by chance. A significance level of 5% ($p < 0.05$) means that only 5 times out of 100 a significant difference might occur by chance.

Data and Sample

Data on Oregon scholarship applicants came from the Oregon Department of Education (ODE), and data on Washington scholarship applicants came from the State of Washington Education Research & Data Center (ERDC). We cleaned and linked data from both sources to create one dataset with secondary and postsecondary data on all Kaiser Scholarship applicants. Secondary data include demographic information, program participation (e.g., free and reduced-price lunch [FRPL], Limited English Proficient [LEP], special education, and Migrant Education Program), state assessment scores, and graduation status. Postsecondary data include enrollment and completion information at colleges nationally, up to spring 2014. See Appendix C for details on data sources and cleaning.

The sample for the impact study includes Kaiser Scholarship applicants who were seniors in 2008–2009 to 2011–2012 ($N = 2,218$). We exclude applicants who were seniors in 2012–2013 and 2013–2014 in order to have at least two years post-high school to track students into postsecondary education. For example, we can track applicants who were seniors in 2011–2012 two years post-high school to spring 2014, while we can track applicants who were seniors in 2008–2009 five years post-high school.

We include all scholarship applicants in the sample for the impact study because nonrecipients comprise an ideal comparison group to recipients. Nonrecipients attended the same high schools as recipients and thus share similar school experiences and geographic origin. Perhaps even more important, by applying for the Kaiser Scholarship, nonrecipients signaled a similarly high level of motivation and drive and similar career goals in the health field as recipients. Motivation and career goals are often related to long-term educational outcomes, such as college enrollment, persistence, and completion, as well as employment and lifetime earnings. As a result, by comparing the outcomes of recipients to the outcomes of nonrecipients, we can more plausibly isolate the impact of the Kaiser Scholarship on the recipients.

However, in some respects, because Kaiser Permanente awards the scholarship at higher rates to socially and/or economically disadvantaged students, there are a number of notable racial/ethnic and income differences between nonrecipients and recipients.

*Table 3-1
Characteristics of 2008/09–2011/12 Kaiser Scholarship Applicants*

	Nonrecipients (N=1,766)	Recipients (N=452)	Difference*
<i>Demographic characteristics</i>			
Female	85%	80%	- 0.05*
White	64%	52%	- 0.12*
Latino	14%	21%	0.07*
Black	4%	4%	0.00
Asian/Pacific Islander	16%	21%	0.05*
American Indian	1%	0%	- 0.01
Multiracial	2%	2%	- 0.00
<i>Program participation</i>			
Free and reduced-price lunch	32%	46%	0.14*
Special Education	1%	2%	0.01
Migrant Education Program	1%	1%	0.00
Limited English Proficient	2%	2%	0.00
<i>Performance on HS state assessments</i>			
Scored proficient in math	87%	88%	0.01
Scored proficient in reading	91%	92%	0.01

Note: *The difference is statistically significant at the 5 percent level of significance.

Source: Authors' analysis of ODE-ERDC dataset.

Scholarship recipients are significantly less likely to be female and White, more likely to be Latino and Asian/Pacific Islander, and much more likely to have received FRPL (see Table 3-1). Receiving FRPL is a proxy for coming from a lower income family since students from families that are at or below 130 percent of the poverty level are eligible for free meals in public school, and students from families between 130 and 185 percent of the poverty level are eligible for

reduced-price meals (U.S. Department of Agriculture, 2014). We discuss our methods for accounting for these differences in the impact study in a subsequent section.

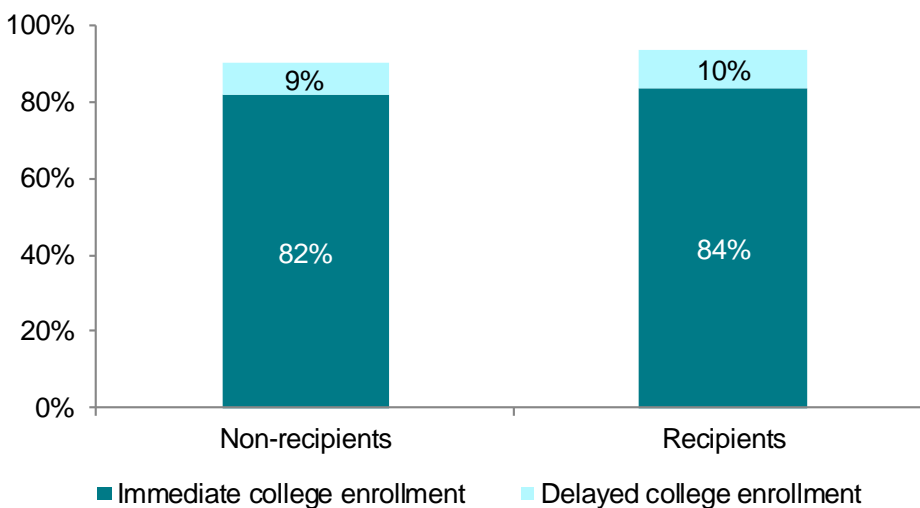
Descriptive Outcomes

In this section, we present postsecondary enrollment data, including first college attended and postsecondary outcomes for those who enrolled in college (e.g., persistence, transfer, and degree attainment). For those who graduated from college, we present degree type and major.

First, *almost all scholarship applicants went to college*: 90 percent of nonrecipients and 94 percent of recipients went to college, and most enrolled immediately after graduating from high school (Figure 3-1). Only 9 percent of nonrecipients and 10 percent of recipients took a year or more off between graduating from high school and entering college. College enrollment rates of Kaiser Scholarship applicants are substantially higher than the national college enrollment rate of high school graduates, which is 66 percent (U.S. Department of Education, 2014).

The four percentage point difference in college enrollment between nonrecipients and recipients is significantly different. For the second question, we identify if this difference in college enrollment can be attributed to the Kaiser Scholarship.

Figure 3-1
Percentage of Nonrecipients and Recipients Who Enrolled in College



Note: Number of nonrecipients is 1,766 and number of recipients is 452.
Source: Authors' analysis of ODE-ERDC dataset.

Second, most scholarship applicants (69% of nonrecipients and 74% of recipients) attended an in-state public two-year or four-year college (Table 3-2). The types of colleges applicants attended were fairly similar, except recipients were significantly more likely to attend an in-state community college and significantly less likely to attend an out-of-state, private, four-year college than nonrecipients. These differences suggest that *recipients were slightly more inclined to stay close to home when they first enrolled in college compared to nonrecipients*. Given that recipients are more likely to be low-income and students of color, this finding is consistent with research on the community college population. Community colleges disproportionately serve low-income students and students of color compared to four-year colleges, largely because these institutions are lower cost, closer to home, and allow students to continue to balance family responsibilities while attending college (Cohen & Brawer, 2003).

While such students may choose to stay close to home for reasons that extend beyond finances, it is worth noting that the characteristic on which recipients and nonrecipients differ the most is income level, underlining the impact that KPNW's newly implemented \$5,000 and \$10,000 award amounts might have in facilitating equity in college choice.

Table 3-2
First College Type of Nonrecipient and Recipient College Enrollees

College Type	Nonrecipients	Recipients
In-state public 2-year*	33%	37%
In-state public 4-year	36%	37%
In-state private 2-year	2%	1%
In-state private 4-year	3%	2%
Out-of-state public 2-year	0%	0%
Out-of-state public 4-year	15%	15%
Out-of-state private 2-year	0%	0%
Out-of-state private 4-year*	11%	7%

Note: Sample includes college enrollees only (N = 2,018). Number of nonrecipients is 1,595, and number of recipients is 423.

*Asterisk indicates the percent difference is statistically significant at the 5 percent level of significance.

Source: Authors' analysis of ODE-ERDC dataset.

Most scholarship recipients exhibited an early commitment to college—79 percent of recipients persisted from their first to second term in college (Table 3-3). In terms of transfer, about a quarter of recipients who started college at a two-year institution transferred to a four-year college, representing 10 percent of all recipients. Overall, 71 percent of recipients ended up at a four-year college because they started at a four-year college or transferred to one.

Table 3-3
Postsecondary Outcomes of Nonrecipient and Recipient College Enrollees

College Outcomes	Nonrecipients	Recipients
<i>All applicants</i>		
Persisted first to second term in first year (N = 2,018)	82%	79%
Transferred from 2-year to 4-year college (N = 728)	22%	25%
<i>Graduated from high school in 2009</i>		
Earned a postsecondary certificate/degree (N = 347)	50%	51%
Earned certificate/degree if first college was 2-year (N = 140)	45%	35%
Earned certificate/degree if first college was 4-year (N = 207)	53%	62%

Note: Sample sizes included in table. No differences are statistically significant.

Source: Authors' analysis of ODE-ERDC dataset.

In terms of degree attainment, about half of recipients who graduated from high school in 2009 earned a certificate or degree (Table 3-3).¹ A higher proportion of students who started at a four-year college earned a certificate or degree than students who started at a two-year college. Degree attainment drops precipitously for more recent cohorts because most are still enrolled in college. For example, only 19 percent of recipients who graduated from high school in 2010 earned a degree (results not shown in table).

We also tracked college persistence over five years of recipients who graduated from high school in 2009 to understand how many had earned a certificate or degree or were still enrolled in college by spring 2014, the last term in our dataset. Figure D1 in Appendix D illustrates the percentage of these students who continuously enrolled for at least two terms² every year or earned a certificate or degree in that year. About two-thirds of recipients who graduated from high school in 2009 continuously enrolled for at least two terms every year through 2013–2014 or had earned a certificate or degree. In other words, *among the first cohort of scholarship recipients, 51 percent earned a certificate or degree and 16 percent were still enrolled in college by spring 2014 after continuously enrolling for five years.* We might infer that since these 16 percent of students have continuously enrolled in college for five years, they may be close to earning a degree.

The final two figures, included in Appendix D, present degree type and major for all applicants who earned a certificate or degree. Recipient graduates were slightly more likely to earn a certificate and bachelor's degree than nonrecipient graduates, although these differences are not statistically significant. Overall, among recipient graduates, 11 percent earned a certificate, 37 percent earned an associate's degree, 41 percent earned a bachelor's degree, 2 percent earned

¹ The degree attainment outcomes for recipients who graduated from high school in 2009 should not be interpreted as final graduation rates because many of these students are still enrolled in college. College students today, particularly community college students, take a relatively long time to earn a degree because many enroll part time and/or temporarily leave college but return (Horn & Nevill, 2006). Transferring from a two-year to a four-year college can also extend time to degree. Therefore, the longer one can track students from college enrollment, the more accurate the college graduation rates will be (Cook & Pullaro, 2010).

² For students in the quarter system, two terms represent fall and winter, fall and spring, or winter and spring every year. For students in the semester system, two terms represent the first and second semester every year.

a master's, and 2 percent earned a doctorate; 6 percent who earned a degree did not have a degree type reported in the data (Figure D2).

Recipient graduates were slightly less likely to earn a certificate or degree in a "Health Professions and Related Programs" major than nonrecipient graduates (23% compared to 27%), but slightly more likely to earn a certificate or degree in a "Biological and Biomedical Services" major (15% compared to 12%), which may be considered health field-related programs because they may prepare students for a health career (Figure D3).³ Again, these differences are not statistically significant and suggest that *nonrecipient graduates persisted in health care-related degree programs at a similar rate as scholarship recipients despite not being awarded the Kaiser Scholarship*. However, findings on graduates' certificate/degree program reveal little about the overall persistence of scholarship recipients in the health field because college students can major in nearly anything and still pursue a health career. Findings from the qualitative survey reveal much more about the persistence of scholarship recipients in health care careers.

Impact Study

In this section, we present estimates of the scholarship's impact on recipients' college enrollment, selection of a health care major, persistence, and degree completion. A health care major is defined as any major in the "Health Professions and Related Programs" category.⁴

Method

Applying for and receiving the Kaiser Permanente Health Care Career Scholarship signals a highly motivated, talented individual. As a result, recipients may do well in college regardless of whether they received the scholarship or not, due to their innate motivation and talent.

Therefore, to identify the contribution or impact of the Kaiser Scholarship on recipients' postsecondary outcomes, we compare their outcomes to a similar group of nonrecipient students. Nonrecipients are an ideal comparison group since they displayed a similar level of motivation and career goals by applying for the scholarship, and nonrecipient graduates retained their interest in health care-related degree programs at a similar rate as recipient graduates despite not being awarded the scholarship (Figure D4). However, recipients' characteristics suggest they are more socially and economically disadvantaged compared to nonrecipients (Table 3-1).

³ We grouped majors into federally defined major categories using the federal "Classification of Instruction Program" code tied to each major.

⁴ We also defined a health care major as any major in "Health Professions and Related Programs" or "Biological and Biomedical Services." However, regression results with this outcome were the same, so we only present results for selecting a major in "Health Professions and Related Programs."

To ensure nonrecipients are similar to recipients across all observable characteristics (i.e., demographics, high school program participation, and performance on the state assessments), we use a statistical method called propensity score matching (PSM) to construct a comparison group from the nonrecipient group which has the same propensity, or likelihood, of receiving the scholarship as do recipients. The underlying assumption of the method is that the only difference between the treatment and matched comparison group is the receipt of the scholarship, so any differences in outcomes can be attributed to the scholarship.⁵

PSM is a multistep process that begins with calculating each individual's propensity score, or conditional probability of receiving the scholarship, given a set of characteristics that predict both receiving the scholarship and educational outcomes. To calculate propensity scores, we estimated the following logistic regression model for all Kaiser Scholarship applicants where receiving the treatment or scholarship (T_i) is a function of a vector of characteristics X_i , which include all characteristics from Table 3-1, as well as an indicator for the state (OR or WA) where the student attended high school:

$$\text{logit}(T_i) = \gamma + \delta X_i + \mu_i \quad (1)$$

After estimating the propensity scores, we matched the treatment and control groups such that nonrecipients with a similar propensity to receive the scholarship (based on their background characteristics) are matched to the recipients, and nonrecipients without a similar propensity are discarded from the sample. We then check for “balance,” or similarities, across mean characteristics for individuals in the treatment group and the matched comparison group. For balance to be achieved, the absolute standardized differences in means should be less than 0.25, and the ratio of treatment and control group variances should be between 0.5 and 2.0 (Stuart, 2010).⁶ Table D1 in Appendix D illustrates the mean characteristics of the unmatched and matched treatment and comparison groups. The matched sample of recipients and nonrecipients are similar across all characteristics. It is especially notable that the characteristics with large mean differences in the unmatched sample (i.e., the percentage who receive FRPL and are White, Latino, female, and Asian/Pacific Islander) are nearly identical in the matched sample.

In the final step, we estimated the impact of the Kaiser Scholarship on college enrollment, selection of a health care major, persistence from the first to second term, and degree attainment. In this step, we adjusted for average differences in student-level characteristics between recipients and matched students (recipients with the same propensity to receive the scholarship but did not) with the following linear probability regression model:

⁵ In more technical terms, PSM allows us to estimate an unbiased treatment effect in an observational study by satisfying the assumption of a strongly ignorable treatment assignment—or that, conditional on a set of observed covariates, assignment is independent of the outcomes and all individuals have a positive probability of receiving the treatment (Rosenbaum & Rubin, 1984).

⁶ Balance is not assessed using t-tests because t-tests, or hypothesis tests, are estimated using sample size, and measures of balance should not be dependent on changes in statistical power (e.g., Austin, 2007; Stuart, 2010).

$$(Y_i) = \alpha + \beta T_i + \delta X_i + \varepsilon_i \quad (2)$$

In equation 2, the educational outcome Y_i is a function of the treatment indicator T_i of receiving the scholarship, a vector of student-level characteristics X_i (the same characteristics included in equation 1), and the residual term ε_i that captures the effect of random noise. We examine the coefficient estimate on T_i to understand the impact of the scholarship on educational outcomes.

Findings

Overall, the Kaiser Scholarship had an impact on college enrollment and selection of a health care major, but not on persistence and degree attainment. A summary of regression results is provided below (Table 3-4), and detailed regression results can be found in Table D-2, Appendix D. The coefficient estimates from the linear probability models simply represent percentage point differences, which we discuss below.

Table 3-4
Impact of Kaiser Scholarship on Recipients' Postsecondary Outcomes, Summary of Regression Results

Outcome:	Enrolled in college	Selected major in "Health Professions and Related Programs"	Persisted from first to second term (first year in college)	Graduated from college (earned certificate or degree)
Scholarship recipient	0.059**	0.063**	0.025	0.013
Number of students	904	904	904	904
R-squared	0.071	0.029	0.152	0.052

Note: Sample includes scholarship recipients (N = 452) and matched group of nonrecipients (N = 452). Stars represent statistical significance levels: *** p<0.001, ** p<0.01, * p<0.05

Source: Authors' analysis of ODE-ERDC dataset.

Scholarship recipients were about six percentage points more likely to enroll in college and select a major in a health care field than nonrecipients (5.9 and 6.3, respectively, to be exact). This represents a practically significant effect of the Kaiser Scholarship on college enrollment and major selection. This finding is consistent with other studies that find that even awards of \$1,000 can have a positive effect on college enrollment and persistence (Castleman & Long, 2013; Goldrick-Rab et al., 2012).

Survey responses provide insight into the mechanisms that produce the scholarship's effect on college enrollment: some recipients, for example, revealed that winning a scholarship influenced their motivation, self-confidence, and commitment to the health care field. *The scholarship's financial help, as well as its influence on key psychological factors, may have encouraged recipients to enroll in college and pursue a health care field.*

The scholarship does not appear to impact the longer term outcomes of persistence and degree attainment. This may be due to the nature of the scholarship program which, for the most part,

is given to students once for their freshman year. Only a small proportion of students took advantage of the second scholarship. It will be important, therefore, to examine the impact of the new larger scholarship that is given to students over the course of their first two years in college. A larger, renewable scholarship award may provide added motivation to persist in and complete college.

Chapter 4

Conclusion

Based on the analysis of survey data and the impact study, we summarize our assessment of the scholarship's impact and offer four considerations for program improvement.

The Impact of the Kaiser Scholarship

Contribution to Health Care Persistence

Survey respondents reported high levels of persistence in a health care course of study or career. Eighty-four percent of undergraduates reported they are currently enrolled in a course of study related to health care, 55 percent of graduates reported completing an undergraduate course of study related to health care, and 55 percent of graduates reported they are currently working in a health care field. Additionally, we found that the Kaiser Scholarship had an impact on recipients' early commitment to health care: recipients were six percentage points more likely to select a major in the "Health Professions and Related Programs" compared to similar nonrecipients. This is no guarantee that students will stick to their major or a health care career, but this is still a very promising finding; it suggests that the scholarship program is successfully attracting more students, who tend to be from underrepresented groups, to health care majors in college.

Contribution to College Enrollment

Although survey respondents reported the scholarship was smaller than the other financial assistance they received, about half of respondents indicated that the scholarship made it financially possible to attend college, and almost two-thirds of respondents said that the scholarship reduced the number of hours they had to work for pay while pursuing their college degree. Furthermore, respondents described how the scholarship influenced key psychological factors, such as motivation and self-confidence. The scholarship's financial and psychological impact on recipients may be tied to its impact on college enrollment. Recipients were six percentage points more likely to enroll in college compared to similar nonrecipients. Perhaps the scholarship provided an extra boost of financial and psychological motivation these students needed to attend college. Again, this result is very promising since about three-quarters of recipients are the first in their family to go to college.

Considerations for Program Improvement

Invest in programs that support language proficiency and academic preparedness

Some of the challenges survey respondents mentioned about the application, such as completing the essay, may be due to English language difficulties. Additionally, respondents reported rates of developmental English enrollment that are higher than the national average. Studies find that taking noncredit-bearing developmental English and/or math courses prior to

enrolling in college coursework poses a barrier to college persistence and completion (Hodara, 2013).

Supporting recipients' academic preparedness for college is outside the scope of the scholarship program. However, as part of the larger Community Health Careers initiative, Kaiser Permanente may want to consider investing in organizations or programs that provide writing resources and language supports to high school students, particularly English learners, since a goal of the scholarship program is to award scholarships to bilingual students. These language support programs would not be part of the scholarship program but would be advertised to scholarship applicants and recipients to help them as they apply for scholarships and prepare for the academic rigor of college.

Employ strategies and/or invest in programs that support students' commitment to a health care career

Survey respondents reported that a top reason for persisting in a health care course of study is that they understood the requirements of their degree program. An early commitment to a major or degree program and having a clear path through college by understanding the courses needed to complete that major or degree program is related to college persistence and completion (Bailey et al., 2015). The scholarship appears to be successfully contributing to an early commitment to health care, as evidenced by the survey analysis and impact study findings, but to have a real impact on health care persistence, the scholarship may need to reach into the college years. This might include, for example, reminding recipients to meet with an academic advisor regularly. A more intrusive strategy would be to require scholarship recipients to provide a letter from a pre-health or major advisor at their institution in order to apply as sophomores for the second scholarship. Finally, as part of the Community Health Careers initiative, Kaiser Permanente may want to consider investing in organizations or programs that provide resources and supports to students who plan to pursue a health care course of study in college.

Increase awareness of the second scholarship

Survey respondents emphasized the need for better financial support to persist in a health care career and, more generally, college. Yet, only a small number of respondents applied for the second scholarship because they were unaware of the opportunity and/or did not have time to apply. Thus, to improve financial support to recipients, it is important to increase awareness of the second scholarship through maintaining accurate contact information for all recipients and communicating with them periodically about this opportunity.

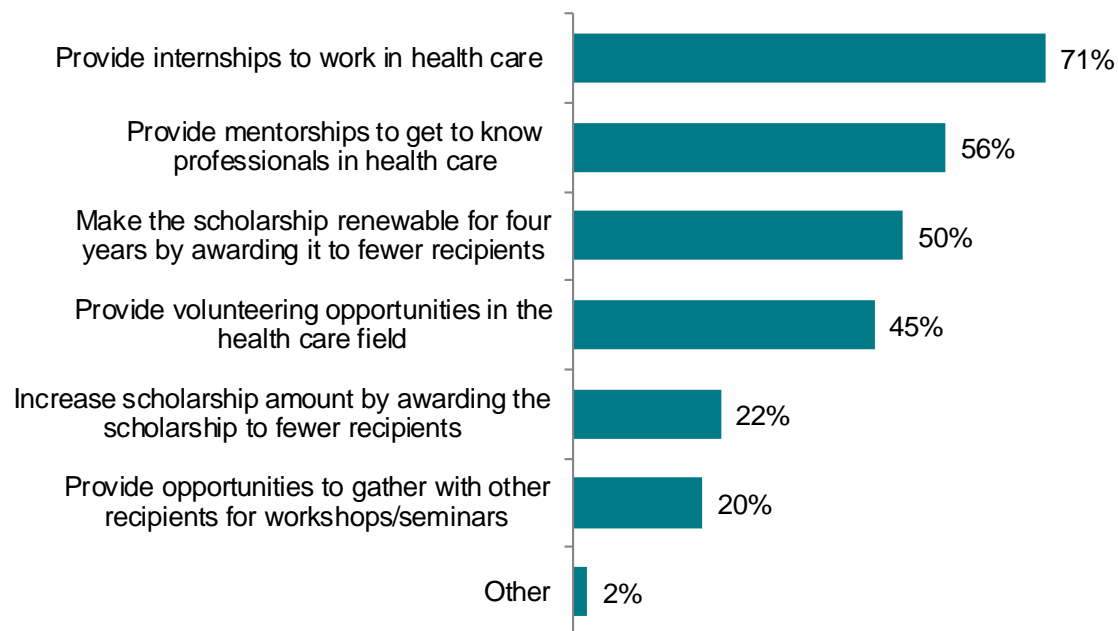
Improve access to real-world health care career experiences

Survey respondents repeatedly noted the importance of real-world experiences to support their persistence in a health care field. It was the number one support undergraduates thought they needed to complete the education required for their health care course of study, and real-world experiences in health care was a top reason given by graduates who had already completed their health care studies. Respondents who participated in an internship reported very positive professional development experiences. Additionally, the number one change to the scholarship

program that respondents suggested was providing more internship opportunities in health care; the second most popular suggestion was providing mentorships with professionals in health care (Figure 4-1).

More respondents wanted these real-world experiences than a larger award amount.⁷ These findings provide added motivation for KPNW to expand the scholarship program's existing internship program and ensure that more recipients know about and have access to internship opportunities.

Figure 4-1
Scholarship Recipients' Suggested Changes to the Scholarship (N = 409; all respondents)



Source: Authors' analysis of survey data.

In sum, the Kaiser Permanente Health Care Career Scholarship Program is a promising model that KPNW should consider developing further. The scholarship successfully targets and awards funds to students underrepresented in health care, and it provides these students the added motivation to enroll in college and make an early commitment to a health care field. Moreover, recipients have a very positive outlook about the scholarship's impact on their lives and their future.

⁷ Half of those surveyed suggested increasing the scholarship award amount by making the scholarship renewable for four years, by awarding it to fewer recipients (Figure 4-1). We do not include this as a recommendation for program improvement because a variation of this change is already in place with a quarter of scholarship recipients now receiving \$5,000 and \$10,000 awards that are distributed over the course of two years.

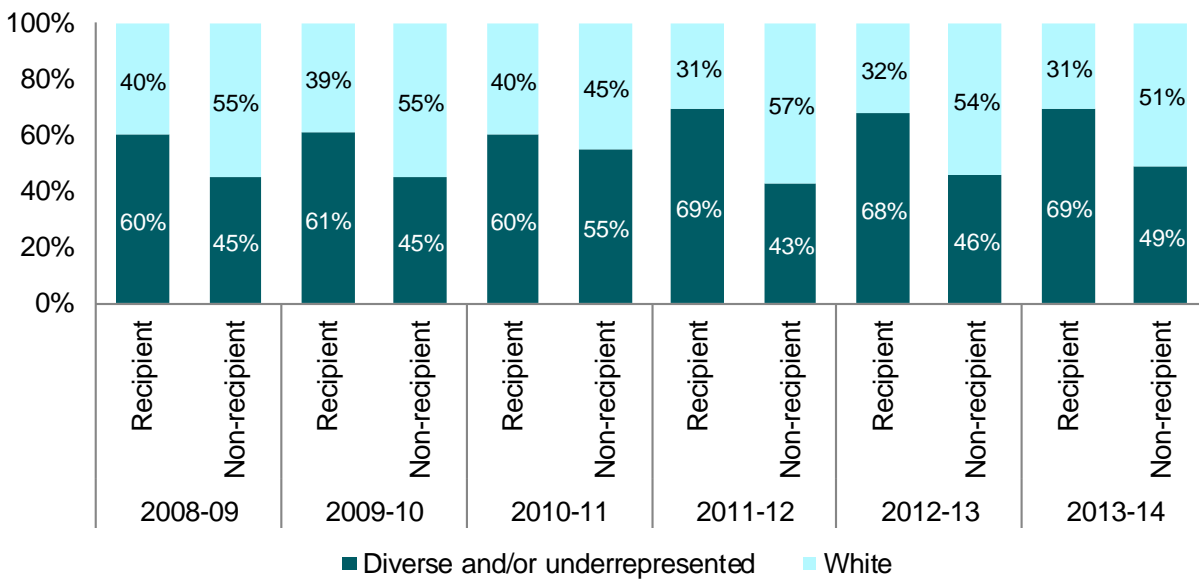
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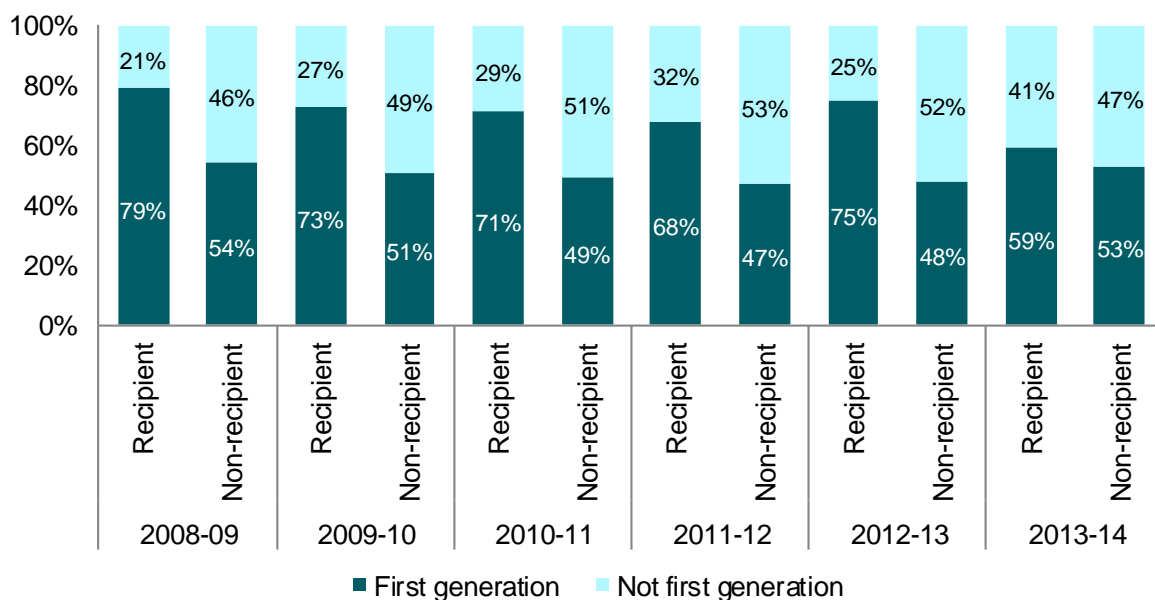
Appendix A: Characteristics of Recipients and Nonrecipients

Figure A1
Percentage of Recipients and Nonrecipients From Diverse and/or Underrepresented Ethnic Populations.



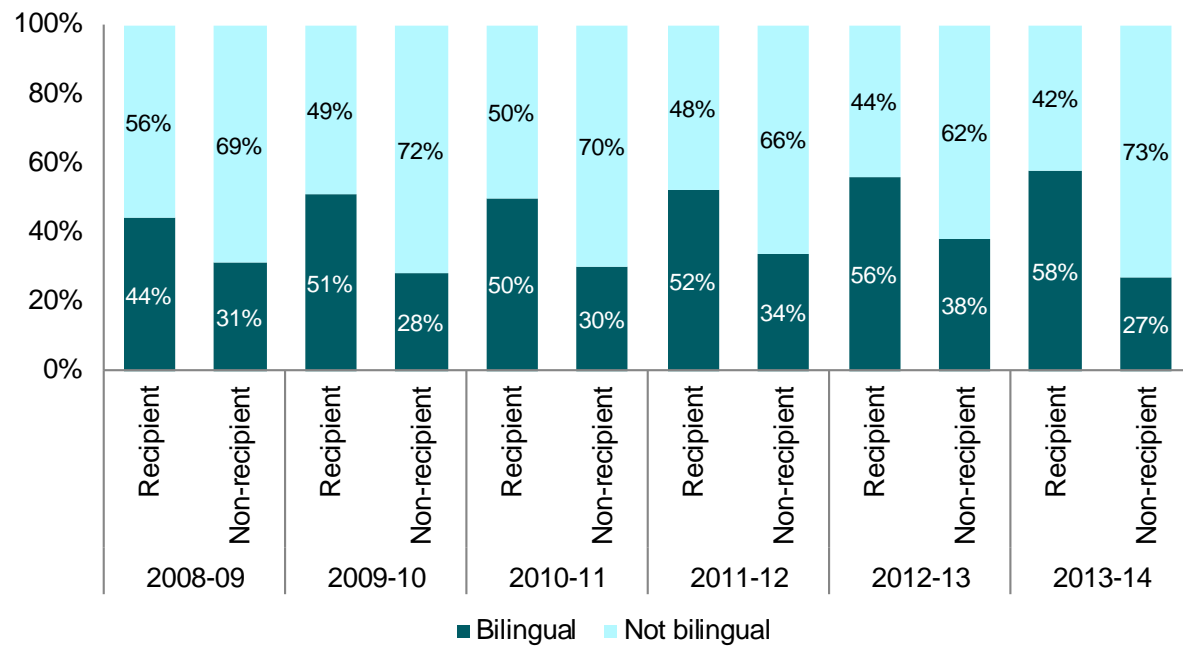
Source: Authors' analysis of Kaiser Permanente's scholarship applicant database

Figure A2
Percentage of Recipients and Nonrecipients Who Are First-Generation College Students



Source: Authors' analysis of Kaiser Permanente's scholarship applicant database

Figure A3
Percentage of Recipients and Nonrecipients Who Are Bilingual



Source: Authors' analysis of Kaiser Permanente's scholarship applicant database

Appendix B: Additional Results From Survey Analysis

Table B1
Top Oregon and Washington Colleges and Universities Attended by Undergraduates and Graduates

	Number (%)
Undergraduates	322 (100%)
Oregon	216 (67%)
<i>Top colleges named:</i>	
Oregon State University	37
Portland State University	28
University of Portland	19
Chemeketa Community College	17
University of Oregon	15
George Fox University	12
Linfield College	11
Western Oregon University	11
Concordia University	7
Clackamas Community College	6
Washington	58 (18%)
<i>Top colleges named:</i>	
Clark College	17
University of Washington	13
Washington State University	9
Out-of-state	48 (15%)
Graduates	67 (100%)
Oregon	42 (63%)
<i>Top colleges named:</i>	
University of Oregon	7
Portland State University	6
Oregon State University	6
University of Portland	5
Washington	20 (30%)
<i>Top colleges named:</i>	
University of Washington	5
Seattle Pacific University	4
Out-of-state	5 (7%)

Notes: Respondents were not required to name their college, and some left this question blank.

Source: Authors' analysis of survey data.

Table B2
Top Majors and Degree Programs Earned or Pursued by Undergraduates and Graduates

	Frequency (N)	Percent of Responses Given by Degree
Undergraduates	285	
Bachelor's	285	
Biology/Biochemistry/Chemistry	78	27%
Nursing	69	24%
Community Health/Public Health/Bio Health	29	10%
Psychology	13	5%
Pre-med	8	3%
Education	6	2%
Dental	5	2%
Associate's	86	
General Associates degree	34	40%
Nursing	28	33%
Biology/Chemistry	8	9%
Dental	4	5%
Community Health	3	3%
Certificate	33	
Nursing	17	52%
Biology/Chemistry	4	12%
Pharmacy/Pharmacy Technician	3	9%
Graduates		
Bachelor's	69	
Biology/Biochemistry/Chemistry	16	23%
Nursing	12	17%
Community Health/Public Health	6	9%
Psychology	6	9%
Associate's	10	
General Associates	6	60%
Certificate	14	
Medical Technician	2	14%
Pharmacy Technician	2	14%
Nursing	2	14%
Dental	2	14%

Note: Respondents were not required to name their degree program, and some left this question blank.

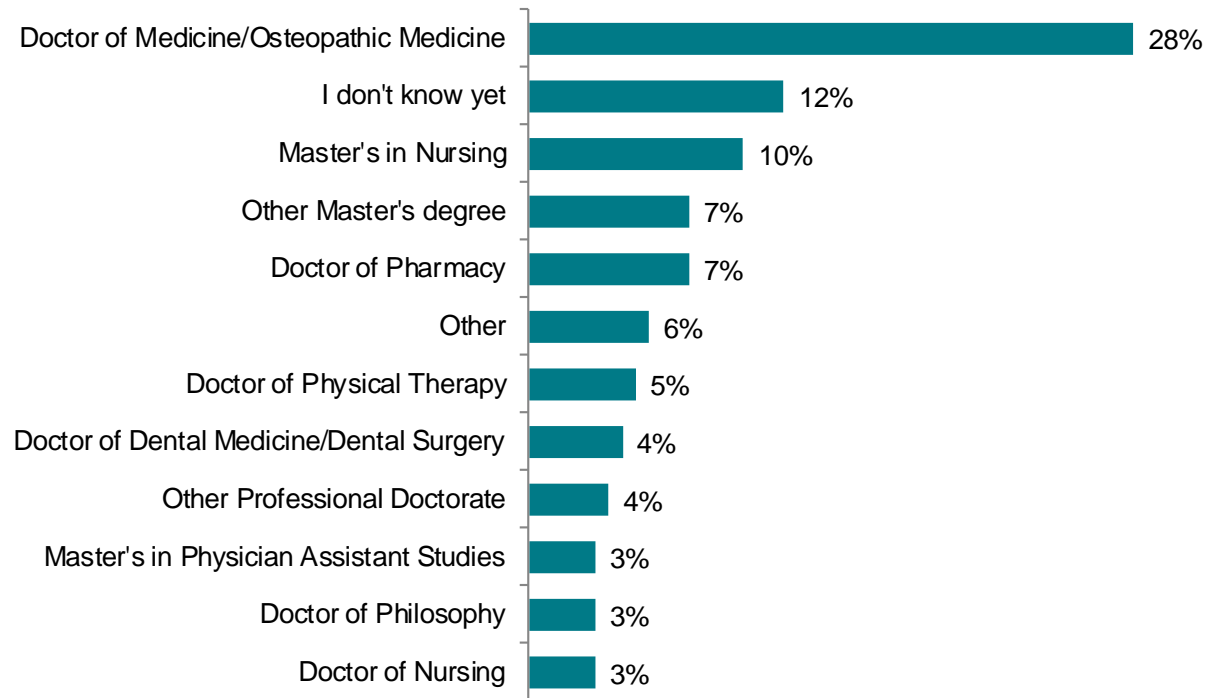
Source: Authors' analysis of survey data.

Table B3
Undergraduates' Plans After College for Those Pursuing a Career in Health Care

Healthcare Field	Percent of Undergraduates Pursuing Health Care Field (N = 236)
Nursing	32% (75)
Medical Doctor	26% (61)
Pediatrics/Pediatrician	8% (18)
Physician	6% (15)
Surgeon	3% (7)
Anesthesiologist	2% (4)
General medicine	2% (4)
Radiology	<1% (3)
Oncology	<1% (1)
Orthopedics	<1% (1)
Gynecologist	<1% (1)
Echocardiologist	<1% (1)
Hematologist	<1% (1)
Audiologist	<1% (1)
Chiropractor	<1% (1)
Ob-gyn	<1% (2)
Rheumatologist	<1% (1)
Dentistry/Orthodontics	10% (24)
Physician's Assistant	6% (14)
Pharmacy	4% (10)
Psychology/Psychiatry	3% (8)
Social Work	<1% (3)
Respiratory Therapist	<1% (2)

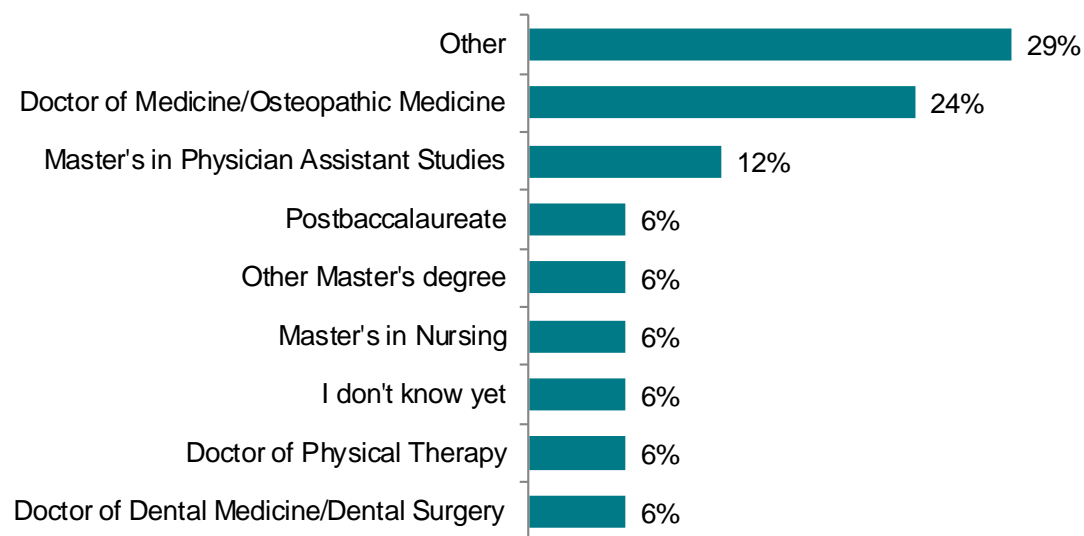
Source: Authors' analysis of survey data.

Figure B1
Undergraduates' Planned Graduate/Professional Degree (N = 162)



Source: Authors' analysis of survey data.

Figure B2
Graduate or Professional Degrees Earned or Pursued by Graduates (N = 17)



Note: "Other" responses varied and include: social work, primary care, ob-gyn, family/emergency medicine, and dental.

Source: Authors' analysis of survey data.

Appendix C: Data Sources and Cleaning for Impact Study

Education Northwest developed and executed data-sharing agreements with ODE and ERDC that outline the data elements needed for this study, how we would use the data, and how we would ensure data security and privacy. Table C1 below describes the different datasets from each data provider.

Table C1
Data Sources

State/data provider	Datasets
Oregon/Oregon Department of Education (ODE)	ODE National Student Clearinghouse (NSC) ^a
Washington/Education Research & Data Center (ERDC)	Office of Superintendent of Public Instruction (OSPI) Washington State Board for Community and Technical Colleges (SBCTC) enrollments and completions Public Centralized Higher Education Enrollment System (PCHEES) enrollments and completions National Student Clearinghouse (NSC) ^a

Note: The NSC verifies student enrollment for 96 percent of domestic colleges and universities (National Student Clearinghouse, 2014). As a result, NSC data allow researchers to track student persistence and degree completion in postsecondary institutions nationally.

To conduct the analysis, we had to link the multiple datasets and identify Kaiser Scholarship applicants in the data. For the Oregon data, we linked ODE and NSC data together using the unique student ID every ODE student is given. Since Education Northwest conducts a large number of research projects using ODE data, we have data on every public high school student in Oregon. So, we identified Kaiser Scholarship applicants in the Oregon data by matching the names, gender, and birthdate of Kaiser Scholarship applicants to the names, gender, and birthdate of Oregon public high school students. This technique is called “fuzzy matching” because it typically does not result in 100 percent of matches. However, we were able to find all Kaiser Scholarship applicants who attended high school in Oregon in the Oregon data.

For the Washington data, we first sent ERDC the names, gender, and birthdate of Kaiser Scholarship applicants who attended high school in Washington, and they sent us back only data on these student. ERDC also used fuzzy matching techniques to find applicants in their data, and were able to find 97 percent of applicants. We linked the OSPI, SBCTC, PCHEES, and NSC data from ERDC using the unique student ID from ERDC.

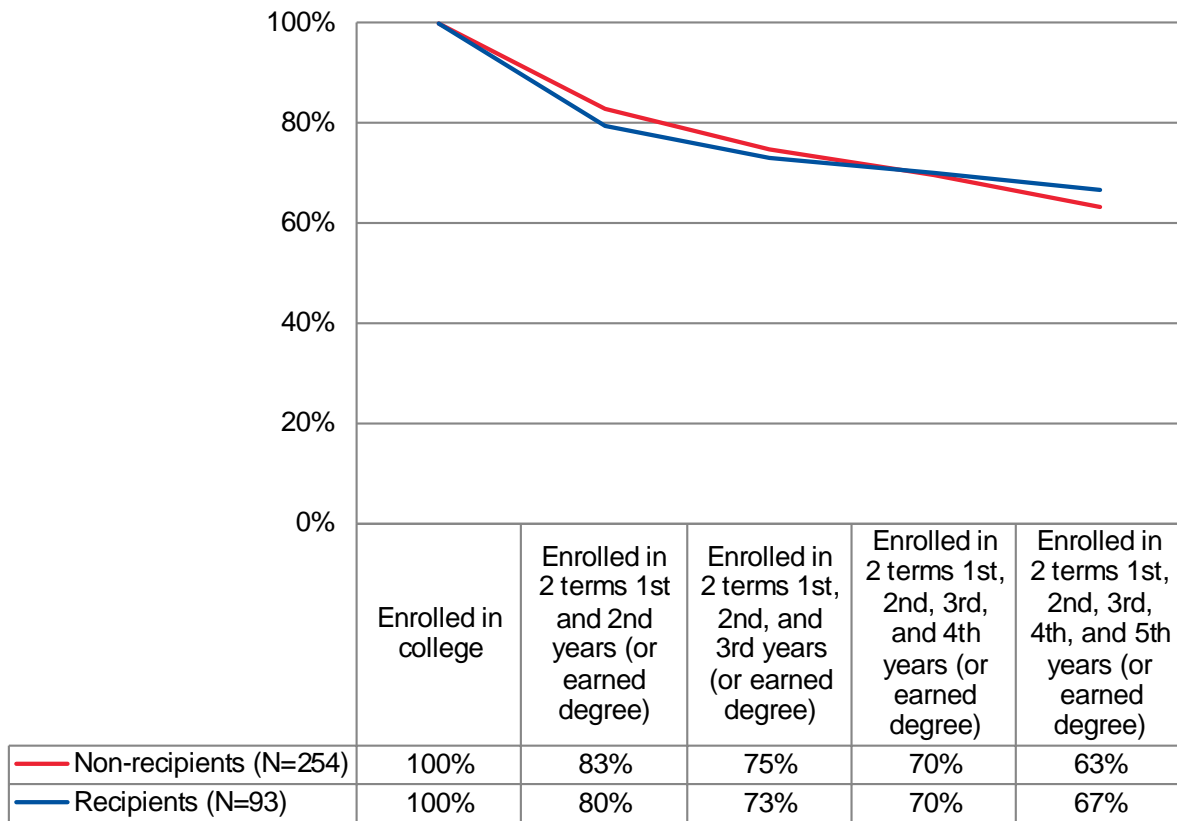
Finally, we appended the Oregon and Washington files together and had one dataset with secondary and postsecondary data on all Kaiser Scholarship applicants. This dataset contains the following data elements:

- High school name(s) and years enrolled
- High school graduation status and date
- Demographic data
- Program participation (i.e., free and reduced-price lunch, Limited English Proficient services, Migrant Education Program, special education services)
- Assessment scores on the state assessment
- College enrolled in and college type (public or private, two-year or four-year, and in-state or out-of-state) per term enrolled
- Major per term enrolled
- Enrollment status (full-time/part-time) per term enrolled
- Degree information (when degree awarded, degree type, degree major/program)

Appendix D: Detailed Descriptive and Impact Study Results

Figure D1

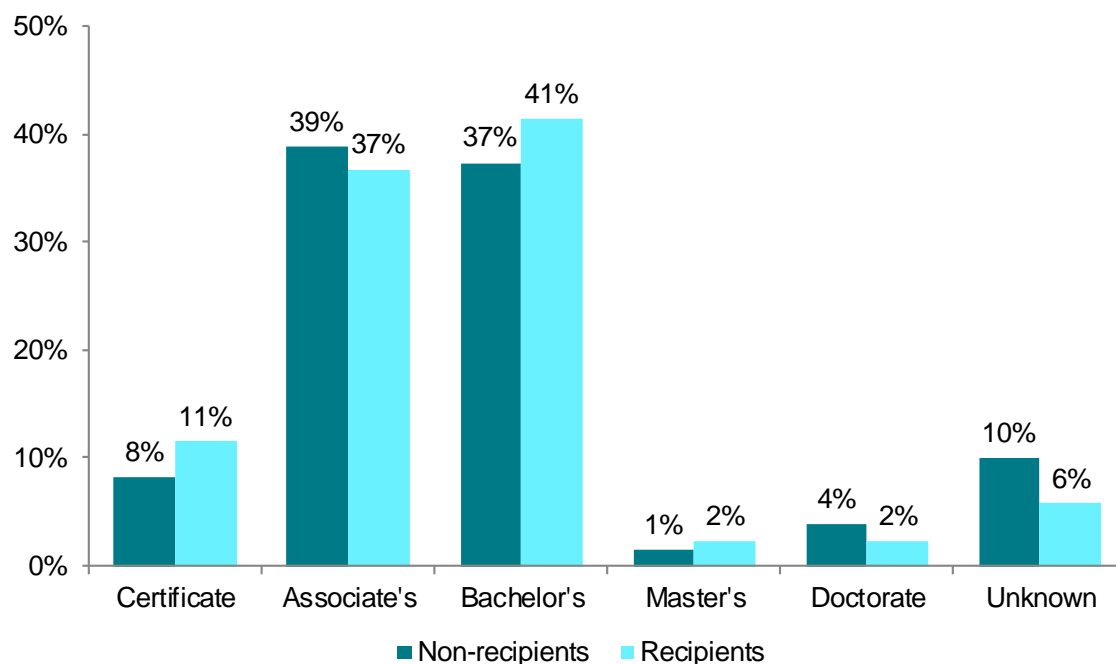
Year-to-Year Persistence or Degree Attainment Over a Five-Year Period for Kaiser Scholarship Applicants Who Graduated High School in 2009



Note: For students in the quarter system, two terms represents fall and winter, fall and spring, or winter and spring every year. For students in the semester system, two terms represents the first and second semester every year.

Source: Authors' analysis of ODE-ERDC dataset.

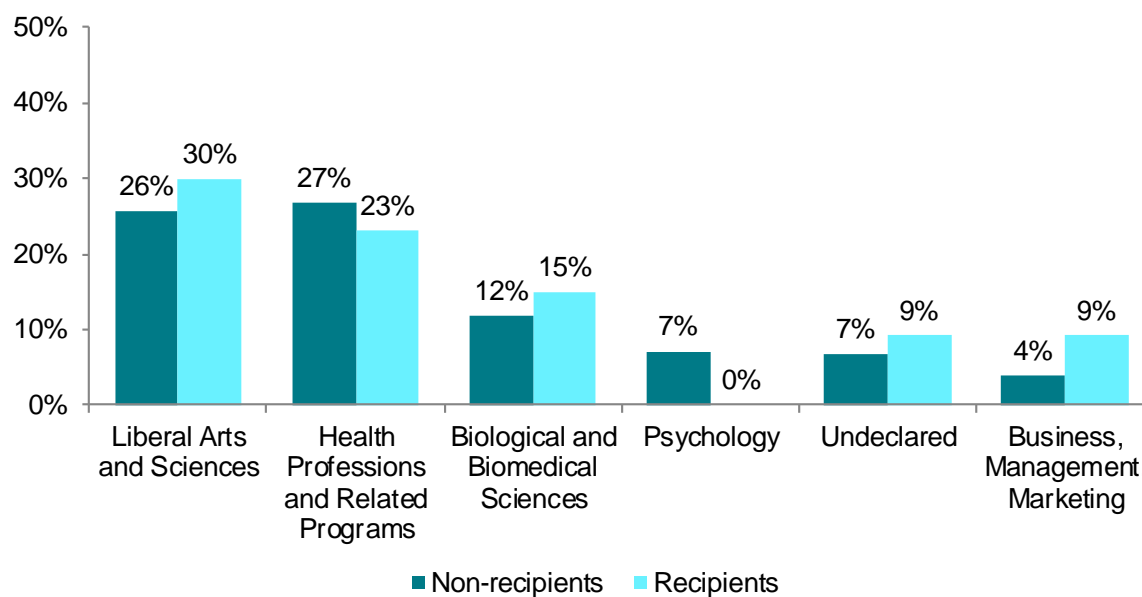
Figure D2
Degree Type of Nonrecipient and Recipient Graduates



Note: Sample includes college graduates only. Number of nonrecipients is 281 and number of recipients is 87. No differences between recipients and nonrecipients are statistically significant.

Source: Authors' analysis of ODE-ERDC dataset.

Figure D3
Top Six Majors of Nonrecipient and Recipient Graduates



Note: Sample includes college graduates only. Number of nonrecipients is 281 and number of recipients is 87. No differences between recipients and nonrecipients are statistically significant. Majors were categorized by their federal "Classification of Instructional Program" code into more general federally defined program-of-study categories.

Source: Authors' analysis of ODE-ERDC dataset.

Table D1
Standardized Difference in Means Pre- and Post-Match

Variable	Sample	Mean		Standard Deviation		Standardized difference in mean ^a	Ratio of variance ^b
		Scholarship Recipients	Nonrecipients	Scholarship Recipients	Nonrecipients		
FRPL	Unmatched	46%	32%	0.50	0.47	0.28	1.1
FRPL	Matched	46%	45%	0.50	0.50	0.02	1.0
White	Unmatched	52%	64%	0.50	0.48	0.24	1.0
White	Matched	52%	52%	0.50	0.50	0.00	1.0
Latino	Unmatched	21%	14%	0.41	0.35	0.18	1.2
Latino	Matched	21%	21%	0.41	0.41	0.01	1.0
Female	Unmatched	80%	85%	0.40	0.36	0.13	1.1
Female	Matched	80%	78%	0.40	0.41	0.03	1.0
Asian/Pacific Islander	Unmatched	21%	16%	0.40	0.36	0.13	1.1
Asian/Pacific Islander	Matched	21%	20%	0.40	0.40	0.01	1.0
HS in OR (vs WA)	Unmatched	78%	81%	0.42	0.39	0.07	1.1
HS in OR (vs WA)	Matched	78%	78%	0.42	0.41	0.01	1.0
SPED	Unmatched	2%	1%	0.12	0.09	0.06	1.3
SPED	Matched	2%	2%	0.12	0.12	0.00	1.0
Migrant	Unmatched	1%	1%	0.11	0.09	0.06	1.3
Migrant	Matched	1%	1%	0.11	0.10	0.02	1.1
Math Proficient	Unmatched	89%	87%	0.32	0.34	0.04	1.1
Math Proficient	Matched	89%	89%	0.32	0.31	0.01	1.0
Other race	Unmatched	2%	2%	0.14	0.16	0.03	1.1
Other race	Matched	2%	2%	0.14	0.14	0.00	1.0
Reading Proficient	Unmatched	92%	91%	0.27	0.29	0.03	1.0
Reading Proficient	Matched	92%	92%	0.27	0.26	0.02	1.0
Black	Unmatched	4%	4%	0.20	0.19	0.02	1.1
Black	Matched	4%	4%	0.20	0.21	0.02	1.1
LEP	Unmatched	2%	2%	0.15	0.14	0.01	1.0
LEP	Matched	2%	1%	0.15	0.11	0.07	1.3

Notes:

^aThe formula for calculating the standardized difference in group means is:

$$\frac{|\bar{X}_t - \bar{X}_c|}{\sqrt{((\sigma_t^2 + \sigma_c^2)/2)}}$$

^bThe ratio of treatment and control group variances is:

$$\begin{aligned} &\text{If } \sigma_t \geq \sigma_c \text{ then } \sigma_t/\sigma_c \\ &\text{If } \sigma_c > \sigma_t \text{ then } \sigma_c/\sigma_t \end{aligned}$$

Source: Authors' analysis of ODE-ERDC dataset.

Table D2

Impact of Kaiser Scholarship on Recipients' Postsecondary Outcomes, Full Regression Results

Outcome:	Enrolled in college	Selected major in "Health Professions and Related Programs"	Persisted from first to second term (in first year in college)	Graduated from college (earned any certificate or degree)
Scholarship recipient	0.059** (0.019)	0.063** (0.022)	0.025 (0.027)	0.013 (0.025)
Female	0.014 (0.024)	0.015 (0.026)	-0.046 (0.032)	-0.010 (0.032)
Latino	-0.050 (0.029)	0.015 (0.033)	-0.132** (0.042)	0.030 (0.036)
Asian/Pacific Islander	0.012 (0.023)	0.006 (0.030)	-0.012 (0.033)	-0.006 (0.035)
Black	-0.030 (0.053)	-0.064 (0.041)	-0.105 (0.078)	-0.096 (0.049)
Multiethnic or American Indian	-0.087 (0.087)	-0.017 (0.076)	-0.098 (0.089)	-0.061 (0.080)
Received FRPL in senior year	0.019 (0.021)	-0.023 (0.024)	0.046 (0.029)	-0.028 (0.028)
Had IEP in senior year	-0.055 (0.091)	-0.140*** (0.028)	-0.059 (0.122)	0.003 (0.096)
In migrant program in senior year	-0.086 (0.123)	-0.129*** (0.029)	0.012 (0.150)	-0.093 (0.078)
Received LEP services in senior year	-0.046 (0.082)	-0.170*** (0.043)	-0.076 (0.131)	-0.144 (0.079)
Proficient on math HS assessment	0.059 (0.038)	-0.024 (0.041)	0.095 (0.054)	0.111** (0.039)
Proficient on reading HS assessment	0.035 (0.037)	-0.072 (0.053)	0.035 (0.063)	0.157** (0.057)
Attended HS in OR (vs WA)	0.153*** (0.031)	0.064* (0.030)	0.391*** (0.040)	0.198*** (0.037)
Constant	0.668*** (0.064)	0.236*** (0.062)	0.352*** (0.084)	0.404*** (0.073)
Observations	904	904	904	904
R-squared	0.071	0.029	0.152	0.052

Note: Sample includes scholarship recipients (N=452) and matched group of nonrecipients (N=452). Robust standard errors in parentheses. Stars represent statistical significance levels: *** p<0.001, ** p<0.01, * p<0.05

Source: Authors' analysis of ODE-ERDC dataset.